Chapter 2

GDP, Uses and Principal Industries

- GDP grew at a high rate in 2007, which was similar to that in the three previous years. The rapid process of growth, which continued throughout the year, was led by the business sector and was fully manifested in the labor market through the increase in employment and real wages and the steady decline in unemployment.
- Though the growth rate was similar to that in previous years, its characteristics had changed: thus, in previous years, the growth process had been led by an increase in total factor productivity; in 2007, it was primarily the result of growth in production factors, particularly the major increase in labor input. Further, the growth process hitherto was spearheaded by exports; in 2007 it was also the result of a sharp increase in domestic demand.
- The high rate of growth was the result of favorable background conditions: a boom in the global economy and in the hi-tech markets, improvement in the security situation and a supportive economic policy.
- The improvement in background conditions and the continued growth led to a sharp increase in demand which elicited only a partial response in the supply of GDP. For the first time since the beginning of the accelerated growth process, there were signs of excess demand in the economy though only on a small scale.
- Total uses increased at a much higher rate this year than GDP. As a result, imports grew sharply and exceeded exports, which resulted in a deficit in the trade balance. These developments were accompanied by a real appreciation and an increase in unit labor cost.
- Private consumption grew rapidly this year. This was accompanied by a decline in private saving that was supported by a major increase in the public's wealth, particularly in the value of its financial assets portfolio.
- Despite the drop in the rate of national saving and the increase in the rate of investment, there remained a large surplus in the current account.
- Manufacturing sector product grew as a result of the continuing growth in exports. The product of the transportation, commerce and service industries increased sharply due to the growth in private consumption and tourism. The construction industry grew but the stagnation in residential construction continued.
- There is an urgent need for improvement in public transportation, primarily in the Tel Aviv metropolitan area, and for increased competition in the airline industry and ports. A reform of land ownership and land planning has become increasingly urgent.

1. MAIN DEVELOPMENTS

The high rate of growth in GDP this year was similar to that in the previous three years.

GDP grew at a rate of 5.3 percent this year, which was similar to that in the previous three years. The growth process was led by the business sector, which grew by 6.1 percent, and was fully manifested in the labor market. Thus, unit labor cost increased for the first time since the beginning of the recovery. The rapid growth, which continued throughout the year, led to a steady drop in unemployment to a level of 6.7 percent by the end of the year.

The high rate of growth was a result of favorable background conditions, an improvement in the security situation and supportive economic policy. These have led to a sharp increase in local demand and in the demand for exports.

The high rate of growth was a result of the favorable background conditions: a boom in the global economy and the hi-tech markets, improvement in the security situation and a supportive economic policy directed at achieving fiscal and monetary targets. These factors, and in particular the continuation of recent growth in Israel and worldwide, have led to a sharp increase in local demand for product and in the demand for exports. Despite the large degree of flexibility in the labor market, which was reflected in a significant increase in the participation rate, the increase in aggregate demand for product led to an increase in its price relative to the price of imported goods, i.e., to a real appreciation, and the partial shifting of demand to imports, which rose sharply. The development of demand pressure during the course of the year—which was evident in the transition from a surplus to a deficit in the trade balance and the rise in unit labor cost—increased pressure on prices towards the end of the year, though only to a limited extent. Despite the sharp increase in imports, the current account remained in a large surplus.

Growth this year was primarily the result of the accumulation of factors of production, particularly the large increase in labor input.

The rate of growth in 2007 was similar to that in previous years though it had a different nature. Until this year, the growth process had been led by increased utilization and efficiency of existing factors of production, which led to an increase in total factor productivity, i.e., intensive growth, while this year, growth was mainly the result of the accumulation of factors of production, i.e., extensive growth, primarily the large increase in labor input (5.0 percent). Total factor productivity, which grew

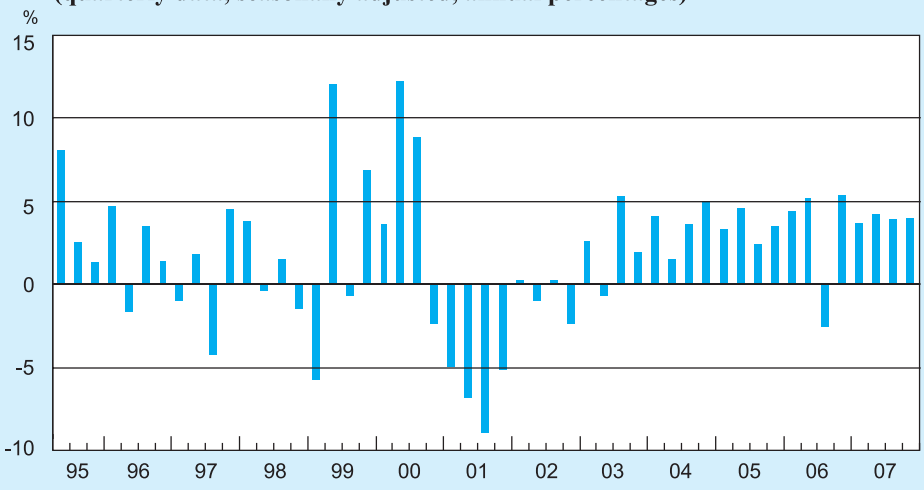
Table 2.1
Indicators of Economic Activity, 2001–07

(rate of change, percent)

	2001	2002	2003	2004	2005	2006	2007
Per capita GDP in Israel	-2.7	-2.6	0.4	3.4	3.5	3.4	3.4
Per capita GDP in the advanced countries[a]	0.6	1.0	1.3	2.6	2.0	2.4	2.0
GDP[b]	-0.4	-0.6	2.3	5.2	5.3	5.2	5.3
Business-sector product	-1.7	-2.5	3.2	7.2	6.5	6.5	6.1
Index of manufacturing output	-5.0	-1.9	-0.3	6.9	3.6	9.9	4.6
Unemployment rate[c]	9.3	10.3	10.7	10.4	9.0	8.4	7.3

[a] The US, Japan, the EU, the UK, and several other countries.
[b] From 1995, in accordance with the new SNA definitions, GDP includes net import taxes and does not include export subsidies.
[c] Actual levels, not rates of change.
SOURCE: Based on Central Bureau of Statistics data.

Figure 2.1
Change in Per Capita GDP, 1995–2007
(quarterly data, seasonally adjusted, annual percentages)



SOURCE: Based on Central Bureau of Statistics data.

by an average rate of 4.4 percent during the period 2002–04, grew this year by only 1.6 percent, which is similar its long-term rate of growth in Israel and that of other developed countries. The increase in labor productivity was even lower—only one percent.

The cyclical component of growth, which is a result of the increased utilization of existing factors of production, has been exhausted.

The slowdown in the growth of productivity is an indication that the cyclical component of growth, which is the result of the increase in the utilization of existing factors of production, has been exhausted. The transition to growth driven by the accumulation of factors of production, accompanied by slower growth of productivity, is part of a natural and predictable process. This transition is evidence of the completion of the cyclical phase of growth which is the result of the reduction of the output gap originated in the early 2000s. The reduction of the output gap was reflected in a number of phenomena: a sharp rise in investment (18.5 percent) in the business sector; the increase in labor share of income which had declined in every one of the last five years; the drop in the return on gross capital which had risen continuously during the entire period of growth as a result of the increase in the utilization of capital; and the steady decline in the rate of unemployment during the year to a level of 6.7 percent, in spite of the increase in the rate of labor force participation.

By the end of the year, the rate of unemployment had dropped to the low point it had reached in the mid-1990s, which is lower than the rate compatible with stable inflation (estimated to be about 8 percent at the end of the year),[1] a reflection of the

[1] This rate changes over time and is estimated indirectly from the influence of unemployment on prices. For more details, see A. Friedman and T. Suchoy (2004), The NAIRU in Israel, *Israel Economic Review* 2 (2).

By the end of 2007, the rate of unemployment had fallen to the lowest point reached during the 1990s, which is a sign of excess demand in the labor market.

excess demand in the labor market. Although the real wage in the business sector rose by 2.1 percent, there has been only a weak cumulative response of the wage to the increase in economic activity in recent years. Evidence of this is the low labor share which is apparently also a result of fundamental changes. The relatively low increase in the average wage this year is explained, among other things, by the reduced taxation of wages and by the change in the composition of the labor force, which is a result of the entry of a large number of low-paid workers. Despite the increase in wages, there was stability in product prices on average.

The economic boom in recent years—both in Israel and worldwide—and the simultaneous reduction in tax rates and the proportion of public expenditure in GDP, has led to an increase in permanent income. The value of financial assets grew at a significant rate and private consumption rose sharply by 6.6 percent, which was accompanied by a drop in private saving. This process has played an important part in the growth in GDP this year, since non-durable private consumption is product-intensive.

Supply factors, such as technological advances, the increase in the quality of the labor force and the increased efficiency of production, have a decisive influence on the long-term trends in GDP.

Most of the short-term fluctuations in GDP are the result of changes in demand; however, an overall view of the cycle clearly shows that supply factors, such as technological improvements, the increase in the quality of the labor force and the increased efficiency of firms in the economy during recessions, have a decisive influence. Although it is difficult to identify the effect of these factors within a single year, the average rate of increase in total productivity since 1999 (1.8 percent), explains about 37 percent of the increase in business sector product since then. This is evidence of the importance of the increase in productivity for sustainable growth.

a. Global developments and their influence on the Israeli economy

Global economic prosperity continued to support the Israeli economy's high growth rate but external terms of trade worsened significantly due to the additional increases in the price of crude oil and commodities.

The global economic boom continued to support the high growth in Israel. Although lower than it was in 2006, the rate of growth in world trade in 2007 (6.6 percent) supported a significant expansion of Israeli exports. The GDP of the OECD countries grew by an average of 2.7 percent which translates into a per capita rate of growth of 2.0 percent. In most of the OECD countries, particularly the US, growth rates were lower than in previous years, though in a few major developed countries (such as Germany and Britain) growth accelerated. Relative to the OECD countries, the growth in per capita GDP in Israel (3.4 percent) was very high (and was exceeded only in Finland, Luxembourg and Turkey). During the second half of the year, and with greater intensity towards the end of the year, there were increasing signs of an additional drop in the level of world growth and an increased probability of a recession in 2008, particularly in the US. However, the effects of these developments on the Israeli economy—such as the shifting of exports from the US to Europe—were only partially felt in 2007.

External terms of trade significantly worsened due to the additional increase in the prices of crude oil and other commodities. As a result, the economy lost 0.8 percent of national income in terms of purchasing power abroad.

The worsening in the terms of trade five years in a row[2] (particularly the continuing increase in the price of crude oil) does not appear to have had a significant effect on the economy's rate of growth. Several reasons for this can be cited:

- The Israeli economy is not based on energy-intensive industries.

- The reduced dependency on crude oil, which has been achieved by a number of countries, mitigates the effect of oil price increases on economic activity[3] and therefore the indirect effect on the economy—through the reduced level of global economic activity—is also of a smaller scale.

- The increase in the final price of fuel to the consumer was relatively modest as a result of the nominal appreciation against the dollar.

- The method of fuel taxation, which is imposed at a fixed sum per liter (rather than as a percentage of price), also acted to moderate the rise in prices, such that the fuel component of the CPI increased by only one percent this year, on average.

- The increase in the price of food (3.0 percent) had a greater effect.[4] The demand for both fuel and food is relatively inelastic and therefore the increase in their prices can crowd-out other consumption and thus reduce economic activity. Despite this, the sharp increase in private consumption this year (6.6 percent), which was accompanied by a significant drop in the rate of private saving, is evidence that this was not a dominant factor in 2007.

An additional reason for the only minor influence of the increase in fuel and commodity prices on economic activity was the increased confidence in monetary policy. Thus, the public is not interpreting the increase in inflation as an intentional effort by the central bank to surprise them and therefore the price shock has not led to an increase in expectations of inflation that would require the adoption of a contractionary monetary policy.

The conclusion to be drawn from the above is that the effect of the increased prices of fuel and raw materials on economic activity has been limited so far although the effect may be larger in the construction sector where the increase in the prices of inputs has been greater. The continued worsening in the terms of trade in previous years was offset by a simultaneous decrease in unit labor cost of output which was the result of the significant increase in labor productivity relative to wages (a process which came

[2] The worsening in the terms of trade is a result primarily of long-term factors, such as the increase in demand for raw materials by China and India.

[3] Blanchard O. and J. Gali (2007), The Macroeconomic Effects of Oil Shocks: Why are the 2000s so Different from the 1970s?, *NBER WP* 13368.

[4] The increase in the dollar prices of commodities without fuel was estimated at 12 percent which led to the increase of world food prices. The increase in the relative price of fuel led to a decline in agricultural production as a result of the transition from the cultivation of crops for food to the cultivation of crops for organic fuel (see *World Economic Outlook*, October 2007, Box 1.1).

to an end this year, as mentioned above). Therefore, an additional worsening in the terms of trade may impede future growth.

b. The security situation and its effects

The stable security situation this year has contributed to an increase in economic activity. Its direct effect was felt through an increase of 16.5 percent in the revenues from incoming tourism (which have a high added value). The stability in the security situation made it possible to reduce defense consumption by a rate of 0.6 percent following a relatively large increase of 4.4 percent in the previous year. The improvement in the security situation, in addition to its direct effects, indirectly influenced capital flows into the economy and the investment in fixed assets.

c. Economic policy

Macroeconomic policy also supported the growth process this year.

Macroeconomic policy also supported the growth process this year. Monetary policy was relatively expansionary which was reflected in the drop in short-term (relative to long-term) interest rates, particularly during the second half of year. Local public consumption grew by 3.1 percent, which, although lower than the growth in GDP, is much higher than its average rate of growth (0.4 percent) during the previous three years. At the same time, there was a scheduled reduction in tax rates which acted to increase private consumption and which are meant to continue in 2008. Despite the reduction in tax rates, the general government's disposable income increased by 5.6 percent, which was similar to the increase in GDP. The expenditure of the general government—which includes the central government, the local authorities, the national institutions and the public non-profit organizations—grew by only 3.0 percent. Therefore, an exceptionally large surplus was created in the government's current account, which resulted in a deficit that was significantly lower than the ceiling. The efforts by the government to reduce the deficit and the debt and to meet inflation targets contributed to the strengthening of public confidence, which, together with the improvement in the economy's background conditions, led to an increase in the economy's rating.

Monetary policy was relatively expansionary; fiscal policy was characterized by a reduction in the government's share of the economy and the reduction in tax rates.

d. International comparison

Product per worker in Israel is similar to the average for OECD countries.

GDP reached a level of NIS 665 billion which is equal to about $162 billion. Per capita GDP in current prices reached NIS 92.6 thousand which is equal to $22.5 thousand. If adjustment is made for purchasing power, then per capita GDP rises to $25.8 thousand,[5] which represents about 80 percent of the average for OECD countries.

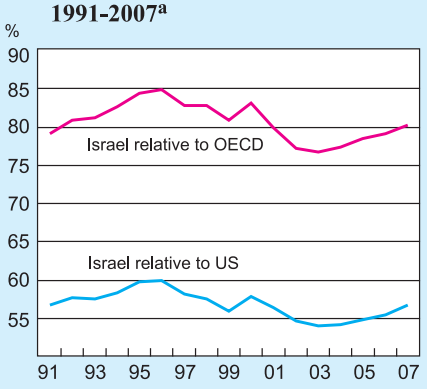
The product per worker in Israel is similar to the average for OECD countries and most of the gap in per capita GDP is a result of the large difference in labor force

[5] This figure is based on estimates of the exchange rate adjusted for purchasing power in 2007.

participation. However, since it is reasonable to assume that the non-working population have lower potential labor productivity, an increase in the rate of participation on its own would not completely close the gap. The process also requires significant investment in order to preserve and even raise the level of capital per worker, as well as continuous improvement in the production process, particularly in non-tradable industries which are apparently less efficient (see previous Bank of Israel reports).

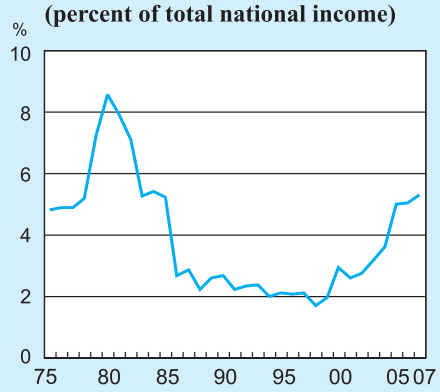
The economy's potential rate of growth in coming years, up to 2010, is estimated at 4 percent. The factors that affect the rate of growth include: technological improvements, the growth trend in the civilian labor force and improvement in the quality of the labor force, which is reflected in the continued increase in levels of education. The contribution of an increase in labor force quality to the growth in GDP is not negligible and is estimated at about 0.5 percent annually.[6] The civilian labor force is expected to grow at a relatively high rate until 2010 since the working-age population will be increasing faster than the general population and due to the upward trend in participation rates. These factors will work to further reduce the gap in per capita GDP between Israel and the developed countries.

Figure 2.2
Per Capita GDP in Israel Relative to OECD Countries and the US, 1991-2007[a]



[a] Per capita GDP adjusted for purchasing power parity in 2006.
SOURCE: Based on Central Bureau of Statistics data.

Figure 2.3
Imports of Fuel, 1975-2007
(percent of total national income)



SOURCE: Based on Central Bureau of Statistics data.

2. AGGREGATE DEMAND, OUTPUT AND IMPORTS

Total uses increased at a high rate this year, which exceeded the growth rate of GDP.

Total uses increased sharply this year by a rate of 7.4 percent and there was a high rate of growth (6.7 percent) in local uses—following relatively low rates of growth in recent years—which exceeded the rate of growth in GDP and as a result created a deficit in the trade balance. All the uses grew at higher rates this year than in previous

[6] A. Friedman and N. Sussman (2008). "The Quality of the Labor Force in Israel," *Discussion Paper* 2008.01, Bank of Israel, Research Department.

The increase in aggregate demand for product led to an increase in its price relative to the price of imports.

years and particularly noticeable was the acceleration in investment in fixed assets and in the purchase of durable goods. The growth in aggregate demand for product in the economy led to an increase in the relative price of product relative to the prices of imports and exports, i.e., a real appreciation, and to a narrowing of the current account surplus. Although output prices remained stable, an examination of prices by industry shows an increase in non-tradable industries, such as finance and business services and construction, and stability in manufacturing. Therefore it appears that the drop in export prices worked to moderate the increase in output prices.

a. Uses

Private consumption rose sharply, which was accompanied by a decline in the rate of private saving from disposable income.

Private consumption increased sharply by a rate of 6.6 percent, which was accompanied by a drop in private saving out of disposable income. The drop in the rate of private saving during a period of rapid growth is an indication of improved consumer expectations, who have adjusted their lifestyle to the continuing improvement in the economy in recent years. The continuing decline in the proportion of public expenditure in GDP has contributed to these developments.

Non-durable consumption rose by 5.0 percent while the purchase of durable goods grew by 23.6 percent, primarily as a result of the 30.7 percent increase in the purchase of cars. Private consumption excluding cars grew by 5.8 percent.

A number of factors acted to increase private consumption: the continuing improvement in the labor market, which was reflected in an increase in wages and a decrease in unemployment, and a reduction in tax rates on labor, which together led to an increase in disposable income from salaries of 7.6 percent though current income from all sources increased by a slower rate of 3.3 percent. The continuing

Table 2.2
Sources and Uses, 2001-07

(volume rates of change, percent)

	2001	2002	2003	2004	2005	2007	2007
GDP	-0.4	-0.6	2.3	5.2	5.3	5.2	5.3
Imports	-5.1	-1.1	-1.3	11.8	3.5	3.3	12.3
of which Imports excluding diamonds	-2.8	-5.4	-2.1	11.7	5.9	5.4	13.7
Total sources	-1.7	-0.8	1.3	7.0	4.8	4.6	7.4
Exports	-11.1	-2.0	8.0	18.1	4.3	5.9	8.4
of which Excluding diamonds	-10.2	-5.9	8.2	19.8	6.6	10.1	9.3
Gross domestic investment	-3.1	-10.6	-6.0	3.1	11.1	5.3	13.8
of which Nonresidential	-3.4	-6.5	-5.6	-0.4	2.3	10.1	14.2
Private consumption	2.8	0.8	1.2	5.6	4.0	4.5	6.6
Public consumption	3.7	5.0	-2.3	-2.5	2.9	2.3	2.6
Domestic uses[a]	1.3	-0.3	-0.6	3.1	4.9	3.9	6.7
Total uses	-1.7	-0.8	1.3	7.0	4.8	4.6	7.4

[a] Total uses (excluding defense imports) minus net investment in ships and aircraft and minus exports.
SOURCE: Based on Central Bureau of Statistics data.

increase in inequality in recent years, which worked to reduce the marginal propensity to consume, was halted this year and inequality even declined. These developments encouraged private consumption and its rate of growth exceeded that of disposable income.

The rate of growth in non-durable consumption this year was similar to that in previous years and thus the exceptionally high growth in private consumption was a result of the jump in the purchase of durable goods. There were several factors behind this: the drop in the relative price of durable goods, partly due to the reduced tax rates on cars; the reduction in direct tax rates, which significantly increased the disposable income of high-salaried workers; a significant increase of 13.3 percent in the real value of the public's portfolio of financial assets, to which the purchase of durables goods is particularly sensitive; and, in addition, it appears that part of the high rate of growth in the purchase of durable goods this year was the result of the adjustment of the inventory of goods to the standard of living, following the slower pace of such purchases in 2006.

The high rate of growth in private consumption was accompanied by a relatively low level of growth (2.9 percent) in investment in residential buildings, which means that households shifted resources from investment to consumption. It is possible that the reason for this is related to the rise in the relative price of residential housing. However, it is difficult to explain the contrast between these two areas using the behavior of households in recent years, during which per capita income and consumption rose significantly while the consumption of housing services grew at a slow rate.

The growth rate of exports was higher than that of world trade and therefore Israel's share of the global market grew this year.

Exports grew by a rate of 8.4 percent (9.3 percent excluding diamonds), which exceeded the rate of growth in world trade, and therefore Israel's share of the world market increased this year. This occurred despite the real appreciation and the rise in unit labor cost, particularly in the manufacturing industry, which reduced both corporate

Table 2.3
Contribution of Changes in Uses to Change in GDP, 2001-07

(percent of GDP)

	2001	2002	2003	2004	2005	2006	2007
GDP	-0.4	-0.6	2.3	5.2	5.3	5.2	5.3
Derived GDP[a]	-1.4	-0.9	0.9	6.0	4.4	5.5	7.2
Total domestic uses	1.3	0.4	-0.6	1.8	2.8	3.1	4.8
Private consumption	1.2	0.4	0.5	2.2	1.6	1.9	2.5
Domestic public consumption	0.7	1.0	-0.3	-0.5	0.5	0.3	0.7
Gross domestic investment	-0.6	-1.0	-0.8	0.1	0.7	0.9	1.6
Exports	-2.7	-1.3	1.5	4.1	1.6	2.4	2.4
of which Goods exports	-1.1	-0.9	0.7	2.6	1.0	1.9	1.8
Service exports	-1.6	-0.4	0.8	1.5	0.6	0.4	0.6
Tourism	-1.4	-0.3	0.1	0.3	0.3	-0.1	0.2

[a] The total contributions of domestic uses to GDP, according to input-output coefficients of 1995. The difference between GDP and derived GDP arises from the deviation of actual contributions from those calculated.

SOURCE: Based on Central Bureau of Statistics data.

profits and the ability to compete. Manufacturing exports (excluding diamonds) grew by 10.0 percent which exceeded the increase of 7.3 percent in services. The export of tourist services increased by a rate of 16.5 percent, which was partly the result of its relatively low level in 2006 due to the second Lebanon war. It appears that the decline in export prices did not affect the real growth in exports though the decrease in export revenues in local terms reduced the economy's income. The reason for this is that Israeli export industries produce goods that for the most part do not have any local market and therefore the sensitivity of the quantity of exports to its relative price is relatively small in the short run. In any case, exports rose significantly relative to the factors that determine it and therefore the growth in exports remains partially unexplained. The growth in exports contributed about one third of the growth in GDP.

Gross domestic investment increased at a significant rate which was a result of the jump in investment in the various sectors of the economy.

Gross domestic investment grew significantly at a rate of 13.8 percent. The investment in the economy's various industries jumped by 18.5 percent, which was the result of the sharp increases in all of its components: machinery and equipment, 16.0 percent; transportation vehicles, 21.6 percent; intangible assets (primarily software), 14.8 percent; and construction (non-residential), 14.1 percent. The high rates of growth in investment in the various industries indicate that the utilization of the existing capital stock is at a very high level. The large increase in investment was partly the result of the low cost of raising capital of all types and the downward trend in the relative price of investment goods. This was particularly noticeable this year with respect to imported machinery and equipment whose relative price fell by 7.6 percent. In this context, it is worth mentioning the transition this year from locally-produced investment goods to imported investment goods, was reinforced by the sharp drop in the relative price of imported investment goods and the sharp increase in the price of locally-produced goods.

Domestic public consumption increased at a high rate relative to the increases in previous years.

Public consumption grew by 2.6 percent and domestic public consumption (excluding defense imports) rose by 3.1 percent, which was high relative to previous years. The growth in public consumption was the result of a 3.9 percent increase in civilian consumption and a small decrease of 0.6 percent in defense consumption. For the first time in several years, there was a significant increase (2.2 percent) in per capita civilian consumption. The per capita output of public services, which reflects labor input in these services, rose by 1.4 percent. The rate of growth in public consumption was lower than that of GDP, which provides support for the assumption that reductions in tax rates in recent years were perceived as permanent.

Trends during the course of the year

Rapid growth continued throughout the course of the year.

Rapid growth continued throughout the year. Exports and private consumption continued to grow at high rates, similar to those in the previous year, and the increase in investment in the various industries accelerated during the second half of the year. These trends were accompanied by an steady decline in the rate of unemployment, which reached 6.7 percent by the end of the year. The rapid growth throughout the year is evidence that the supply constraints are still not particularly severe.

Table 2.4
Developments During the Year, 2006–07
(seasonally adjusted, quarterly rates of change, in annual terms)

	2006	2007	2007 I	2007 II	2007 III	2007 IV
Sources and uses						
GDP	4.9	5.8	5.5	5.8	5.8	6.1
Business-sector product	5.9	6.9	6.2	6.8	7.1	7.7
Private consumption	5.7	5.5	9.7	3.7	7.4	1.6
Public consumption	4.2	0.6	-0.3	6.0	2.0	-5.0
Investment in the principal industries	9.9	17.3	19.2	19.3	60.2	-17.0
Housing investment	10.6	-1.7	-2.4	-7.6	3.5	0.1
Exports excluding diamonds	9.8	10.8	9.2	10.6	11.8	11.7
Tourism exports	-32.7	58.1	101.5	47.0	-9.4	132.6
Imports excluding diamonds	9.4	11.5	11.2	23.5	13.1	-0.5
Unemployment rate[b]	-1.1[2]	-1.1[2]	7.8	7.5	7.2	6.7

[a] Actual levels, not rates of change.
[b] Percentage points.
SOURCE: Based on Central Bureau of Statistics data.

b. Sources

The total sources available to the economy rose this year by 7.4 percent, as a result of a 5.3 percent increase in GDP and a sharp increase of 12.3 percent in imports. Although over time the proportion of imports in total sources is increasing, which is a reflection of the increasing openness of the economy, the sharp increase this year and the real appreciation indicate the existence of surplus demand. The marginal propensity to import, which is calculated according to the change in uses and the import intensity of each use separately, shows that actual imports were higher this year than the level implied from the changes in uses.

The supply of business sector output

Business sector product continued to grow at a high rate as it had in previous years; however, this year there was a noticeable transition to growth driven by the expansion of factors of production.

There was a high rate of growth, 6.1 percent, in business sector product, which was similar to previous years. However, there was a noticeable transition this year to growth driven by the expansion of factors of production: labor input grew sharply by 5.0 percent and the business sector's stock of capital increased by 3.2 percent. The growth in total factor productivity slowed to 1.6 percent, which was similar to its long-term trend.

The civilian labor force grew by a high rate of 3.2 percent which was twice the rate of growth in total population. The factors behind this development were the significant increase in labor force participation and a relatively large increase in the working-age population.

The business sector benefited this year from the low cost of raising capital, which was reflected in low rates of interest both in Israel and abroad, and from the booming share markets. In addition, there was a significant drop in the prices of investment goods: machinery and equipment and transportation vehicles and intangible assets (primarily software). These factors, along with the closing of the output gap and the drop in the stock of capital per worker this year, led to a steep rise in investment in the various industries of the economy and the stock of capital as of the beginning of 2008 is expected to grow by more than 4.0 percent.

Unit labor cost increased following several years in which it had decreased.

Unit labor cost grew by 2.9 percent, following several years in a row in which it decreased. The increase is a result of the low rate of increase (1.1 percent) in labor productivity (business sector product per hour of labor input at constant prices) and the higher rate of increase in the hourly cost of labor. The drop in the capital share of income led to a decrease in the rate of return on capital to a gross rate of 17.0 percent and a net rate of 9.4 percent. Despite this decline, the rate of return on capital was still very high in historical terms and also relative to other countries and is similar to the rates in developed countries. This is an indication that the stock of capital per worker

Table 2.5
Supply of Business-Sector Product, 2001-07

(volume rate of change, percent)

	2001	2002	2003	2004	2005	2006	2007
Gross capital stock	6.6	5.4	3.7	2.8	2.6	2.5	3.2
Labor input[a]	-1.0	0.4	0.2	1.1	2.7	2.6	5.0
Civilian labor force plus foreign workers[b]	1.2	0.3	1.1	2.4	1.7	2.7	3.2
Total factor productivity[c]	-3.0	-4.4	1.9	5.5	3.8	3.8	1.6
Rate of return on gross capital (%)	13.0	11.5	13.8	15.0	16.3	17.8	17.0
Actual tax rate on non-wage income (%)[d]	23.8	20.9	18.6	18.7	19.8	22.8	23.7
Real yield on 10-year bonds (%)[e]	4.9	5.2	4.8	4.2	3.6	3.8	3.3
Compensation of employees per work hour[f]	3.3	-1.0	-1.3	1.7	3.5	5.9	3.0
Gross product per work hour[f]	0.0	-0.4	4.6	5.2	5.5	6.6	0.0
Unit labor cost[f]	3.3	-0.6	-5.7	-3.3	-1.9	-0.6	2.9
Labor share at factor prices	77.6	82.5	72.5	70.3	69.0	67.7	69.5

	Multi-year averages			
	1970-80	1980-90	1990-2000	1999-07
Total factor productivity[g]	1.6	2.6	-0.1	1.8

[a] See note 3 to Table 2.A.14.
[b] The labor force plus the labor inputs of Palestinian and foreign workers, in accordance with their share in the business sector.
[c] See note 1 to Table 2.A.15.
[d] Taxes on non-wage income as share of non-wage income in business sector (including executives' pay).
[e] For 2006 the yield is on 9-year bonds, and for 2007, on 8-year bonds.
[f] At current prices.
[g] For the definition of labor input for the purpose of calculating total factor productivity, see note 3 to Table 2.A.9.
SOURCE: Based on Central Bureau of Statistics data.

in Israel is low and that the process of capital accumulation is not yet complete.[7] The net return on capital is high relative to the real rate of interest, which indicates a high level of profitability in the business sector.

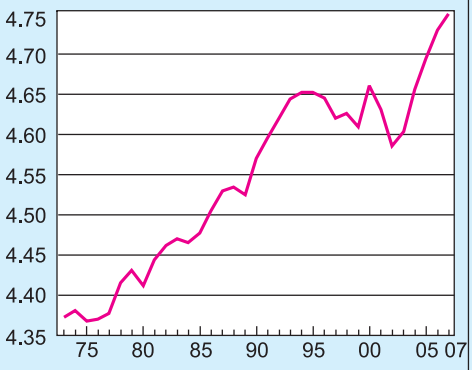
The reduction in direct tax rates continued, which also worked to increase economic activity, particularly investment. The actual tax rate on non-labor income has increased in recent years, but this is a result of the economic boom and therefore is not expected to affect the activity of the business sector. An additional channel through which government policy affects the activity of the business sector is the direct demand for business sector output. Local purchases by the government rose by 3.5 percent this year, which was a high rate relative to recent years.

Box 2.1
The effect of policy and other variables on productivity in Israel

Manufacturing productivity in the business sector is the part of the growth in output that does not stem from an increase in inputs (capital and labor). In the long term, productivity reflects greater efficiency of the means of production—the outcome of technological improvements, exploiting relative advantages, an increase in human capital, improved infrastructure, public reforms, and more. In the short term, temporary shocks in demand affect the utilization of the factors of production and are expressed as shocks in productivity—as in the short term manufacturers are unable to fully adjust the factors of production to meet demand, but rather change the rate at which they are used.

Figure A presents the total factor productivity (TFP) index for the years 1973 to 2007. Productivity was calculated using the conventional approach of the Solow residual: the total growth in output less growth in the stock of capital and labor input, weighted using fixed weights. The illustration shows that there have been several sharp fluctuations in productivity, including a rapid increase in the early 1990s and a decline at the end of the 1990s, culminating in a sharp drop during the recent recession followed by an increase.

Figure A
Total Factor Productivity,[a] 1973-2007



[a] Calculated with weights of 0.32 to capital and 0.68 to labor. Logarithmic scale.
SOURCE: Based on Central Bureau of Statistics data.

[7] See the 2005 Bank of Israel Annul Report, Box 2.1.

In an effort to understand the origin of the changes that have taken place in productivity since the 1970s, a structural model of the long and short terms was estimated. According to this model, the factors that determine productivity in the long term are principally supply factors: the stock of human capital (the percentage of people with higher education and the number of foreign workers), technological developments worldwide [1] and new capital as a proportion of total capital.[2] Table 1 presents the average percentage change in productivity for different periods (logarithmic approximation) and the contribution of each of the aforementioned variables to productivity (the average annual change in each variable, multiplied by the regression coefficient). An increase in the rate of educated people in the work force reflects the increase in human capital in the economy, which consequently led to higher productivity, whereas an increase in the number of foreign workers, who form a less skilled work force, reflects a decline in the level of human capital in the economy, and therefore led to lower productivity. Technological developments, which increase the economy's production potential, also contributed to higher productivity. This is reflected both in the Tech-Pulse index and in the weight of the investment in capital, as such investment is in fact new, more advanced capital, and therefore also more productive than the stock of existing capital.

Table 1

Average Change in Productivity,[a] and Contribution of Each Variable to Productivity,[b] by Period

	Log productivity	Share of those with high education	Number of foreign workers	Log of Tech-Pulse index	Rate of investment in capital stock
1973-2007	1.1	0.5	-0.5	1.1	-0.1
1973-1989	1.0	0.4	-0.2	1.2	-0.5
1989-1999	0.8	0.6	-1.7	1.4	0.5
1999-2007	1.3	0.6	-0.7	1.0	0.2

[a] Average annual change in log productivity.

[b] Average annual change in same period, mutiplied by the regression coefficient of each variable.

Source: Based on Central Bureau of Statistics and US Federal Reserve data.

[1] The Tech-pulse index, which represents technological developments worldwide, measures the state of America's hi-tech industry. The index is calculated monthly, based on data on investments, consumption, employment, industrial output and exports in this sector. To neutralize short-term fluctuations resulting from demand, a smoothed version of the index was also examined, as well as a version that entailed dividing the index by the volume of world trade, and the results were similar.

[2] Assuming that new capital is more productive than old capital, the rate of investment in capital reflects the degree of productivity of the capital. Nevertheless, this variable can also reflect elements of demand. In order to focus on the supply effect, the rate of investment exclusively in equipment was examined, calculated as the sum of the investment in equipment over the last three years. The results were similar, although somewhat less significant.

In addition to the factors that determine productivity in the long term, productivity is also affected in the short-term by cyclical factors and temporary shocks (Table 2). These factors are of several categories:

(1) Factors relating to business turnover—the process of convergence of productivity to the long-term equilibrium level, reflecting the gradual decline of the impact of the temporary shocks on the level of productivity, and the rate of unemployment in previous periods that reflects the impact of the pressures of demand. In periods of economic boom, the demand for workers increases, new workers—who are generally less skilled—and less-educated workers, join the labor market. It was found that these factors (presented together in Table no. 2 under the heading "The cyclical factor") have a dominant effect on the development of productivity. Thus, for example, falling unemployment rates during the period 2004–06 contributed to a 1.5 percent slowdown in the growth of productivity.

Table 2

Contribution of the Main Factors to Productivity Changes in the Short Run[a]

	Productivity	Business cycle	Security situation	Tax rate
2001	-3.0	0.2	-4.3	0.0
2002	-4.4	2.2	-7.6	-0.1
2003	1.8	4.6	-3.2	0.0
2004	5.5	5.0	-2.3	0.6
2005	3.8	3.7	-1.4	0.8
2006	3.8	1.9	-0.6	0.2
2007	1.6	0.7	-0.3	0.3

[a] The variable *multiplied by* the regression coefficient.
SOURCE: Based on Central Bureau of Statistics and US Federal Reserve data.

(2) Background factors—including the security situation [3] and the percentage of new immigrants in the population.[4] Beyond its negative impact by way of reducing demand, a deterioration in the security situation also results in the allocation of more resources to less productive activity such as security and protection. The second intifada contributed to a 7.6 percent decline in productivity in 2002. Immigration to Israel had a negative impact on productivity in the short term due to the fact that the human capital that the new immigrants bring with them is incompatible with the needs of the local market (Zussman & Friedman, 2008). Nevertheless, the massive immigration of the 1990s did result in greater productivity in the long term—due to the high percentage of well-educated

[3] Measured according to the number of victims in terror attacks.
[4] Measured according to the cumulative number of new immigrants, weighted according to their seniority.

immigrants and to the fact that it generated the need to increase the physical stock of capital which in turn led to its renewal.

(3) The statutory tax rate. Although the main channel through which taxation affects production is its impact on the factors of production, in the short term taxation can also affect the utilization of the factors of production (Lavi & Strawczynski, 2001). It was found that direct taxation has a negative impact on productivity, whereas indirect taxation has no impact. According to estimates, the flexibility of productivity in response to the tax rate was 12 percent, and it therefore follows that the drop in the direct tax rate over the last four years, amounting to some 16 percent, made a cumulative contribution of 2.0 per cent to productivity, some 14 percent of its entire increase during this period.

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Box 2.2
Labor's share of income

Labor's share of income is defined as total salary payments to salaried workers plus the imputed return to labor of self-employed workers divided by GDP.[1] One of the more surprising characteristics of the economy's rapid growth in recent years has been the relatively low share of labor in GDP, which reached a low point of 55 percent in 2005 following four years in a row of decline. An examination of the labor share over time shows that it is currently much lower than its record levels at the end of the 1980s when it reached 68 percent. Its current level is also low relative to the average of 62.2 percent for the period 1970–2007. Due to the high variance in the labor share, it is difficult to determine whether the present level is a new equilibrium that is the result of changes in the production function or whether it is only a temporary deviation due to cyclical factors.

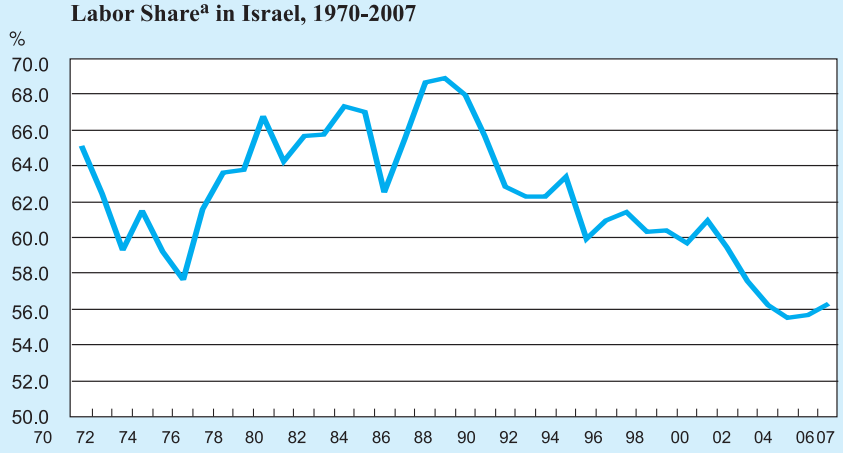
The labor share moves counter-cyclically in general, which means that it rises during a recession and drops during the first stage of a boom (Gomme and Rupert,

[1] The rate appearing in this box is for the economy as a whole in market prices, which is the only rate that can be calculated for many countries in a uniform manner. The rate of return to labor presented in the box does not correspond to the figure appearing in Table 2.5 which applies to the business sector and is expressed in basic prices that do not include indirect taxes.

2004). These fluctuations reflect the sharing of risk between workers and employers, as well as the short-term inelasticity in wages. Indeed, the labor share in Israel rose in 2001 as a result of the partial adjustment of the labor market to the drop in GDP and in 2002, once the adjustment had been completed, the labor share returned to its level in 2000. However, it continued to decline even as the growth process strengthened. In 2006, the labor share increased for the first time since the beginning of the recovery process.

The return of the labor share to its average level will lead to significant increases in the real wage and/or employment and could bring about a reduction in corporate profitability or cost-push inflation, in case firms try to compensate themselves for the increased cost of labor by raising the prices of their products. In order to understand whether the decline in labor share in recent years is an exception, the factors that influence it are reviewed and a comparison is made to other developed countries.

Figure A
Labor Share[a] in Israel, 1970-2007



[a] Total wage payments to employees plus imputed pay to independent workers, divided by GDP at market prices. The data up to 1995 were concatenated according to the new definitions (SNA 1993).
SOURCE: Up to 1995--Central Bureau of Statistics, Israel's National Accounts 1950-97, Publication No. 1097, Tables 20 and 23; from 1995--based on Central Bureau of Statistics data.

An examination of the labor share in Israel over time shows relatively large variations with no fixed trend. Thus, the labor share increased from the mid-1970s until the end of the 1980s and since then has been in a downward trend which became more pronounced since 2002. The lack of a clear trend over the whole period corresponds to the assumption regarding balanced growth and constant labor share, such as that derived from a Cobb-Douglas production function with fixed coefficients.[2] However, the large fluctuations, also relative to other countries, indicate the possibility that

[2] Indeed, the estimation of a Cobb-Douglas production function produces similar results. There was no correlation found between the labor share and the capital to output ratio and a trend of convergence was found in the labor share in the long term. These findings also support the existence of a Cobb-Douglas function.

there were structural changes in the economy that affect the basic parameters of the production function[3] or the possibility that the labor market is not competitive resulting in the creation of relatively large deviations between wages and the value of workers' marginal product of labor.

With regard to the first possibility, the Israeli economy has undergone numerous changes which can influence the labor share. Currently, the economy, like other developed economies, is based on human-capital-intensive industries. The structural transition from physical-capital-intensive industries, such as manufacturing, to service industries, which are human-capital-intensive, should have led to an increase in labor share that would partially reflect the share of human capital that the workers are investing.[4] In contrast to these developments, many factors worked to lower the labor share: the continuing decline in the power of unions that works to weaken their negotiating power; rapid technological progress that results in a high turnover of workers and an increase in the rate of depreciation on capital (due to the large investment in computers and software) which work to increase the capital share such that the net return on capital remains fixed (Ellis and Smith, 2007); the increase in the proportion of the communication industry, which is capital intensive and apparently is also characterized by some degree of monopolistic power in the goods market; and primarily the continuing process of globalization and increased openness of the economy, as in other countries.

Globalization creates pressure for a uniform price of labor. Thus, the openness to labor-intensive countries brings about a drop in the labor share in capital-intensive countries, such as the developed countries (Guscina, 2006). Globalization creates downward pressure on wages in the economy both directly, through the increase in the number of foreign workers, and indirectly, through the exposure of the economy to competing imports. It was found that the increase in imports from developing countries and the increase in the number of foreign workers have worked to lower the labor share also in Israel (Kristal, 2007).

In the short run, the labor share tends to drop during periods of high growth in GDP or total productivity, such as at the beginning of the 1970s and since 2004. This may be the result of inelasticities in the labor market or the increase in capital productivity in the growth process.[5]

The shares of labor and capital take into account taxes and therefore, in theory, changes in the relative tax burden can be expected to affect the labor share, at least in the short term until the quantities of the factors of production adjust to the changes in

[3] Solow (1958) showed that a high variance is also an indication of changes in the production function.

[4] An alternative way to measure labor share, which was suggested by Krueger (1999), breaks down total labor share into the share for effort and the share for investment of human capital. The results show that most of the labor share is due to the investment in human capital.

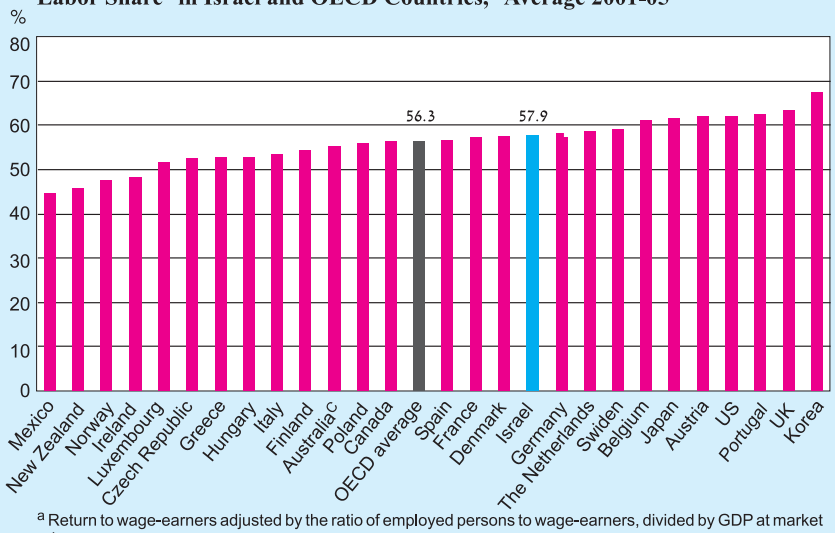
[5] This negative relation has been found in empirical studies in other countries (Bentolila and Saint-Paul, 2003) and in Israel (Kristal, 2007 who found a negative effect for the rate of growth).

their relative price. Empirical analysis indeed shows that the relation between taxes on labor and taxes on capital is positively correlated with the labor share and with changes in it. Although the causality is two-way, in recent years there have been relatively large changes in statutory tax rates and therefore it would appear that the drop in the relative tax burden on labor is what led to the decrease in labor share.[6]

An international comparison of labor share[7]

An international comparison can help explain the changes in labor share in Israel since some of the factors that determine labor share are global, such as production technologies, globalization and the world business cycle. Indeed, according to the data, the drop in labor share and the parallel increase in capital share during the 2000s are common to many countries. A positive correlation between the G7

Figure B
Labor Share[a] in Israel and OECD Countries,[b] Average 2001-05



[a] Return to wage-earners adjusted by the ratio of employed persons to wage-earners, divided by GDP at market prices.
[b] Except for Iceland, Turkey, Slovakia and Switzerland, due to lack of data.
[c] Average of 2001-03.
SOURCE: Based on Central Bureau of Statistics data.

[6] In recent years, the tax rates on salaries have been reduced significantly. Although corporate taxes have been reduced at the same time, the reduction was of a smaller magnitude. Since 2002, the corporate tax rate has been reduced by 20 percent while the average marginal tax rate on labor has been reduced by 25 percent. During this period, the ratio of capital to worker has remained constant.

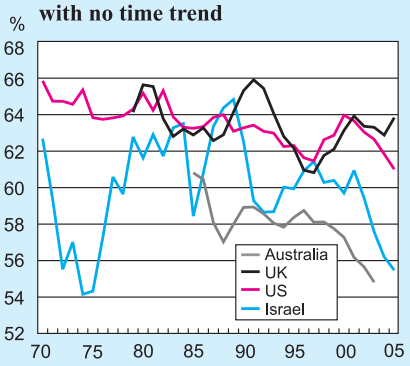
[7] The labor share was calculated as the total salary payments to salary workers multiplied by the ratio of total employed to salaried workers and divided by GDP in current prices. This method of uniform calculation yields comparable data.

countries was found for capital share though it was not very high (Poterba, 1998).[8] Thus, local factors, such as local shocks and institutional changes, still play a central part in determining the labor share in each country (Blanchard, 1997). The average share in Israel during the 2000s was higher than the average for the OECD countries[9] (Figure 2).

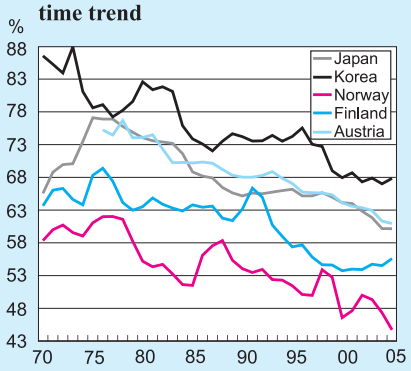
An international comparison of the trend in labor share over time shows that in most countries labor share fell in the mid-1980s (Figure 3), which was reflected in increased capital share in these countries (Ellis and Smith, 2007). In the past, there was a downward trend in labor share in the European countries while labor share was stable in the English-speaking countries (Blanchard, 1997) and more up-to-date data supports this. The downward trend in labor share hints at a deviation from the Cobb-Douglas production function. Thus, among the countries that were examined, there were only a few—the US, Britain and Israel—in which labor share moved without a clear trend. Furthermore, in almost all the countries of the world (including the US), the labor share dropped during the 2000s. The correlation in the trend of labor share between most of the developed countries, as well as its decline in the 2000s, indicates that there are common factors that determine labor share, such as the global business cycle, which generate temporary changes in

Figure C
International Comparison of Labor Share, 1970–2004

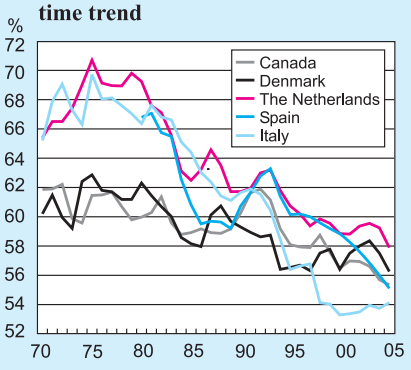
i. Israel and OECD countries, with no time trend



ii. OECD countries with downward time trend



iii. OECD countries with downward time trend



SOURCE: Based on OECD and Central Bureau of Statistics data.

[8] On the assumption that the stock of capital in these countries changes only slowly since they are at a high level of development, the change in return is primarily the result of the change in capital share.

[9] Due to the method of estimating GDP, the labor share is biased downward in countries rich in natural resources and is biased upwards in countries with a high proportion of workers employed in public services or with high wages in the public services.

labor share. However, the relatively sharp drop in many countries, including Israel, in recent years points to the possibility that some of the factors are fixed and not dependent on the business cycle. In particular, it appears that globalization, which includes the opening up of markets in developed economies, including that of Israel, to labor and goods from labor-intensive countries, as well as the actual flow of workers from these countries, creates ongoing downward pressure on the labor share.

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3. DEMAND, SUPPLY AND THE REAL EXCHANGE RATE

The increase in aggregate demand this year exceeded growth in the supply of product.

The increase in aggregate demand exceeded the increase in the supply of output this year. The rate of increase in local uses (6.7 percent) exceeded that of GDP (5.3 percent). This gap in and of itself is not an indicator of excess demand since the growth in uses is an equilibrium outcome. Even though demand and supply grew in tandem, there were a number of indicators of demand pressure in the economy towards the end of the year: 1) the transition from a trade balance surplus to a deficit accompanied by a real appreciation; 2) a drop in the rate of growth of total factor productivity, particular labor productivity; 3) an increase in real wages and in unit labor cost, which was accompanied by significant growth in labor input (implying that demand increased

Table 2.6
The Real Exchange Rate and World Trade, 2001–07

(rate of change, percent)

	2001	2002	2003	2004	2005	2006	2007
Real exchange rate (export terms)[a]	0.1	6.6	-2.2	0.8	1.6	0.2	-3.8
Real exchange rate (import terms)[b]	-0.2	7.0	1.2	4.5	3.8	1.6	-1.7
Exchange rate adjusted by GDP deflator vis-à-vis US	3.7	9.9	-1.5	1.4	2.4	0.3	-5.1
Exchange rate adjusted by GDP deflator vis-à-vis Europe[c]	0.1	17.0	15.6	11.1	1.5	0.2	3.2
Real exchange rate relative to currency basket[d]	0.9	10.7	5.5	6.3	2.2	0.0	-1.9
Terms of trade[e]	0.3	-0.3	-3.3	-3.6	-2.1	-1.4	-2.1
World trade	0.2	3.5	5.5	10.8	7.5	9.2	6.6
World export prices	-3.6	0.7	10.2	8.9	5.1	5.1	7.6
World import prices	-3.8	-0.6	9.2	9.6	5.7	6.4	6.9

[a] Ratio of export prices (excluding diamonds) to business-sector product prices (including housing services).
[b] Ratio of import prices (excluding diamonds) to business-sector product prices (including housing services).
[c] Members of the European Monetary Union.
[d] Calculated by the IMF by weighting the CPIs of various countries according to the extent of their trade with Israel.
[e] Ratio of export prices (excluding diamonds) to import prices (excluding diamonds).
SOURCE: Based on IMF, IFS, US Department of Commerce, Bureau of Economic Analysis, and Central Bureau of Statistics data.

faster than supply in the labor market as well); 4) a decline in the national rate of saving despite rapid growth; 5) the fact that GDP is low relative to the derived product which is calculated in Table 2.3; 6) the low rate of unemployment reached by the end of the year, which was lower than the level compatible with stable inflation.

The high degree of flexibility in the labor market enabled a large increase in the quantity of labor alongside a relatively moderate increase in its price. Also contributing to this was the reduction in tax rates on labor since its effect was regressive and therefore contributed to the decrease in the slope of the labor supply curve. In addition, it is possible that the nominal appreciation against the dollar worked to moderate the wage costs in the hi-tech industries since wages and the prices of products in these industries are determined abroad. The effect of the moderate increase in the cost of labor on output prices offset the increase in total factor productivity and as a result product prices did not change significantly.

Demand pressure led to a significant appreciation in the real exchange rate.

The rate of increase in per-capita GDP in Israel was much higher than in other developed countries and demand pressure led to a significant appreciation of the real exchange rate, which is measured according to the price of exports relative to product.

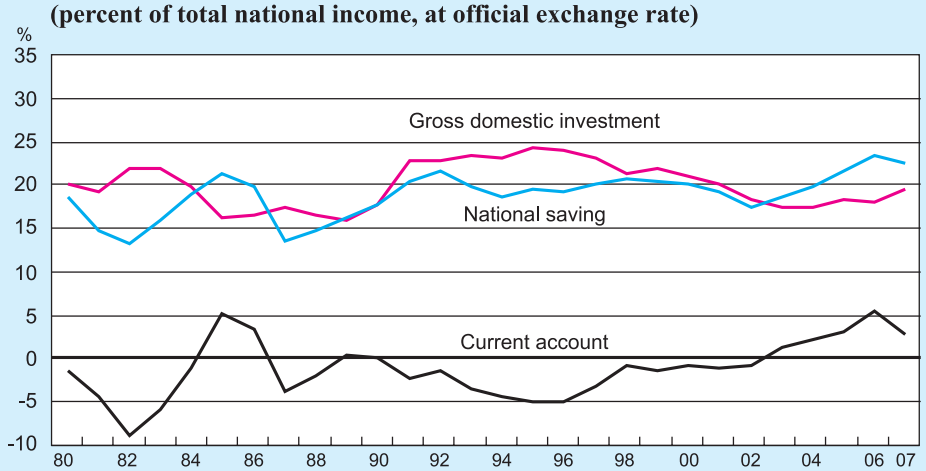
4. SAVING, INVESTMENT AND THE CURRENT ACCOUNT[8]

National saving fell as a result of the drop in private saving.

National saving declined by a percentage point this year to 22.4 percent out of the economy's total income (which is equal to GDP plus unilateral transfers from abroad less net foreign interest payments). Despite the decrease, the rate of national saving is very high in historic terms (see Figure 2.5). The decline in national saving is a result of the partial substitution between private saving, which fell by 1.8 percentage points, and public saving, which increased by 0.8 percentage points. Public saving during the past two years has been positive in contrast to previous years.

The decline in the rate of private saving was reinforced this year by the significant increase in the public's wealth, particularly the value of its portfolio of financial assets, which facilitated a large increase in private consumption relative to the increase in GDP. The decline in the rate of private saving this year may have been the result of the increase in the rate of public saving during the last two years. It is worth mentioning that the increase in public saving in the previous year was apparently unexpected, at least in part (see the 2006 Bank of Israel Annual Report), and therefore part of the decline in private saving was a delayed adjustment. In addition, it should be recalled that part of the decline in private saving was channeled to the purchase of durable goods which provide consumption services for many years. The decrease in the rate of private saving adjusted for the stock of durable goods, which counts the depreciation of durable goods as consumption, was only 1.2 percentage points.

Figure 2.4
National Saving Rate, Gross Domestic Investment, and the Current Account, 1980-2007
(percent of total national income, at official exchange rate)

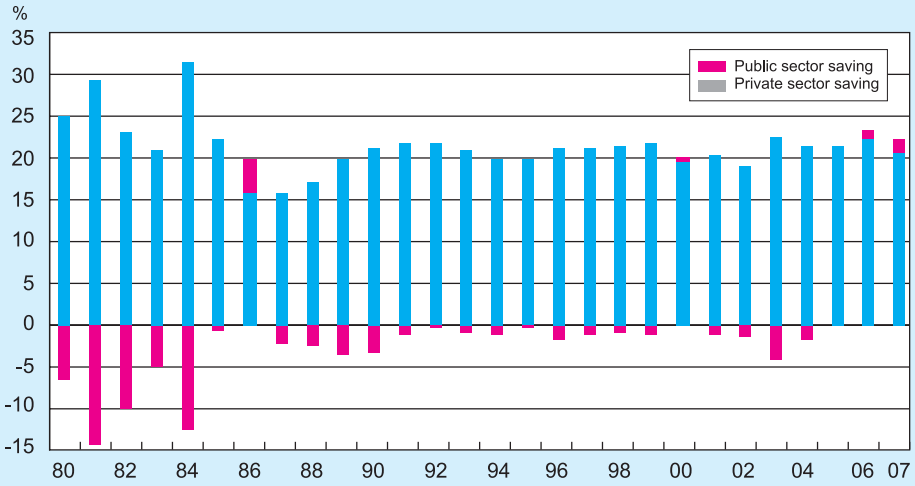


SOURCE: Based on Central Bureau of Statistics.

[8] The data in this section are calculated as a percentage of national income, and differ from the data in Chapter 7.

Despite the drop in the rate of private saving this year, its level was still high in historical terms. This is the result of several long-term factors, of which the most important are the government policy to reduce the scope of social insurance transfer payments and the supply of public goods.[9] Individuals react to this policy by increasing their precautionary savings. However, national saving is high relative to the rate of investment and therefore at the current level of GDP an additional increase in the standard of living could be financed or, alternatively, the rate of investment could be increased, thus raising the rate of growth in GDP in the future.

Figure 2.5
Saving Rate, by Sector, 1980-2007
(percent of total national income, at official exchange rate)



SOURCE: Based on Central Bureau of Statistics data.

The rate of investment increased.

The rate of investment grew by a significant 1.4 percentage points to 20.4 percent of GDP, which is similar to that in other developed countries.[10] This is in line with the relatively high rate of increase in the stock of capital. However, if the number of employed continues to rise as it did in 2007, an even higher rate of investment will be needed in order to maintain the capital to labor ratio.

As a result of the opposite effects of the changes in saving and investment, the current account surplus was reduced.

The traditional link between saving and investment has been broken in the last two years. This is perhaps because the economy is enjoying a current account surplus that enables it to increase investment without increasing saving and without an increase in the price of capital. As a result of these opposite trends in saving and investment, the current account surplus fell to 2.9 percent of total income.

[9] For further details, see the 2006 Bank of Israel Annual Report.

[10] The proportion of investment in GDP in 2006 was 21.5 in the euro zone and 16.7 percent in the US.

5. THE PRINCIPAL INDUSTRIES

I. Main developments

The product of all the principal industries expanded considerably during the year.[11] The growth encompassed the industries whose output is primarily directed at the local market–including transportation, commerce and services, which benefited from a rapid expansion in private consumption and incoming tourism–as well as export-oriented industries, principally the manufacturing industries. The ability to respond rapidly to the growth in demand resulted from the large increase in labor inputs in manufacturing, construction, commerce and services, and from the continued growth in the productivity of workers who have been employed over time. This growth was only partly reflected by an increase in average productivity, because the output of new employees is generally lower than the average.

The product of all the principal industries expanded considerably in 2007. The growth encompassed the industries whose output is primarily directed at the local market as well as export-oriented industries.

Manufacturing product rose by 5 percent. Industrial exports expanded by 12 percent and as in the years 2004 to 2006, accounted for a major proportion of the growth in manufacturing. This was despite the real appreciation and the slower pace of expansion in world trade and in imports to the USA. The expansion in manufacturing was accompanied by the need to cope with supply restrictions. This was apparent from the increase in the unit labor cost in manufacturing, the decrease in gross return on equity, and the only moderate growth in overall productivity once the cyclical component of the increased utilization of production factors had been fully exploited.

Industrial exports expanded by 12 percent and accounted for a major proportion of the growth in manufacturing, despite the real appreciation and the slower pace of expansion in world trade and USA imports.

The product of the construction industry, the number of the employees in it and their real wages rose appreciably during the year. However, most of the increase was recorded in non-housing construction–principally at the local authorities–while the product of the housing production sector rose to a relatively moderate extent. The number of housing starts and the number of housing units under active construction actually decreased. The large and continued rise in the standard of living in Israel, the large growth in nonresidents' demand for real estate in the country and the decrease in financing costs are currently leading to a substantial increase in housing construction activity. Since the increase in the prices of construction inputs cannot be the main reason for the previously unchanged level of activity, it is reasonable to assume that this derived from temporary rigidity (due to the decline in the dollar exchange rate and contractors' adjustment costs) or from a shortage of land for construction in demand areas. The fact that an increased amount of land was sold during the year suggests that the rigidity was indeed only temporary, although a shortage of land for construction could be developing in the center of the country (Box 2.4).

The product of the construction industry, the number of the employees in it and their real wages rose appreciably during the year. However, the product of the housing production sector rose to a relatively moderate extent.

The rapid growth in the transportation and communications industries reflected a large 11 percent expansion in the transportation industry. The rise in the standard of living and the substantial increase in incoming tourism were reflected by a rapid growth in the activity of the aviation and taxi industries, while the growth in the other

The rise in the standard of living and the substantial increase in incoming tourism were reflected by a very rapid growth in the product of the transportation industry.

[11] Except for the agricultural industry, whose proportion is small and output is volatile.

Table 2.7
The Principal Industries, 1996–2006

(rates of change, at constant prices)

	Change from 2006				Annual averages, 1996–2006						
	Industry weights in 2007[a]	Product	Labor input	Capital	Real wage per employee post[b]	Industry weights in 1996[a]	Product	Labor input	Capital	Total factor product-ivity	Labor product-ivity	Real wage per employee post
Manufacturing	20.5	4.4	4.9	4.5	2.7	21.8	3.7	0.1	5.8	1.6	3.6	1.2
Agriculture	2.7	4.6	2.0	1.7	0.5	2.5	5.2	-0.4	0.2	5.4	5.6	2.6
Transport and communications	10.9	6.5	-1.9	2.4	-0.2	9.6	5.5	3.5	5.5	1.1	2.0	-0.1
Construction	6.7	5.5	8.2	5.3	3.4	12.5	-1.0	-1.9	9.0	-0.8	0.9	0.8
Commerce and services[c]	56.4	6.8	6.4	3.9	3.4	50.2	5.4	4.7	9.6	-1.1	0.7	1.8
Electricity and water	2.9	6.6	-6.6	0.9	-0.6	3.4	2.7	-0.4	3.6	1.3	3.1	2.6
Total business sector	100.0	6.1	5.3	3.2	2.1	100.0	4.3	2.5	5.8	0.7	1.8	1.7

[a] Excluding imputed banking services, errors and omissions.

[b] Excluding Palestinians. From 2003, excluding foreign workers.

[c] Including commerce, catering and hotel services, and financial , business and personal services.

SOURCE: Based on Central Bureau of Statistics data.

sectors of the transportation industry was only moderate. The rise in the number of Israelis' traveling abroad and in the number of tourist arrivals in Israel increased the product of the aviation industry. The growth in the product of the taxi industry reflects not only an improvement in economic activity but also the reform in the industry, which removed barriers to entering it.

Recent years have seen a growing need for policy measures for improving public transport, most notably in the Tel Aviv metropolis. The principal measures required are the development of a mass transit system, the allocation of public transport lanes for buses and the establishment of a transportation network in the Tel Aviv metropolis (see Box 2.5 for more details and additional policy measures that are required). These measures will make it possible to more efficiently interconnect different areas and to increase economic activity and well-being. In order to fully exploit the economy's growth potential, a growth in competition in civil aviation and between the ports is of major importance.

The rate of growth in the commerce and services industries was among the most rapid of all the principal industries. The expansion derived from a large increase in computer and R&D services and in business services.

Continuing the growth trend apparent since the second half of 2003, the rate of growth in the commerce and services industries was among the most rapid of all the principal industries. The expansion in activity in 2007 derived from a large increase in the services product, including computer and R&D services and business services and to a growing extent, from an increase in commerce activity as well. This burgeoning activity resulted from the upsurge in domestic demand during the year, which included private consumption and consumer goods in particular. In addition, a major new trend was recorded in employment in the commerce industry during the year: After several

years when the number of persons employed in industry remained largely unchanged, in 2007 their number rose by 5.5 percent and the labor input in hours rose by an even higher rate.

II. Developments in selected industries

a. Manufacturing

In 2007 manufacturing growth was again driven by exports, as in 2004–06.

Manufacturing product, which accounts for about one-fifth of business-sector product, increased by 4.6 percent in 2007 as against 9.9 percent in 2006. In all sectors of manufacturing—high-tech, mixed, and traditional—activity increased but the growth rate of product slowed. Manufacturing exports increased by 12 percent, and as in 2004–06, played a significant role in industry growth. Growth in domestic sales contributed more to manufacturing growth in 2007 than in previous years.

The main reason for the larger share of domestic sales in manufacturing growth was the consolidation of economic growth at large, pursuant to a process that began in 2004 with the recovery of global trade. The aftermath of the process, Israeli exports, was accompanied by a perceptible upturn in national income and, in turn, a gradual increase in domestic uses. The 7 percent increase in 2007 focused on private consumption and nonresidential investments and was reflected in larger sales of manufactures to the domestic market.

Table 2.8
Manufacturing Industry, Main Indicators, 1990–2007

(rate of change, percent)

	Share of manufacturing output	Annual average					
		1990-2000	2001-2003	2004	2005	2006	2007
Manufacturing product	100.0	5.9	1.1-	6.9	3.6	9.9	4.6
Output of electronics industry	29.1	10.6	5.2-	12.2	5.3	15.4	9.5
Output of traditional industries	34.7	3.8	5.3	8.1	4.8	11.6	4.5
Output of mixed industries	36.2	5.2	2.8-	2.7	2.2	5.5	3.0
Domestic sales (volume)	-	4.3	2.2-	1.4	3	4.3	4.8
Manufacturing exports (volume)	-	11.5	1.3-	16.8	4.8	12.5	12.0

SOURCE: Based on Central Bureau of Statistics data.

Given the slowdown in growth of U.S. trade and the weakness of the USD, some Israeli exports that once targeted the U.S. have turned to other destinations.

Exports: manufacturing exports increase briskly in 2007 even though the currency appreciated in real terms and the growth rate of global trade slowed from 9.2 percent in 2006 to 6.6 percent. Given the slowing of growth in trade with the United States and the weakness of the USD, some Israeli exports that once targeted the U.S. turned to other destinations, foremost Europe. Thus, exports to the U.S. advanced by only 4.2 percent as against 27 percent in 2006 whereas exports to Europe moved ahead

by 21 percent as against 11 percent in the respective years.[12] Although the share of the U.S. in Israel's manufacturing exports decreased in 2007, it should be borne in mind that this fraction rose in 2003–2006 even as the share of the U.S. in global trade declined. It is immensely important for manufacturing to be able to diversify its trade among blocs because such diversification reduces currency risk and vulnerability to a slowdown any given area.

The United States remained an important destination for Israel's electronics exports and U.S. trade and Israel's exports in these goods have largely marched in tandem. In 2007, however, electronics exports increased less than overall U.S. trade. U.S. trade and Israeli exports of industrial equipment for control and supervision and medical and scientific equipment increased appreciably, much as in 2006. Trade in electronics components remain volatile and U.S. trade and Israeli exports in this industry contracted. In the other manufacturing industries, growth in exports outpaced growth in U.S. trade by an appreciable margin.

Table 2.9
Israel's Total Exports and US Total Trade, 2006 and 2007

(dollars, rate of change, percent)

	Share of manufactured exports	2006			2007		
		US trade	Israel's total export		US trade	Israel's total export	
		($)	($)	(vol.)	($)	($)	(vol.)
Total manufactured exports	100	12	15	12	7	16	12
Total excl. electronics	72	13	13	8	7	19	16
Electronics	28	11	18	19	7	8	5
Electronic communications	11	11	18	19	15	9	6
Equipment for control and supervision and medical and scientific equipment	13	10	18	18	13	17	14
Electronic components	5	9	17	20	-8	-14	-15
Chemicals, fertilizers and pesticides	9	12	6	-2	16	16	11
Pharmaceuticals	10	14	51	47	14	8	13
Rubber and plastics	6	9	11	13	6	14	8
Textiles	3	4	2	2	3	-9	-13

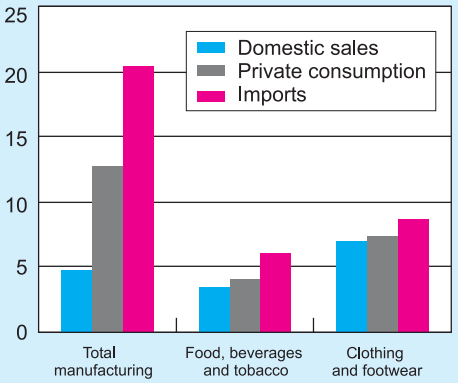
SOURCE: Based on Central Bureau of Statistics and US foreign trade data.

Due to the brisk increase in domestic uses, sales to the domestic market figured more importantly in manufacturing growth in 2007 than in previous years. However, the share of imports in consumption continued its long-term upward trend.

Domestic sales: sales to the domestic market increased much more rapidly than in previous years due to brisk growth of domestic uses. Private consumption of manufactures rose by 12 percent and supported the increase in domestic sales. The upturn was abetted by the recovery of nonresidential construction, a major buyer of industrial products, in the past two years. Manufacturing industries that sell to the construction industry moved ahead by 6.2 percent after 3.2 percent growth in 2006.

[12] USD-denominated, excluding diamonds.

Figure 2.6
Domestic Sales, Private Consumption and Manufacturing Imports, 2007
(rates of change, percent)



SOURCE: Based on Central Bureau of Statistics data.

Despite the appreciable increase in domestic sales, the share of imports in consumption continued its long-term upward trend. The real exchange rate in manufacturing—import prices relative to output prices—fell by 5 percent, marking the third consecutive downward year, and imports climbed. The growth rate of manufactures imports considerably surpassed that of domestic sales and was evident in most manufacturing industries, foremost the traditional ones such as food, beverages, and tobacco, and clothing and footwear. The decline in import prices relative to domestic manufacture is particularly burdensome to these labor-intensive industries, which find it hard to compete with developing countries.

According to several indicators, manufacturing faced a supply constraint in 2007.

Factor inputs, productivity, and profitability: manufacturing contended with a supply constraint in 2007. The Bank of Israel Companies Survey shows that the supply constraint worsened in 2007 after several years without change and in the electronics industries became worse than the demand constraint. This was evidenced in several indicators of manufacturing activity: (1) unit labor cost rose by 4 percent in 2007 after declining by 1.5 percent on average in 2004–06, reflecting supply pressures from the labor market. (2) Total Factor Productivity (TFP) was not central among the sources of manufacturing growth in 2007. It edged upward by only 0.2 percent and lacked the cyclical component of increase in capacity utilization that had been significant in previous years. Manufacturing investment, in contrast, increased appreciably in 2007; capital stock as the beginning of year climbed by 4.3 percent[13] and hours worked increased as well. (3) Gross return on equity fell after having risen in 2004–2006, due to the higher rate of capital utilization.

Manufacturing investment progressed handsomely at all levels of innovation after overlooking most traditional industries in 2006. This development is compatible with the indications of supply pressure: once the production capacity of physical capital is fully engaged, manufacturing has to build up its capital stock. Investment in two traditional industries, textiles and clothing and nonferrous minerals, increased in 2007 after falling in 2006. In contrast, investment in the paper and paper-products industry declined for the second straight year. Investment in medium-high- and medium-low-tech industries increased, apart from a decline in chemicals due to a decrease in investment in pharmaceuticals, in which activity is typically volatile.

[13] Gross capital stock at year's end rose by 5.6 percent.

Table 2.10
Manufacturing Industry, Selected Indicators of Activity, 1990–2007

(rate of change, percent)

	Annual average					
	1990-2000	2001-2003	2004	2005	2006	2007
Return on gross capital	16.0	12.5	12.6	12.1	14.1	13.4
Total productivity	1.5	-1.0	5.2	1.6	6.4	0.2
Input/output prices	-0.3	1.2	2.0	3.1	0.9	0.6
Costs per hour worked (real, at GDP prices)	11.4	1.5	2.0	3.8	3.8	4.3
Labor productivity	3.4	1.9	6.0	2.3	6.0	0.2
Labor input (hours)	2.4	-2.9	0.7	1.3	3.6	4.4
Gross capital stock (beginning of year)	7.3	4.2	2.8	3.0	2.9	4.3
Investment	9.5	-6.4	8.3	6.2	26.6	23.0

SOURCE: Based on Central Bureau of Statistics data.

The behavior of manufacturing labor input (measured in hours) and headcount by technological intensity reflects variance among industries in using up the remaining surplus labor supply. The increase in headcount in mixed industries accelerated relative to 2006 and the same occurred in traditional industries, which employ many unskilled workers, a population among whom unemployment remains high. In unemployment among persons who hold occupations that advanced industries need has been low since 2005;[14] therefore, the growth rate of headcount in these industries fell from 7.5 percent in 2006 to 4.6 percent in 2007.[15]

Manufacturers' profitability declined in 2007 due to the deterioration in the terms of trade, the acceleration of labor cost, and slowing of the upturn in total factor productivity.

Manufacturers' profitability declined in 2007, reflected in a decrease of gross return on gross capital and an upturn in the input/output price ratio. The drop in profitability traces to three factors: the worsening of terms of trade, as export prices fell perceptibly while NIS-denominated import prices merely dipped; supply pressures in manufacturing, which caused labor cost to accelerate and dampened the increase in TFP; and a downturn in the cyclical component of capacity utilization.

b. Construction

Despite rapid and continual increases in standards of living in the past four years, briskly expanding nonresident demand for real estate, and declining financing costs, residential construction is showing no real signs of recovery.

Although Israel's standard of living has been climbing rapidly and continually in the past four years, nonresident demand for real estate has been expanding briskly, and financing costs (interest rate and risk premium) have been coming down, residential construction is showing no substantial signs of recovery and the level of activity is almost certainly below that warranted by demographic needs. Homebuilding starts in 2007 did not deviate from the sluggish level of the previous four years and were even slightly fewer than in 2006. Dwellings under active construction, area (floorspace)

[14] See Table 2.11 in the 2006 Annual Report.

[15] An annual increase of 4.6 percent should not be belittled but headcount in high-tech industries has risen by 3.2 percent on annual average since the beginning of the 1990s. Thus, the drop in headcount growth from 7.5 percent in 2006 to 4.6 percent in 2007 marks a significant convergence toward the long-term growth rate in high-tech.

of housing starts, and area under active construction for all purposes (residential and nonresidential) hardly changed in 2007. At the current level of activity, 30,000 homes are being completed each year even as the number of households has been rising by 40,000 per year in the past three years.[16] The low plateau of construction activity has not led to a real increase in housing prices thus far. According to the Central Bureau of Statistics, the index of real housing prices (relative to the Consumer Price Index) was no higher in 2007 than its average in 2000, and housing prices at year's end (although they rose) remained slightly lower in real terms than in 2003–2005. Relative to the still-falling prices of construction inputs, housing prices actually continued to decline. Given the rising prices of raw materials and constraints on the use of foreign workers, builders' profits have been eroding—possibly explaining the standstill in residential construction activity. As for nonresidential construction output, the increase in 2007 traced mainly to the activities of general government—construction instigated by municipal authorities and roadbuilding investment—whereas the private sector made a minor contribution that focused on a strong increase in the construction of industrial buildings.

Table 2.11
Construction, Selected Data, 1997-2006

	Level in 2007	Annual average change (percent)		
		1997–2002	2003–06	2007
Total output (NIS million, 2005 prices)	54.1	-3.3	-1.5	6.6
of which Residential (including renovations)	28.5	-4.8	-0.8	2.9
Nonresidential	12.1	-3.7	-7.9	14.1
Other construction (earthworks and defence-related)	13.5	1.1	4.6	8.3
Apartments under construction ('000)	55	-8.3	-4.1	-2.1
Residential starts ('000 units)	29.1	-9.2	-3.8	-4.3
Residential completions ('000 units)	28.3	-4.9	-6.9	-7.3
Apartments offered for sale ('000)	16.8		-4.4	-15.1
Construction product	28.4	-2.7	-0.4	5.5
Total employees ('000)[a]	200.8	-2.7	-2.3	8.0
Real wage per employee post[b] (2004 prices)	6,125	1.5	0.6	2.8
Apartment prices relative to CPI	--	-2.2	-2.2	-2.3
Rent prices relative to CPI	--	2.5	-2.3	-2.6
Input prices relative to CPI	--	-0.2	4.0	3.3
Average mortgage interest rate (annual average)	--	6.1	5.1	4.3

[a] Includes an estimate of unreported foreign workers.
[b] Until 2002, derived from the wages of Israelis and foreign workers; from 2002, Israelis only
SOURCE: Based on Central Bureau of Statistics and Ministry of Housing and Construction data.

[16] Average housing density did decline in 2000–2005, but nearly all of the decrease focused on households that have above-median net income per (standard) person, whereas the poorer half of households did not enjoy an increase in rooms per person.

In contrast to data that indicate point to a continued standstill in the construction industry, other data suggest that an improvement may have begun. First, industry employment increased conspicuously the second and third quarters of the year and (including foreign workers) was 13 percent higher in the third quarter of 2007 than in the year-earlier quarter, even though contractors were forced to make less use of foreign workers.[17] (The substitution effect between foreign workers and Israelis is discussed in Box 5.2.) Additional indications of possible recovery were an 18 percent increase in land sales (first half of 2007 as against year-earlier period) and a 15 percent decrease in new dwellings for sale at year's end. The latter decline, contrary to the trend in previous years, indicates that dwellings are being sold much more quickly than construction is being started. Another factor that impeded the recovery of activity in 2007 but is gradually losing its effect was the collapse of the Heftsiba building company. The firm's bankruptcy in August halted the construction of thousands of dwellings (2.2 percent of the stock of homes under construction), indirectly aggravating fears about buying new homes from contractors and adding to the costs of construction loans and legal arrangements that protect homebuyers in the event of bankruptcy. Another factor that is expected to encourage an increase in activity in 2008 is the maturing of several clear-and-build programs in high-demand areas. Although housing prices in such areas have been moving upward in the past two years,[18] activity did not increase rapidly due to a shortage of available land reserves for building. Recently, strenuous efforts invested in urban-renewal programs have begun to ripen; this is expected to stimulate activity. Another important factor that will probably support an increase in activity in the central area is the spread of surplus demand from the Tel Aviv area and several prestigious neighborhoods in the suburbs of Tel Aviv to large towns in the central area,[19] some of which have available land reserves; this will allow supply to respond more quickly.

There are several indications of a recovery in residential construction activity.

In early 2008, a private member's bill allowing a personal tax deduction for mortgage interest passed on preliminary reading. If the bill completes the legislative process, the benefit will be offered to purchasers of their first dwelling provided that the dwelling price does not exceed NIS 800,000 and the loan does not account for more than 80 percent of dwelling value. The maximum deductible interest expenditure for this purpose would be NIS 10,000 per year. Individuals who earn less than the tax threshold would receive a grant at no less than 30 percent of the total interest paid on the loan. Buying a home is an act of long-term saving (much like pension saving); it also insures the buyers against rent shocks and makes them more concerned about

The bill that would make mortgage interest tax-deductible has many drawbacks.

[17] The number of Israelis in construction increased on annual average by 15,500, the number of foreigners contracted by 6,000, in the number of territories workers increased by 3,800. Despite the substitution of foreign workers by Israelis and the low unemployment rate, wage costs, according to the construction inputs index, did not rise in 2007.

[18] The increase was not officially documented because the Central Bureau of Statistics does not publish regional price indices. At the national level, prices did not rise because surplus housing demand in some parts of central Israel was offset by surplus supply in peripheral areas.

[19] Realtors reported rising prices rose in Bat Yam, Rishon Lezion, Modi'in, Nes Ziona, and other towns in the central area.

their immediate surroundings. Therefore, it is sensible to encourage members of the lower-middle class to buy housing. In recent years, however, government subsidies for homebuyers have been cut back severely and benefits for Ministry of Construction and Housing eligibles, which reflect governmental affirmative action for inhabitants of peripheral areas and members of weak population groups, have become dead letters. In our opinion, however, making mortgage interest tax-deductible is an unsuccessful substitute for the revoked benefits because it is essentially regressive and encourages overreliance on financing by means of housing loans. We estimate the present value of this benefit at NIS 35,000, but it may be twice as high for individuals who defer the payback of principal for tax reasons and for those in the highest tax bracket. Therefore, the size of the benefit should be uncoupled from the tax system, e.g., by entitling all eligibles to a grant in the sum of 30 percent of total interest paid irrespective of their marginal tax rate (an annual benefit of NIS 3,000) and disallowing deferral of payback of principal. The preferred method for government involvement would be grants for homebuyers as a function of their eligibility score with the Ministry of Construction and Housing. If the eligibility index is returned to use, it will allow the possibility of issuing loans and grants progressively. The index may take account of additional important considerations, such as the location of the home being purchased (since grants for homebuyers in peripheral areas were also discontinued several years ago).

The National Master Plan and the Population Dispersion Policy

The new National Master Plan 35 seeks to limit development in the Central District in order to disperse the population, even though it is economically advantageous to concentrate the population there.

The new National Master Plan No. 35 gives evidence of a clash between the policymakers' wish to encourage the population to disperse for national, social, and environmental reasons and the population's wish, coupled with economic preferability, of congregating around the central area and putting scale economies and specialization to optimum use. The National Master Plan No. 35, approved by the government in 2005, reflects the desire to disperse the population (and to preserve open areas) by favoring the development of the country's four metropolitan areas—Tel Aviv, Jerusalem, Haifa, and Beersheva—while impeding development in the Central District, which has the advantage of proximity to the most important metropolis. By comparing the normative population targets for 2020, as expressed in the plan, with the current demographic trends, we find that the target for the Central District is smaller than the demographic trend whereas the targets for the Northern and Southern districts surpass it. Thus, in order to fulfill the plan there will have to be migration from the Central District to the north and south.[20] The actual trend is the opposite: in the 1997–2006 decade, 150,000 people migrated to the Central District and 34,000 vacated the Southern and Northern districts.

The architects of the Master Plan were mindful of the economic advantages of concentrating the population in a relatively small geographic space. They emphasized

[20] The redirection of population from center to periphery is more conspicuous in the "Israel 2020" plan, on which the Master Plan is based.

The desirability of limiting development in the central area in favor of developing farther-away metropolitan areas, and the economic price that should be paid for dispersing the population from the center to these metropolitan areas, should be reexamined.

that, according to the economic approach, "The spatially preferable investment model is the one that directs resources to the center of the country due to scale economies, specialization, and the existence of human, economic, and physical infrastructure in localities there." However, the economic consideration is countered by the national consideration of dispersing the population, a social consideration that insists on equal opportunity for residents of the periphery, and the environmental consideration of thwarting suburbanization.[21] The architects of the plan propose that the goals of developing the periphery and assuring equal opportunity be attained by investing in transport infrastructure that would connect center and periphery (Highway 6 and railroads) and investing in human capital in the periphery (mainly via institutes of higher education). Importantly, the development of the three more distant metropolitan areas at the expense of the Central District, which is close to metropolitan Tel Aviv, is very costly. Furthermore, the costs of such action have been increasing rapidly over the years because globalization is having the effect of strengthening metropolitan Tel Aviv. For example, manufacturing, on which employment in the periphery is based, is becoming less and less important around the world. Furthermore, the proportional increase in knowledge-intensive services requires trained and diverse human resources

Table 2.12

Israel's Population, by Districts, 2006, Forecast for 2020, the Target Norm of the National Master Plan for 2020 ('000) and the Balance of Migration

District	Population in 2006	Forecast for 2020[a]	Target for 2020	Gap between target and forecast	Gap between target and current situation	Internal migration[b] 1997–2006
		('000)			(percent)	
Jerusalem	851	1,057	1,060	0	25	-6.5
Northern	1,185	1,724	1,790	4	51	-2.6
Haifa	858	1,137	1,100	-3	28	-3.8
Central	1,650	1,942	1,800	-7	9	12.1
Tel Aviv	1,190	1,181	1,262	7	6	-7.3
Southern	1,002	1,411	1,440	2	44	-1.1

[a] The population forecast for 2020 was prepared in 1998, and served as the basis for the National Master Plan 35.

[b] The net number of migrants to a district from other districts (including Judea and Samaria) in 1996–2006 relative to the district's population at the beginning of 1997.

SOURCE: National Master Plan 35 and Central Bureau of Statistics

[21] There is another environmental consideration: the preservation of open areas. This, however, does not rule out the development of towns in the central area. (Instead, it places restrictions on low-density building.)

that are most available in the center of the country. Finally, the proportion of residents of the periphery who work in metropolitan Tel Aviv is negligible,[22] and given the increase in energy costs, one doubts that upgrading railroad and highway connections would bring about a real change in commuting patterns. Therefore, two planks of the current policy— the desirability of limiting development in the central area in favor of developing the farther-away metropolitan areas, and the economic price that should be paid for dispersing the population from the center to these metropolitan areas—should be reexamined, preferably before the limitations in the plan go into effect. One of the principal ways of maximizing the economic advantages of concentrating economic activity in a narrow geographic area and preventing waste of expensive land resources the encouragement of high-rise construction, especially in central and high-demand areas.

Box 2.3
Land policy in Israel and other countries

Land policy should match the necessities of economic development, facilitate the efficient use of land, protect the public's interest in open areas and prevent negative external effects, such as excessive suburbanization. Recommended for this purpose is the privatization of the land included in the National Master Plan (NMP 35) in the urban and the rural fabrics—land that is not designated for public use, such as utilities. Before privatization is carried out, the open areas in the rural and urban fabrics should be defined and mapped. These fabrics constitute 26 percent of the country's land where 90 percent of the population live. Since private land currently accounts for only 7 percent of the country's land,[1] extensive privatization can be carried out without exceeding the planning limits. The public ownership of land in other fabrics should be maintained—combined with preservation, and national and coastal protection—because it helps to protect the public interest in open areas. The privatization of the land included in the Master Plan No. 35 in the development fabrics will bring Israel into line with the majority of countries, where land ownership is largely private and the protection of the public interest is prescribed by the planning institutions. This process of reducing public ownership of land and strengthening the status of the planning institutions has already occurred in practice.

Land policy and planning in other countries: The land policy of Greece, Spain, Holland, the Czech Republic and New Zealand has been subjected to an in depth examination by Biger and Kartin (2004) in "A Comparative Study of

[1] The remaining land is owned by the State of Israel and by the Jewish National Fund.

[22] Only 3 percent of working Israelis live 50 kilometers or more, as the crow flies, from their place of work.

National Land Policy". This study shows that in all the countries in question, the extent of private ownership of land is considerable with the exception of Spain, where only half of all land is privately owned. Public ownership is the norm in environmentally valuable areas and in areas of natural resources with the exception of Holland, where municipal land is also counted as a public area. Owners of private land have particularly extensive rights in Greece and New Zealand, where planning dictates scarcely exist and the taxes on profits from a change in land designation are very low. In Spain, a concentrated and rigid planning policy is practiced and the extent of public land ownership is the highest, at 50 percent. In the last decade however, the power of the bureaucratic system has been reduced in order to increase the supply of land for development and to reduce the prices of housing. In Holland as well, the considerable extent of public involvement is being gradually reduced. The local authorities in Holland play a major role in land ownership and in planning municipal areas, but are slowly reducing the land under their control and increasing the development rights of private owners. In communist Czechoslovakia, the vast majority of land and residential apartments were under public control. Following the 1989 revolution, a process of land privatization began, which was partly reflected by the restoration of land to its previous owners, and planning authorities were decentralized to the level of the local authorities. But despite all the good intentions of realizing this liberal vision, public intervention was necessary in order to preserve the status of agricultural land and to protect land for public purposes—mainly for utilities. Accordingly, development rights on the majority of agricultural land were severely restricted, and part of the country's state land was transferred to the local authorities rather than privatized.

Another international comparison with respect to the authorizations required for construction work was conducted by the World Bank. In this comparison, it was found that the number of authorizations in Israel is relatively large and that the time necessary for submitting these authorizations is longer than in other countries. The time required in Israel is 235 days, while the average in OECD countries with a high per-capital income is only 151 days. In an index that includes the number of authorizations, the time necessary for submission and monetary cost, Israel was rated in 109th place among 178 countries.[2]

The ownership of land in Israel: The rate of private ownership of land in Israel is far lower than the worldwide average, although private ownership is increasing. The concept of the public ownership of built-up land is gradually becoming a mere formality. Apartment owners' leasehold rights to municipal land have improved over the years: The time scale of municipal leasehold contracts

[2] Doing Business 2008 Israel, Comparing Regulation in 178 Economies. The index covers all the authorizations required until the end of the construction, including the usage permit.

has been extended, renewal of these contracts has become automatic, the amount of the renewal fees has become merely symbolic and recently, leaseholders have been permitted to purchase the entire rights to the land in question. The privatization process is gradually expanding, and now includes farmland in farming sub-units in the moshavim and residential areas in the kibbutzim, as well as land for industrial use in urban areas. However, the leasehold rights to agricultural land are unclear, and this impairs economic efficiency. Until 2006, a change in the designation of agricultural land entitled the leaseholders to compensation at the amount of 30 percent of the value of the land (under its new usage). The amount of compensation determined in Resolution 727 of the Israel Land Administration, was revoked by the Supreme Court which claimed that the compensation was excessive. In its place, the amount of compensation was determined according to the type of agricultural crops grown, the stock of capital on the land, the length of time for which it had been leased and cultivated, the congestion of the planned construction, and the extent of the leaseholders' cooperation with the re-designation process. Since the new resolution is reducing the compensation in demand areas, it could delay economic development in the required locations. In addition, it could encourage the cultivation of land merely for the purpose of retaining the ownership transfer rights. This is because a leaseholder who does not cultivate his land for 10 years will lose his rights.

Planning: The planning authorities conferred in Israel are more concentrated and more rigid than in other countries. Under the directives of National Master Plan 35, which was approved by the government in 2005 and is binding in its status, district and local development plans are examined. The plan is intended to regulate the development of land and to restrict the effect of market forces in causing "dispersed concentration"—concentration of the population in the center of the country but highly dispersed among different areas and settlements (and without open areas)—while the model prescribed under the plan is "concentrated dispersal": dispersal of development at the nationwide level and concentration at the regional level. The master plan is intended to solve the problem of "spatial congestion and the declining land resource," deriving from the fact that Israel is a highly congested country by international standards, especially since the forecast growth in the population and GDP are expected to create considerable development pressures in the future. The plan divides the country into development fabrics and preservation fabrics. The area in the fabrics that are not designated for protection minus the actual built up area is 1.3 and 3.6 thousand square kilometers in the municipal and the rural fabrics respectively, which account for 22 percent of the country's area.

Considerations for and against land privatization: Akshtein and Pearlman (1997) favored full private ownership of land in order to encourage private enterprise, which would solve the land shortage problem. In their opinion, the

lack of initiative on the part of Israel Land Administration officials and the planning committees' failure to refer to economic considerations is preventing the efficient use of land—mainly for residential use. In order to support their claim regarding the inefficiency of public ownership, they show that metropolitan congestion in Israel is not particularly high and that substantial reserves of land for construction exist within and outside urban areas. However, Eliahu Borochov (1997) favors public ownership of land. In his opinion, public ownership is a means for strengthening and augmenting the planning system, which is incapable of opposing the interests of the market economy. Borochov cites a long series of disadvantages to allocation by the market: under-allocation for public commodities[3] such as open spaces and parks; excessive dispersal of residential, commercial and industrial areas and non-utilization of the economies of scale in the transportation infrastructure; increased noise, air pollution and road congestion as the result of suburbanization; under-allocation for beaches and parks, which leads to under-performance of the tourism industry that is dependent on them; irreversibility of land usage (construction land cannot be turned into open areas, and it is very difficult to turn unsaturated construction into saturated construction). Borochov warns against the sale of unplanned land, which involves major uncertainty regarding the future value of the land. This type of sale provides an incentive for developers to manipulate and abuse the planning system, and could lead to distorted decisions and the inefficient use of land. Prof. Alterman believes that public ownership is very important for protecting public commodities (such as open areas, parks, beaches and nature reserves), while recent market failures (including suburbanization) can be remedied by means of planning, taxation and other policy tools, without actual public ownership of land.

To conclude, an international comparison shows that the rate of private ownership of land in Israel is much lower than the worldwide average, and that the planning authorities conferred are more concentrated and more rigid than in the majority of countries. Accordingly, a cautious liberal approach should be adopted in land policy. It should however be remembered that Israel is far more congested than other countries (especially in the area north of Beersheba), and that the problem of congestion is expected to worsen. A policy based on market forces alone, such as that practiced in New Zealand and Greece, which would lead to a waste of land in such a congested country, cannot be tolerated. The balance between the preservation of open areas, the saving of land for future generations and a solution for the needs deriving from the growth in the population and from economic development requires serious government involvement, principally in

[3] A public commodity is a commodity whose enjoyment by a single user does not come at the expense of another user, and whose usage cannot be dependent on payment.

planning. While increasing the rate of private ownership of land to encompass most of the land in the urban and rural fabrics will make extensive privatization possible, it will not upset the desired balance between development forces and preservation forces. It is important to define those parts of the rural fabric and the urban fabric that are to be designated for use as open areas and to assure continued public ownership of them. Privatization of large parts of the rural fabric will make it possible to clarify farmers' rights in state land, and thereby promote economic development. This privatization will not necessarily lead to the development of areas designated for preservation because it does not include automatic ownership of development rights, which require separate authorization from the planning authorities. As for current planning policy, it is important to speed up the planning processes in the district and local planning committees and to avoid red tape that will harm private enterprise. For this purpose, it is necessary to increase the manpower available to the district and local committees and to increase their efficiency by inter alia using innovative technologies.

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c. Commerce and services

The output of the commerce and service industries, which account for about 57 percent of business sector output, grew by 9.1 percent in 2007, which was a continuation of the upward trend since the second half of 2003. The expansion in activity this year was a result of the continuation of significant growth in the output of services, particularly computer and R&D services and business services, though increasingly of commerce as well.

The contribution of commerce to the growth in the output of commerce and services increased, reflecting the accelerated increase in private consumption and the moderate slowdown in the growth of world trade in services.

The increase in the contribution of commerce to the growth in the output of commerce and services reflects the importance of local factors in explaining the growth in economic activity this year. Thus, the significant growth in the commerce industries was a result of the accelerated growth in local demand, including private demand (and

primarily that for goods). In contrast, the rate of growth in the world trade in services, which slowed somewhat this year (as did the trade in goods) and the limited ability of the export industries to further increase their output at such a high rate, somewhat dampened the rate of growth in the output of the service industries in Israel.

Table 2.13
Main Trade and Services Indices, 2006

(rates of change, percent)

	Share in trade and services product	GDP	Labor input	Real wage per employee
2004–2006				
Trade and services	100	8.5	2.4	1.9
Trade	29	6.7	0.8	0.4
Services	71	9.2	2.9	2.4
2007				
Trade and services	100	9.1	5.2	2.3
Trade	28	6.8	7.7	2.0
Services	4	9.9	4.4	2.4
Hotels and restaurants	72	5.4	2.1	1.6
Banking, insurance and financial services	16	13.7	5.6	1.2
Education, health and welfare	7	6.8	3.8	1.1
Personal and other[a]	6	9.7	-1.5	-0.2
Business services	39	9.8	7.1	3.8

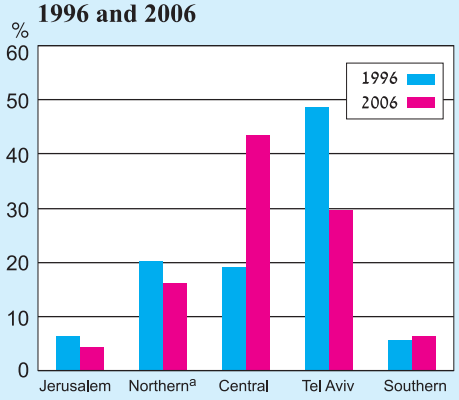
[a] Including community, social and personal services, and services to households by individuals.
SOURCE: Central Bureau of Statistics.

This year, there was a turnaround in the area of employment and wages in the commerce industries. Thus, following a number of years in which the number of employed remained almost unchanged, there was an increase of 5.5 percent this year and the input in manhours rose by 7.8 percent. In parallel to the significant increase in the number of employed, real wages also rose though at a more moderate rate than in the service industries (which is evidence of the absence of an effective constraint on the supply of workers in the commerce industries). The number of employed also increased in the service industries but the sector's proximity to the constraint on the supply of skilled workers limited the increase in labor input and led to somewhat of an acceleration in wage increases.

(1) Commerce

There have been no major changes in the proportion of the commerce industries in economic activity during the last decade. The total output of the commerce industries accounted for 15.9 percent of business sector output in 1995 and 16.7 percent in 2007

Figure 2.7
Share of Geographical Districts in Commerce Industry Revenue, 1996 and 2006



[a] Including the Haifa District.
SOURCE: Based on Central Bureau of Statistics data.

and its proportion of the output of commerce and services also remained almost unchanged. The number of employed in the commerce industries accounts for 19 percent of total business sector employment, which is similar to its level a decade ago. In general, the commerce industries grew at a similar rate to that of income in the economy and they do not lead any economic trends.

During the period 1995–2006 the proportion of commerce in the Central District rose at the expense of the proportion of commerce in Tel Aviv and their combined contribution to the industry's activity increased.

The growth of the commerce industries during the period 1995–2006 was not evenly disturbed geographically. Figure 2.7 shows that during this period the proportion of commerce in the Central region grew significantly at the expense of commerce in the Tel Aviv region. The main reason for this is the reduced rate of population growth in the Tel Aviv region due to its population density, which was already high in 1995.[23] The population in the Tel Aviv region grew by 4 percent during the period while the Center's population grew by 36 percent.

If the Center and Tel Aviv regions are considered together, then their proportion of activity of the commerce industries rose from 68 to 73 percent during the period 1995–2006, while the population in the two regions fell from 42 to 40 percent. The reason for this is apparently the increase in wages in the Center (including Tel Aviv) relative to other regions by 10 percent during this period. The imbalance in the growth of income between the Center and the periphery has led to a parallel imbalance in the growth of the commerce industries.

(2) Selected industries

The **business services** industry lead the growth in the activity of commerce and services. The output of the business services industry, which accounts for about one quarter of business sector output, grew by 9.8 percent in 2007 and its labor input grew by 7.3 percent. The rise in wages in the industry was moderate relative to its rapid growth in recent years though this year it accelerated somewhat. Thus, wages in the industry rose by 4.4 percent as compared to only 2.4 percent in the previous year.

[23] It is possible that the move of the head offices of the commerce firms from the Tel Aviv region to the Center made somewhat of a contribution to the increased share of the Center in commerce activity since activity is recorded in the location of the head office.

Banking, insurance and other financial institutions:[24] The output of the financial institutions, which constitutes 10 percent of business sector output, increased this year by a significant rate of 13.7 percent following only moderate growth in the previous year. This increase was primarily a result of the growth in banking activity which began in 2003. The value added of the five largest banks rose significantly by a rate of 15 percent. The aggregate net profit of the banking system grew by 17 percent this year following an even sharper rise last year that was due to a one-time increase in activity as a result of the Bachar reform.

Tourism and hospitality services: The output of the tourism and hospitality services grew by 5.4 percent this year as a result of the improvement in the revenues of hospitality services. This was particularly due to increased revenue from tourism, which grew by 14 percent, as a result of the 18 percent increase in nights stayed by tourists. In the third quarter of 2006, during the Second Lebanon War, the number of incoming tourists reached a low point and the hotel industry entered a serious crisis. Since then, the constraint on incoming tourists has gradually slackened, according to the Bank of Israel Companies Survey, and by the fourth quarter it reached just under its pre-war level. It therefore appears that the industry has completed its recovery from the crisis. This recovery was also reflected in the increased occupancy and the significant decrease in closed rooms.

During the second half of 2007, the tourist industry completed its recovery from the crisis following the Second Lebanon War.

The output of the industry represents 2.5 percent of business sector output and it accounts for about 7 percent of total workers employed in the business sector (including part-time workers), most of whom are unskilled. Due to the high unemployment among unskilled workers, the industry is thus considered to be an important one, particularly in the North and the South, in which tourism accounts for a significant portion of business activity. During the period 2004–6, employment grew in the industry by an average annual rate of 9 percent, which contributed 0.7 percent points to the drop in the economy's unemployment rate (which fell by 2 percentage points).[25] The average number of employed in 2007 was unchanged relative to last year; however, the changes during the course of the year are a reflection of the timing of the industry's recovery following the crisis of the Second Lebanon War. Thus, during the second half of 2007, the number of employed in the industry grew by 17 percent in annual terms (relative to the previous year) as compared to a decrease of 5 percent in the first half.[26]

[24] This discussion is meant to round out the picture of the economy's various industries. For a more detailed discussion, see the Annual Review of the Supervisor of the Banks, 2007 which was published in the summer and Chapter 4 – The Financial System in this report.

[25] For more detail, see Table 5.5 in Chapter 5 – The Labor Market.

[26] Seasonally-adjusted data.

Box 2.4
The ICT industry—from goods to services

The information communication technology (ICT) industry is an aggregate that represents technological activity in manufacturing and service industries. The manufacturing industries included in ICT are communications equipment, industrial equipment for control, measurement, and supervision, and electronic components. The service industries are communication, computer, and R&D services, including startups.

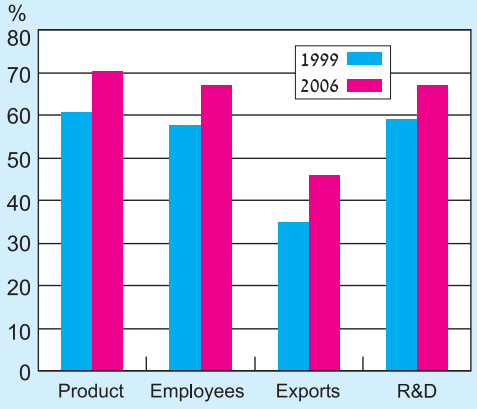
Table 1
The ICT Industry—Selected Data

	Output at 2000 prices	Employees	Exports	Capital raised by high-tech companies ($ million)
	average rate of change, percent			
2007		9.5	0.8	1,779
1997-2006	8.8	10.4	14.1	1,675
	percent of business sector			
2007	12.7	10.6	23.0	

For clarification see Table 2A.34

SOURCE: The Central Bureau of Statistics and IVC Research Center

Figure A
Weight of Services in the ICT Industry, 1999 and 1996



SOURCE: Based on Central Bureau of Statistics data.

ICT activity is noted for variance among its components in terms of intensity of capital vs. labor, quality of human capital, extent of R&D, and level of technology. Accordingly, the 8.6 percent average annual growth rate of ICT in 1997–2005 was typified by imbalance among its components. For many years, the share of service industries in Israel's economy has been rising at the expense of manufacturing. The same has been occurring in ICT in recent years. Thus, the share of services in total ICT product, employment, exports, and R&D is on the rise. Since

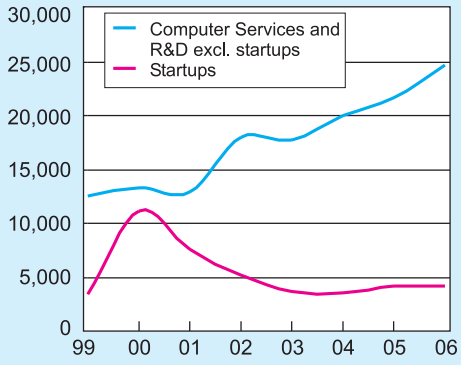
1999, ICT service employment has climbed by 73 percent, product by 100 percent, and exports by 250 percent.

This upward trend in the share of services in ICT product parallels the trend in the OECD countries. Since 1995, ICT services product—especially that related to communications and software—has been rising appreciably in most OECD member countries and its share in the total ICT industry has been climbing as well.[1] In most countries, the share of services in ICT in 2006 came to more than two-thirds, much as in Israel.

ICT growth is based on large R&D expenditure and strong human capital. These industries account for 90 percent of business R&D expenditure in Israel, a very high rate by world standards.[2] The share of services in total ICT R&D increased from 59 percent in 1998 to 66 percent in 2004. Consequently, these services and their share in the ICT industry are expected to continue growing once the investments mature. As for human capital, the service growth reflects the utilization of Israel's comparative advantage in knowledge and innovativeness. Persons employed in ICT services have 15.8 years of schooling on average, one year more than the average in ICT manufacturing.

The main reason for the upward-marching share of service industries in total ICT is increased activity in computer and R&D services and moderate growth in communication services. The upturn in computer and R&D service activity is based on protracted growth of the services of non-startup companies, whereas startup activity has been languishing since the severe crisis that befell this subsector in 2001. Thus, today's growth in computer and R&D services is different from that in 2000, which was predicated solely on a powerful spike in startup activity.

Figure B
Product of Computer Services and R&D, 1999-2006
(NIS million, at 1995 prices)



SOURCE: Based on Central Bureau of Statistics data.

[1] *OECD Information Technology Outlook*, 2006.
[2] The corresponding rate in the U.S., for example, is around 50 percent.

d. Transportation and communications

Activity: The product of the transportation industry, which accounts for 7 percent of business sector product, grew by a rate of 11 percent in 2007 (Table 2.14). This growth was the result of the expansion in economic activity and was led by the product of land transport, primarily taxis and the railway, and air transportation. The increase in the product of the taxi industry reflects the improvement in economic activity, as well as the reform implemented in the industry, which removed the barriers to entry into the industry. The low rate of growth (3.2 percent) in the product of bus transportation does not reflect an improvement in the public transportation sector (regular bus lines) relative to the mileage of private transportation but rather the growth in the economy. (For further details on land transport, see Box 2.5.) The product of the railway, whose share of land transport product is only 4.5 percent, rose significantly, which is a reflection of the upgrading process that the railway has undergone in recent years. The increase in air transportation was a result of increased travel by Israelis and the growth in the number of incoming tourists. The increase in the relative price of transportation product was a result of the increase in the price of fuel.

Transport industry product, which accounts for 7 percent of GDP, increased by 11 percent in 2007.

Table 2.14
Transport and Communications, Main Indicators, 2007

(annual change, percent)

	Share in total commerce and services product (%)	Product, at 1996 prices	Labor input	Real wage per employee	Output price relative to CPI
Transport and communications	100	8.6	-1.8	-0.1	-0.3
Communications	36	4.4	-0.9	-0.5	0.0
Transport and storage	64	11.1	-2.3	0.1	-0.5
of which Buses, taxis and trains	18	10.1	-2.7	0.3	1.4
Trucks	15	11.8			5.3
Air and sea transport, airports and seaports	12	13.7	-9.0	2.7	-1.0

SOURCE: Central Bureau of Statistics.

The increase in activity in this industry did not lead to an increase in its labor input. The wage in the land transportation industry hardly increased due to the relatively high rate of unemployment among unskilled workers. In contrast, there was a real increase in wages in the land and air transportation industries, which are unionized to a large extent and whose workers have a higher level of skills.

The product of the communications industry, which accounts for 4 percent of business sector product, grew by 4.4 percent this year. The percentage of individuals' expenditure on communication declines as their income rises (elasticity of less than one), and therefore the effect of the increase in income on the industry was relatively moderate. The growth in the product of the industry in previous years was a result of the expanded use of new communication services, such as the Internet, the cellular

Communication industry product, which accounts for 4 percent of GDP, increased by 4.4 percent in 2007.

phone and multi-channel television. This year the use of "third generation" cellular phones increased and led to an increase in product.[27] There were only moderate increases in other areas and in some cases even declines: the use of landline phones decreased; the use of Internet for long distance calls (which is not included in product) increased at the expense of services from communication companies; the penetration by cellular phones reached saturation; and the prices of communication rose this year at the same rate as the CPI.

Transport and communication, energy, and water are infrastructure industries that have externality effects on the economy at large; thus, they are much more important than their share in GDP would suggest.

Infrastructure: Transportation and communication, energy and water are infrastructure-intensive industries which are characterized by externalities that affect the whole economy. Therefore, their importance is much greater than that reflected in their share of product. Thus, for example, the improvement in the quality of public transportation and the road infrastructure[28] expands the employment possibilities for workers and improves the matching of workers and employers and thus increases product and decreases unemployment (see Box 2.5). The full utilization of the externalities of the infrastructure, transportation and communications industries is dependent to a large extent on government regulation and supervision, which in recent years has worked towards greater efficiency and increased competition in the industry.

Communication: Competition in landline telephone service was introduced in 2006, although the market share of companies competing with Bezek is still small. The "portability of numbers" reform (maintaining the same telephone number when moving from one network to another), which began at the end of 2007 for both cellular and landline phones, will increase competition.[29]

At the beginning of 2003, the government approved a change in the regulations of the communications market. According to this reform, the market will be regulated through a national communications authority, as in most Western countries, rather than by a government ministry. The advantage to this lies in the fact that an authority which regulates all the aspects of the industry will have a better overall picture due to the integration of infrastructure in the areas of telecommunications and broadcasting and the effect that regulation in one area has on the whole industry. The authority will be responsible for the regulation of communication, including the setting of regulatory policy. It is meant to be independent in carrying out its function and imposing its authority, which will reduce the power of the political echelon in charge of communication. During 2004, draft legislation was submitted to establish such a

[27] The third generation of cellular telephones is a technological innovation that reduces the operating expenses for cellular phone companies and enables the introduction of additional services. If prices are not reduced correspondingly, this innovation translates into an increase in the profits of the cellular phone companies and therefore an increase in their product.

[28] The road infrastructure and private transportation (apart from travel on toll roads) are not included in the product of the industry.

[29] An analysis of the index of communication prices by the Central Bureau of Statistics for the Bank of Israel Annual Report shows that the index for cellular communication fell significantly in December with the implementation of the reform.

communications authority but the process is suspended. Ninety percent of the OECD countries have an independent communications authority.[30]

Transportation: There are new bus companies now operating in the public transportation sector, in addition to the veteran Egged and Dan companies. The reform, which enabled the entry of the new companies, is primarily suited to rural areas while in metropolitan areas there is a need for investment in mass transit systems and comprehensive institutional reform (see Box 2.5).

In public transport, the veteran bus companies (Egged and Dan) have been joined by new players. The reform that admitted them to the industry is suitable for non-metropolitan areas; in metropolitan areas, however, investments in mass-transit systems and comprehensive institutional reform are needed.

Open skies: The reduction in the prices of sea and air transportation will increase the export of tourism and goods and will improve the openness of the economy, as well as the welfare of consumers, by reducing the price of imported goods and holidays abroad. In the EU and the US, regulatory policy facilitates a high degree of competition between airline companies unlike the situation in Israel. At the beginning of 2008, the government decided to increase its participation in security expenses from 50 to 80 percent and also to relax its airline regulation policy. Until now, regulatory policy made it almost impossible for Israeli companies to become designated carriers on routes that El Al flies due to the 2003 government decision that placed tight restrictions on the granting of such licenses until the number of travelers through Ben Gurion Airport reaches 10.7 million. The liberalization of Israel's bilateral aviation agreements is overdue and will have several objectives: to facilitate an increase in the number of regular flights, to enable the designated carriers to determine the capacity and frequency of regular flights without the approval of the government and to ensure fifth-freedom rights, i.e., the right to a connecting flight (for example, El Al flies from Tel Aviv to Paris and from there, continues on to New York).

Lower prices of marine and air transport will boost exports of tourism services and goods, make the economy more open, and enhance consumers' wellbeing.

In the shorter term, competition can be improved by the restriction of codeshare agreements (joint ticketing) in which an Israeli company operating on a certain route signs a codeshare agreement with a foreign airline that operates on the same route. This tends to reduce competition on that route (which is limited in the first place). There is no intention of restricting supplementary codeshare agreements which allow a passenger to fly on a connecting flight with a foreign airline on a joint ticket but rather the type of agreement in which two companies operate on the same route. It is worth mentioning that the US and the EU restrict codeshare agreements of the parallel type, particularly on routes in which only a small number of airlines operate. The law that would enable the Antitrust Authority to limit these agreements was passed already at the beginning of 2007; however, the directives of the law have not yet been published. In the short term, there is a need to continue working towards liberal aviation agreements with other countries and in the medium term, to work towards a liberal agreement that, among other things, will create open skies with the EU.

In the aviation industry, the fastest way to enhance competition in the short term is by limiting certain types of code-sharing agreements.

Electricity: The capacity of Israel's electricity industry is not sufficient to meet current demand or expected levels of future demand. The expansion of capacity is a prolonged one that requires long-term planning. Capacity was not expanded to a sufficient degree in recent years and a period of several years is now required in order

[30] OECD Communication Outlook (2005).

In the medium term, electricity demand should be restrained by introducing a set of rates and incentives that would promote conservation and direct demand to off-peak hours.

to do so. In the immediate term, there is a need to trim demand through a system of pricing and incentives that will encourage savings in electricity and will shift demand to non-peak hours. The policy to reduce demand should be an integral part of long-term policy as well, in addition to the expansion of capacity, in view of the environmental effects of electricity production. The reduction of demand needs to be an important component of policy also with regard to other infrastructure whose expansion involves negative environmental externalities, such as roads and water.

The introduction of measures that make the ports compete with each other is meant to streamline port operation, increase capital utilization, and allow ships to move in and out more quickly.

Ports: The need for competition in the ports stems from the desire to increase their efficiency, to increase the utilization of capital and to shorten waiting time. As a result of the reform, three government companies were created in order to operate the ports; another government company was created for management, maintenance and development of the ports' assets; and a Shipping and Ports Authority in the Ministry of Transportation coordinates supervisory powers. The reform involved wage increases for the workers, including a one-time payment and annual increases.

An examination of the effects of the reform on port performance in its third year shows that the indicators of performance have not improved relative to the pre-reform period and relative to foreign ports.

The evaluation of the effect of the reform (in its third year) on the performance of the ports shows that there has been no improvement in the measures of their performance, whether in comparison to the period prior to the reform or relative to ports in other countries.[31] A comparison of the ports' performance to that in other countries according to the weighting of criteria such as satisfaction with infrastructure, customs, reliability of service, delays in service and the price of service show that the performance of ports in Israel is inferior to what would be expected from a country with a similar level of per capita GDP. Thus, according to Figure 2.8,[32] Israel is located below the regression line, which means that the quality of its ports is lower than that expected according to its per capita GDP. The "Carmel Port," which will add container loading and unloading capacity, will be opened at the end of 2009. It is important that the future operation and development of the ports be exclusively within the scope of a third party, without any connection to the existing port companies.

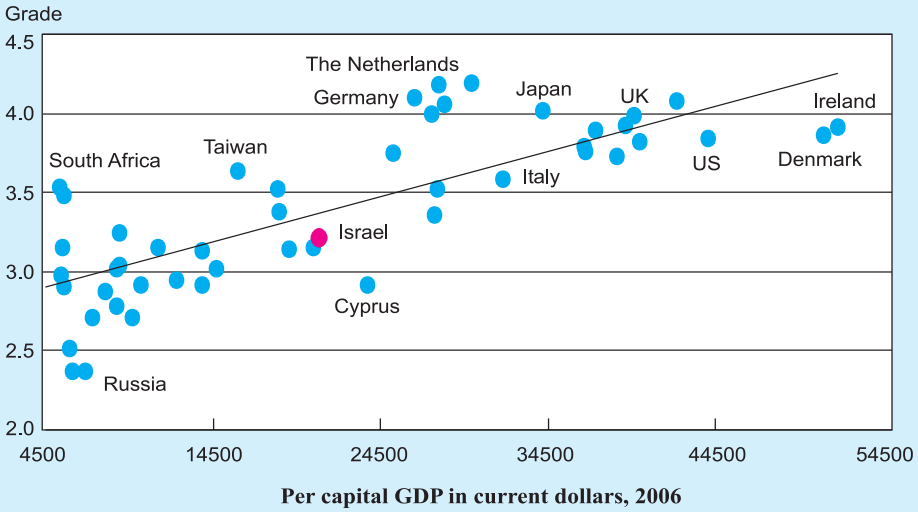
Having the ports work at night has significant external advantages because it allows capital to be utilized around the clock and reduces road congestion.

Incentives for night work in the ports: There are significant positive externalities to night work in the ports since it increases the utilization of capital. The work of the ports is capital-intensive which is true of the ports themselves and the related logistic infrastructure, including roads and trucks for loading, unloading and transport of the cargo. One of the reasons for the inefficiency of the ports in Israel is their low productivity at night. Thus, only 17 percent of the movement of containers (the entry and exit of containers into and from the port) and the loading onto trucks at the terminals take place at night. Logistic activity at night would result in a shortening of the queue for unloading of ships and would lessen crowding on the roads. In other countries, the logistic chain, including the ports, the transport companies, the inland warehouses and the manufacturing companies, work at night as well. In the port of Los

[31] For more details, see the 2006 Bank of Israel Annual Report, p. 66.

[32] Per capita GDP can serve as an indicator of an economy's efficiency (except in the case of oil-producing countries). A regression was run that explains logistic quality in various countries using per capita GDP. A result of R2 = 0.67 was obtained.

Figure 2.8
Logistics Performance Index:[a] Per Capita GDP and Country Ratings (According to the World Bank, 2007)



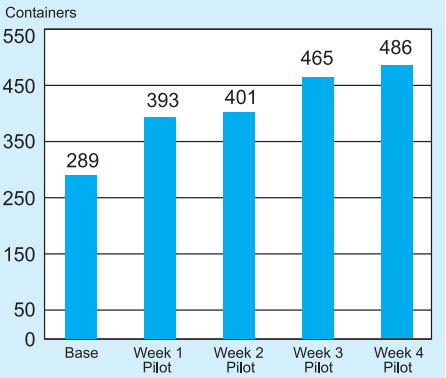
[a] The Logistics Performance Index (LPI) is an index used by the World Bank to compare ports throughout the world. The grade is on a scale from 1 to 5, and incorporates several weighted criteria: trading procedures, quality of the logistic infrastructure, level of services such as the logistic costs, keeping to schedule, locating and tracking cargoes, availability and reliability. Countries with low GDP and those whose GDP is based on oil production have been omitted.
SOURCE: World Bank, (2007). "Connecting to Compete, Trade Logistics in the Economy; per capita GDP," *World Economic Outlook*.

Angeles, for example, the incentive to work at night is achieved through differential pricing, whereby the night tariff is significantly lower than the day tariff.

In early 2008, Haifa Port began to pilot logistic-chain activity at night.

At the beginning of 2008, a pilot began at the port of Haifa with the goal of operating the logistic chain at night. This activity is subject to certain barriers of entry originating with the trucking companies, manufacturing plants and inland warehouses, which hardly work at night. Thus, for example, manufacturing plants need to open their warehouses at night and the trucking companies need to allocate additional truck drivers. Inland warehouses will open at night only if there is sufficient and consistent demand for it. The port, for its part, must be open from 4:30–6:30. The incentive offered is the subsidization of the night activity of the

Figure 2.9
The "Good Night" Project–Containers Entering and Leaving the Ports at Night (18:00-06:00), February 2008



SOURCE: Bento Consultants Ltd., for Israel Ports Development and Assets Company Ltd.

inland container warehouses,[33] which is worthwhile for the economy due to the significant positive externalities in shifting activity to the night. It is important therefore to make it clear to the various links in the logistic chain that the government is determined to internalize the positive externalities of port activity at night. The pilot so far has increased the nighttime activity of the port of Haifa in terms of container movement from 17 percent to 25 percent of the total, which was achieved gradually since the initiation of the pilot (Figure 2.9). On the completion of the pilot, it would be worthwhile adopting, without delay, the incentive for logistic nighttime activity through differential tariffs.

Transport infrastructure investment continued to grow in 2007; the increase in land transport was NIS 8.2 billion.

The investment in transportation infrastructure continued to grow this year. Investment in land transportation infrastructure increased to NIS 8.2 billion. In recent years, the level of investment has increased significantly both in the railway and light rail and in roads.

Box 2.5
The desired policy in overland transport

Background

Tel Aviv has scanty public transport by the standards of metropolitan areas abroad and the entrances to its Central Business District are congested. The ill effects of this situation include, evidently, the relocation of businesses from the CBD to the edges of town and the loss of labor hours. This is detrimental because the concentration of businesses in one in place permits scale economies and, in turn, more efficient activity.

Congestion in Tel Aviv's CBD has not diminished in recent years. According to data on vehicles entering the Ayalon Freeway, congestion at the entrances to Tel Aviv has actually increased at rush hour despite massive road investments, especially in the Tel Aviv and Central districts.[1] These investments led to greater capacity and allowed commuters to move from public transport (buses) to private cars. Thus, demand for non-congested public transport has fallen and, in turn, so has its quality. In turn, the increase in private travel has created a new need to invest in road capacity, and so on.

The increases in road congestion toward the CBD and the motorization rate (vehicles per thousand of population) seem to be at fault for the drift from the CBD of businesses and the commuters who serve them. The share of Tel Aviv region in the commuter market has declined perceptibly in recent years (see footnote 1); this could have been prevented by assuring reasonable transit to the CBD.

[1] Roni Frish and Shai Tsur, "Investments in Transport Infrastructure, Commuting, and Wages," 2008 (forthcoming).

[33] In order that trucks can transport the containers both to and from the port and not travel empty.

Assuring reasonable commuter travel to Tel Aviv is the responsibility of the government, through the offices of the ministries of Transport and Finance. The Municipality of Tel Aviv has no real interest in making commuters' lives easier, especially those who use public transport, because efficient public transport requires road resources that come at the expense of the well-being of city inhabitants who own private cars, e.g., a ban on parking along major streets and the designation of public transport lanes. Commuters do contribute to municipal revenues by paying property taxes on their offices, but Municipality of Tel Aviv is strong enough that their contribution is not critical. To allow massive concentration of businesses in the city center and stanch the sprawl of businesses outside the CBD, a mass-transit system and additional policy measures are needed.

Public-transport policies abroad

Almost every metropolitan area in the developed world has a mass-transit system in addition to buses. Metropolitan areas that have poorly developed mass-transit systems have less population density and invest vast sums in roads.[2] In terms of return to scale and land uses, high-density building is obviously preferable in metropolitan areas; hence the need for mass-transit systems. High-density building is also the official policy of the Government of Israel.

In metropolitan areas abroad, and especially in metropolitan CBDs, it is standard practice to use mass-transit systems as opposed to private transport. For example, the closer one gets to the center of London, the higher the share of trips per person by public transport (Table 1). Generally speaking, the use of private transport in CBDs has been trending down in recent years.

Almost every metropolitan area in the developed world has a metropolitan transport authority that serves the interests of transport consumers, particularly commuters who use public transport. Within the metropolitan area, it takes an integral and centralized management to run the public-transport system, and such management has become widespread in Western metropolises.

In Israel, in contrast, the public-transit entities—which command a quasi-monopolistic status due to their share of the industry at the national or local level—are private businesses. This unconventional structure fails to achieve the desired outcome of widely deployed public transit. Furthermore, as soon as the metropolitan area acquires high-capacity means of transport in addition to buses, the organizational structure of public transit will have to be changed. The reason is that a private-monopoly bus operator has no economic motive to serve the city's mass-transit lines because they are its direct competitors.

[2] Melbourne, for example, has many kilometers of roads and low population density.

Table 1
The Main Means of Transport to Work in the UK, 2006
(percent)

	Work location				
	Central London	Other Inner London	London suburbs	London, total	Rest of UK
	(1)	(2)	(3)	(4)= (1)+(2)+(3)	
Car or minibus	11	31	63	37	76
Bus	12	16	14	14	7
Train	40	16	5	19	2
Light rail or underground	28	19	5	16	-
By foot, motorcycle, bicycle, or other	10	18	14	14	16
Total	100	100	100	100	100
Number of observations (millions)	1.11	0.87	1.36	3.34	21.48

SOURCE: Transport for London, London Travel Report 2007 pp.8: Labour Force Survey, ONS

Abroad, the accepted practice is to encourage public transport by reserving lanes on city streets for this purpose. In London, the TFL (Transport for London, the metropolitan transport authority) maintains 5 percent of the road system, used by one-third of traffic, and designates public-transport lanes on these streets, among other things. Another way of managing demand for the road system is by charging congestion fees. In London, demand for road travel is managed by TFL. In Israel, in contrast, public-transport lanes exist only where the municipal authority approves them; municipalities that have no commitment to public transport do not promote them. The policy of managing demand is also inefficient because it is the municipal authorities, which do not view the regulation of demand for private transport from a countrywide perspective, that set parking fees.

Another policy measure that encourages public transport abroad, mainly in the United States, is an employee incentive: the "cashing out" of free parking by employers. In such a program, employees forego their right to park at their place of work in return for a wage increase. Thus, they make greater use of public transport and carpooling (Table 2).

An important policy measure around the world is subsidization. In the United States and the UK, a high rate of public-transport subsidy in metropolitan areas is accepted. Bus operating expenses are subsidized at 70 percent in American metropolitan areas and 77 percent in London. In Israel, the public-transport

Table 2

Decrease in Parking Demand as a Result of Financial Incentives in the USA

	Number of employees	Average monthly incentive in 1995 dollars	Decrease in demand for parking (percent)
Areas with little or no public transportation	13,780	47	24
Areas with fair public transportation	20,930	110	31
Areas with good public transportation	53,500	22	24
Total	88,210	46	26

[a] Results of ten case studies published in the 1990s.

SOURCE: http://www.moderntransit.org/cashout/cashoutresults.html

subsidy is only 46 percent using the same definition and 56 percent if one adds the subsidy for fleet purchase, which only long-standing service providers receive.[3]

Parry and Small (2007) found that public transport in metropolitan areas should be subsidized and that the effective rate of subsidy usually surpasses 50 percent of operating costs. There are two major reasons for such subsidization: (1) the marginal social cost of supplying a passenger-kilometer is lower than the average cost per passenger-kilometer. The difference traces to the fixed costs of the bus and rail companies and the decline in passenger's waiting costs as service becomes more frequent. (2) Low fares reduce road congestion, air pollution, and traffic accidents.[4]

Requisite measures in land-transport policy

- Continue investing more in public transport relative to private transport. A mass-transport system is efficient when it offers a network composed of many lines. For the time being, there is an approved plan for only one line in the Tel Aviv and Central districts.
- Institutional infrastructure—Metropolitan Tel Aviv needs what the rest of the world considers the norm: a powerful corporate entity that assures appropriate representation of interested groups: municipalities in the metropolitan

[3] Source of data: Federal Transit Administration, 2003, and Transport of London, Annual-Report-and-Statement-of-Accounts-06-07.pdf. To calculate the rate of subsidy in operating expenses, we used data from several bus companies that operate in Israel's Central District. We computed operating expenses including depreciation, the earmarked subsidy, and the current subsidy. We also assumed that operating expenses for transport of soldiers and members of the security forces are equal to the revenue generated by these passenger, and on account of this factor we subtracted from the operating expenditure the companies' revenues from the police and the security forces. We did not include a capital subsidy because it is given only to long-standing companies and therefore may be considered compensation for inefficiency. On this basis, as stated, we found that the operating subsidy is 46 percent or, including the capital subsidy for fleet purchase, 56 percent.

[4] "Should Subsidies Be Reduced?" working paper, 2007 (Hebrew), p. 22.

area, the Municipality of Tel Aviv, and the ministries of Transport, Finance, and the Interior. The purpose of this entity would be to manage the public-transport array—buses and mass transit—in metropolitan Tel Aviv in order to provide extensive and efficient public transport. Efficiency should be obtained by extensive use of outsourcing. The function of a metropolitan transport entity may be assigned to an existing public transport corporation, but if this is done adequate representation of interested parties must be assured.

- Public-transit lanes and traffic signals on high-capacity roads—Management of a certain percent of roads in the metropolitan area, including the major roads, should be assigned to the metropolitan public-transport authority. At a subsequent stage, the authority should also be allowed to manage road demand by charging congestion fees.
- Cashing out of free parking—Every firm that employs a certain number of workers should be required to offer this option.[5]
- Public-transit subsidies should be increased in such a way that would maximize the public benefit, i.e., one of two options—subsidizing transit fares or making service more frequent—should be adopted once it has been established that it is the preferable alternative.
- Discontinue the subsidization of private-vehicle passengers:

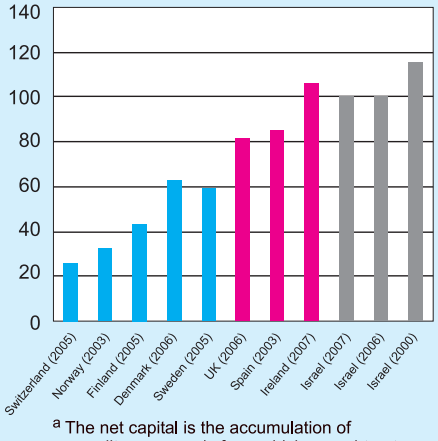
1. by means of vehicle-upkeep payments. The current wage policy in many sectors, foremost the public sector, earmarks a portion of the wage for vehicle maintenance; this encourages the purchase of cars for reasons that are not necessarily related to the benefit that the employees gain by using it.

2. The company-car incentives should be reduced. Some users of company cars travel at zero marginal cost because they are absolved from current expenses such as fuel, tolls, and fines. It would be better to charge these marginal current expenses to drivers (instead of employers).

- Israel Railways fares—Since the train is perceived as a prestige means of transportation, it encourages commuters to switch from private transport to public. However, the train system has a capacity problem at times of congestion on the highways. Israel Railways' ability to shift commuters from private transport to public should be internalized in its fares; therefore, the subsidization of fares for various groups at rush hour should be abolished and an appropriate alternative should be provided, e.g., extra buses as needed. It is also worth looking into the possibility of switching to differential fares—higher at rush hour—on certain lines.

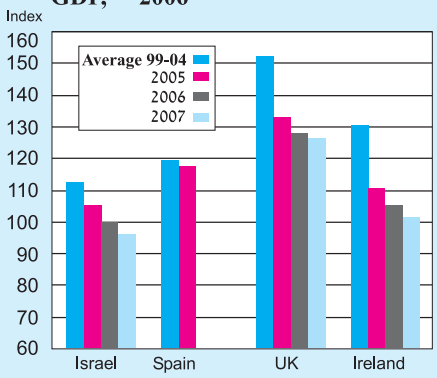
[5] Obviously, at first this would involve only companies that lease parking space from third parties.

Figure 2.10
Road Density,[a] 2006
(Israel 2007 = 100)



[a] The net capital is the accumulation of expenditure on roads from which we subtract, as is commonly accepted by the CBS, 2 percent per year. The net capital is calculated by weighting for investment prices, which differ from country to country.
SOURCE: IRF International Road Statistics 2006. For Israel, UK, Ireland and Denmark, the Central Bureau of Statistics. Total road network is taken at the end of the year reviewed.

Figure 2.11
Index of End-of-Year Road Capital Intensity: Road Capital divided by GDP,[a,b] 2006



[a] GDP weighted for purchasing power parity.
[b] For details see Figure 2.10.
SOURCE: Table 1.

International comparison of road congestion: The goal of this comparison is to evaluate the investment in roads in Israel from an international perspective. This is done from the point of view of road congestion, though it includes other aspects as well which appear below. Road congestion in Israel has decreased in recent years thanks to the relatively large scale of investment in the roads. According to estimates, the level of congestion in Israel is similar to that in Ireland and is 15–20 percent higher than the average for Britain and Spain (Figure 2.10). These three countries are appropriate reference points for Israel since they have a similar topography, which is a major determinant of road capital. The ratio of road capital to GDP in Israel is somewhat lower than in Britain and Ireland (Figure 2.11). In Britain, the average annual expenditure on roads (including maintenance) during the period 1997–2006 came to 0.6 percent of GDP; in Ireland it came to 1.1 percent of GDP during the period 1997–2007 (since the roads there are relatively congested); and in Israel, during the same period, it came to 0.9 percent.

Several reservations are in order when the traffic-congestion index is compared among different countries.

Figure 2.10 shows road congestion as measured by the ratio of mileage to net road capital. Mileage is calculated by weighting the mileage of the different vehicle types (cars, buses and trucks) by a coefficient that measures the extent to which it slows traffic down.[34] Net road capital is the accumulated expenditure on roads less two percent per year (the accepted rate of depreciation used by the Central Bureau of Statistics). Net road capital is calculated using a weighting by investment prices, which vary from country to country. This index is preferable to others, such as mileage divided by total road

The index is calculated by dividing total kilometers driven by net road capital.

[34] We assume that a bus slows traffic down twice as much as a car and a truck slows it down 2.5 times as much.

length in which a narrow road is counted in the same way as a wide road and an interchange is not counted at all.

Limitations of the comparison: Topography—The expenditure on roads is dependent also on topography. For example, in Switzerland there are numerous tunnels which are very costly to build; Israel has less need for tunnels. The topography of Britain, Ireland and Spain is similar to that of Israel and accordingly the average road congestion is similar. Level of motorization in Israel—It is worth mentioning that the level of motorization in Israel (number of cars per 1,000 residents) is significantly lower than in Europe. The increase in standard of living in Europe brought with it an increase in motorization and therefore, Israel should be preparing its road infrastructure for such an increase. Israel's level of motorization rose by 22.2 percent from 1995 to 2007 while per capita GDP (in constant terms) rose by 21.5 percent. Railway intensity in Israel—In most of Europe, the railway serves as a transportation alternative; this is not the case in Israel in which the railway infrastructure remains underdeveloped. Therefore, it is possible that a road will be paved even though it will not bear much traffic if it links two regions that lack sufficient transportation between them. Average congestion—The calculation relates only to average congestion even though there are more and less congested roads. It is important to remember that the congestion in the Center, and mainly in the metropolitan area, is higher than in the periphery and therefore it is possible that investment in mass transit systems is worthwhile in the Center, as is commonly the case in developed countries.

Other aspects of the investment in roads: The positive externalities of a cross-country road: A road that affects the road system as a whole, such as Highway 6, creates traffic. In other words, it connects between two regions that were previously remote from one another and thus opens up new opportunities for the population living near the road and improves its mobility. This means that simply evaluating its benefit in reducing congestion is not sufficient.

e. Agriculture

Agriculture product increased 1.8 percent in 2007.

In 2007 product of the agriculture industry advanced by only 1.8 percent (Table 2.15) and output by 3.4 percent. Agriculture's share in business sector product was 2.7 percent and the number of employees rose by 2.9 percent. For the long-term composition of employment see Box 2.5. Capital increased slightly after almost no change in the previous ten years. Agricultural exports, a very volatile activity like the industry at large, increased by 23 percent.

Agricultural terms of trade worsened in 2007, pursuant to the long-term trend.

Agricultural terms of trade worsened in 2007, pursuant to the long-term trend, as input prices rose more swiftly than output prices. The increase in input prices traces mainly to a hefty upturn in prices of feed, fertilizers, and pesticides. Capital input advanced by 2.3 percent.

The government is more involved in agriculture than in other industries.

Industry structure: The government is more involved in agriculture than in other industries, as reflected in the subsidization of water, capital, labor (by allowing the

Table 2.15
Activity in Agriculture,[a] 1996–2007
Annual volume change

	Average 1996–2006	2007
Total agricultural output (incl. intermediate produce)[b]	2.4	3.4
Inputs (bought and from intermediate produce)	0.6	4.9
Gross product	4.5	1.8
Real total income from agriculture[c]	1.3	-0.1
Real income from self-employment and capital	1.9	-2.5
Factors of production		
Labor input[d]	-0.6	6.0
Capital stock[e]	0.5	2.3
Capital/labor ratio	1.0	-3.4
Productivity		
Product/labor ratio	5.1	-3.9
Product/input ratio[f]	4.7	-2.5
Total agricultural exports[g]	4.5	23.2
Citrus exports	-9.2	50.1
Other agricultural exports	6.8	21.3
Prices		
Change in output prices	3.3	5.6
Change in purchased input prices	6.0	10.5
Change in terms of trade[h]	-2.6	-4.5

[a] See footnotes tro Appendix Table 2A.36.

[b] Output is calculated at prices to the producer (including price subsidies).

[c] At fixed prices, adjusted for the CPI.

[d] The data do not included those employed in gardening, as their output is not included in the agriculture industry.

[e] Gross capital stock at fixed prices at the beginning of the year.

[f] Weighted ratio of capital and labor. The average weight of labor is 59 percent.

[g] Source—Central Bureau of Statistics foreign trade data.

[h] Change in the output price index relative to the input price index.

SOURCE: Based on Central Bureau of Statistics data.

employment of foreign workers), natural-disaster insurance and compensation, and agricultural consulting, and R&D services. The government also protects domestic agricultural product by applying stiff protective tariffs to imports. Finally, the law protects farmers by allowing them organize the wholesale marketing of produce.

Water rates for agriculture are subsidized.

Agricultural water rates are subsidized. At the beginning of 2008, agricultural consumers paid NIS 1.3 per cubic meter while domestic consumers paid NIS 2.8 (at city gate). Although agricultural consumers may require somewhat less reliability in supply than domestic consumers, the difference between the rates—if there is a reason for any difference to all—should be small. In fact, cross-subsidization is at work: urban consumers are subsidizing agricultural consumers. To prevent this, the agricultural rate should be raised gradually while some subsidy is retained for cultivation of land in peripheral areas.

The number of foreign workers is rising due to demand. Demand is increasing because foreign workers are cheaper to employ than Israelis and because the government issues permits for their employment.

The number of foreign workers is rising due to demand. Demand is increasing because foreign workers are cheaper to employ than Israelis and because the government issues permits for their employment even though this policy depresses demand for Israeli workers, encourages the use of shortage-prone inputs such as water, and promotes agricultural use of land that could be used as open areas, especially in central Israel. Thus, fewer permits for foreign workers in agriculture should be issued.

Box 2.6
Long-term trends and cross-country comparison in agriculture, 1995–2006

Profile of product: In Israel, as abroad, agriculture is noted for technological innovations that permanently enhance output per unit of capital and labor. Therefore, output per unit of capital and labor has been trending upward in the long term even though natural factors affect it in the short term. The technological improvements are reducing the amounts of capital and labor that are needed to generate a unit of output. Demand for farm output is limited because domestic demand is relatively inelastic and exports to Europe are typified challenged by tough competition from countries that have large quantities of cheap labor. Accordingly, the share of agriculture in Israel's GDP is steadily declining and agricultural employment is falling commensurably. The technological improvements are also allowing fresh-output prices to fall relative to factor input prices. Consequently, in accordance with the long-term trend, the price of fresh output rose between 1995 and 2006 by only 52 percent as against 97 percent in the agricultural inputs index.[1]

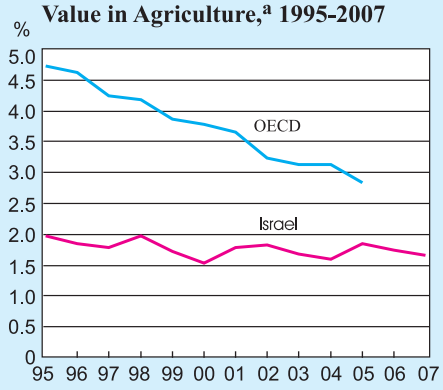
[1] The agricultural inputs index also includes wage labor.

Factor inputs: Due to the technological improvements, factor inputs (labor and capital) increased by only 3.3 percent in 1995–2006 as against a 30 percent increase in output.

As for the composition of employment, the share of foreign workers in employment continued to trend upward, to 39 percent (approx. 23,000 workers). Concurrently, the share of Israelis fell due to a decrease in the numbers of self-employed—brought on by the trend toward larger farms that can internalize economies of scale—coupled with no change in the number of wage earners.

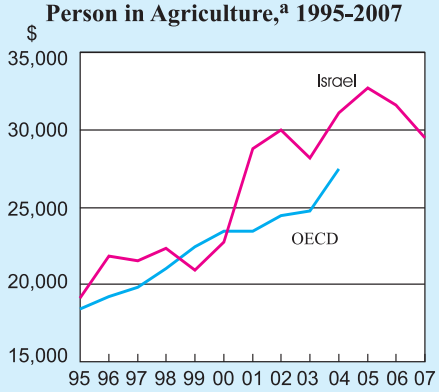
Cross-country comparison: Israel surpasses the OECD average in product per person employed in agriculture and falls far short of the average in the share of agriculture product in GDP. The decline in the latter metric did not originate in an increase in the deficit on account of trade in fresh produce. All of the foregoing parameters indicate that productivity in Israeli's agriculture is strong.

Figure A
The Share in GDP of the Added Value in Agriculture,[a] 1995-2007



[a] The net output of the sector is obtained by totaling all agricultural product and subtracting intermediate products in forestry, hunting, fishing and processing of harvests. It is calculated without reduction in value due to depreciation of assets or erosion or exhaustion of natural resources.
SOURCE: World Bank national accounts data and OECD National Accounts data files.

Figure B
Index of Added Value per Employed Person in Agriculture,[a] 1995-2007



[a] In 2000 dollars.
SOURCE: World Bank national accounts data and OECD National Accounts data files.