April 1998

IMF Staff Country Report No. 98/28

Israel: Background Studies, Information Notes, and Statistical Appendix

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INTERNATIONAL MONETARY FUND

ISRAEL

Background Studies, Information Notes, and Statistical Appendix

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Approved by the European I Department

January 23, 1998

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I. Estimates of Potential Output in Israel[1]

1. The Israeli economy has changed dramatically over the past decade. The 1985 stabilization program—which saw inflation fall from 185 percent to close to 20 percent within a year—was followed shortly thereafter by a massive wave of immigration that increased the population by almost 20 percent. Though initially pushing the unemployment rate up from 6½ percent to over 11 percent, the new skilled labor force was rapidly absorbed. In consequence, the unemployment rate fell back as output expanded on the order of 40 percent over six years, led by an export-oriented investment boom aimed at taking advantage of the increased human capital. More recently, in part due to the decline in immigrant intakes, output growth in Israel has slowed.

2. These rapidly changing developments pose a challenge for efforts to measure potential output.[2] Four methodologies are employed in this study, two fairly traditional approaches and two approaches using relatively new statistical techniques. Traditional approaches to measure potential output typically rely on estimation of a production function or use of the Hodrick-Prescott filter to smooth actual output. But in the case of Israel these approaches may lead to misleading results, since both techniques assume the existence of relatively stable conditions over an extended period of time. In contrast, two recent statistical approaches yield measures of potential output that are designed to adapt to changes in economic circumstances. First, a smoothing filter based on the "wavelet" approach adapts the estimate of potential output to changes in the economic environment so that recent events such as immigration influence the estimates of potential output at the end of the sample period (and not at the beginning). Second, a structural vector autoregression (VAR) exploits the relationship between output growth and inflation to distinguish between permanent changes in potential output and transitory fluctuations in actual output above or below this level.[3]

A. Theoretical Approaches to the Concept of Potential Output

3. Even abstracting from estimation difficulties, the concept of "potential output" is not well defined. Broadly speaking, the literature distinguishes between two definitions. In the first, more along the Keynesian tradition, the business cycle results primarily from movements in aggregate demand in relation to a slowly moving level of aggregate supply. In business downswings, there exist factors of production that are not fully employed; most critically, unemployment remains above its frictional level, and wage and inflation pressures are subdued. In this framework, potential output is formalized based on the concept of the

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[1]Prepared by Fabio Scacciavillani, Phillip Swagel and David W.H. Orsmond.

[2]De Masi (1997) surveys methodologies traditionally used to estimate potential output.

[3]A similar methodology is used by De Serrers, Guay, and St-Amant (1995) and Dupasquier and Guay (1997) for Mexico and Canada, respectively.

nonaccelerating inflation rate of unemployment (NAIRU), where the gap between actual and potential output indicates the extent to which the economy can expand without inflation accelerating.

4. In contrast to the first approach, potential output in the second approach—more along the (neo) classical tradition—is driven by exogenous "productivity shocks" to aggregate supply that determine its long run growth trend and to a large extent the short term fluctuations of the business cycle. Under such a framework, business cycle fluctuations are not caused by changes in monetary, fiscal, or other policy choices; they are instead unavoidable reactions by rational agents that are responding to unexpected productivity shocks by writing off old investments and regrouping resources in order to re-coordinate production and thereby adapt to the new conditions (Theis, 1991).[4]

5. Given these underlying economic concepts, different methodologies are required to estimate the two notions of potential output. Under the first approach, the appropriate procedure is to estimate an aggregate production function, or more generally a fully specified macroeconomic model that incorporates a production function. Under the second approach, potential output coincides with a "smoothed" measure of actual output, so that the key measurement problem is to distinguish between permanent and transitory movements in actual output. Unlike the first framework where the economy might never reach its potential output level even over an extended period, in the second framework potential output is synonymous with the actual trend growth rate of output.

B. Description of Methodologies to Estimate Potential Output

6. With these concepts as background, this section describes the various estimation methods used in this study to derive an estimation of potential output.

Estimating the production function

7. Estimating potential output within the first framework is based on the growth rates of the factors of production—physical capital and labor—plus an estimate of total factor productivity. In particular, the rate of growth of potential output is calculated by the growth rate of physical capital and of the labor supply, weighted by the share of capital and labor in the production function, and then adding the growth rate of total factor productivity. In the context of Israel where the capital to labor ratio has decreased since 1990 as a result of skilled immigrants entering the workforce, a measure of human capital is needed to reconcile the rapid increase in per-capita output with the decline in the stock of physical capital per person. Without such an adjustment, estimates using Cobb-Douglas or even a more flexible translog

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[4]Under this framework, fluctuations in output can still occur due to changes in distortions introduced by the tax regime, protectionist measures, and labor market rigidities. The policy prescription in this case is to remove the distortion.

functional form for the production function result in capital share parameters of 70 percent or more, despite the actual capital share being around 30 percent.

8. The *1996 Annual Report of the Bank of Israel* presents a version of the production function methodology to estimate potential output growth in the business sector in 1996. In particular, it is assumed that the aggregate production function obeys a Cobb-Douglas specification with a capital share in output of 32 percent and labor share of 68 percent, which are the actual capital and labor shares in production in the most recent years (as produced by the Central Bureau of Statistics). Annual productivity growth is assumed to lie between 1.6 percent and 2.6 percent, which are the averages over the last ten years and over a more extended period. For this study, potential output under the production function approach has been estimated by holding constant these parameters over the period 1987–1996; the resulting estimates are described in the next section. While this approach offsets the difficulties noted above when the capital and labor shares are estimated statistically, the assumption that these shares have been constant over time at their most recent levels may also introduce a bias in the estimates.

Using the Hodrick-Prescott filter

9. While some of the paradigms along the (neo) classical tradition stress that economic fluctuations are generated by technology shocks, the underlying theory does not provide direction on how to distinguish between permanent movements related to growth of potential output and temporary fluctuations due to the business cycle. The Hodrick-Prescott (HP) filter is probably the most widely used method by which to extract a trend from macroeconomic data. Specifically, the HP filter statistically estimates potential output by minimizing the size of the actual output fluctuations around its trend, subject to a constraint on the maximum allowable change in the growth of trend output between two periods. In its standard form, the HP filter computes potential output by removing from actual output all cycles with frequencies less than eight years.[5]

10. The HP filter has several shortcomings, namely the somewhat arbitrary choice of the assumed business cycle frequency, the neglect of structural breaks and regime shifts, the inadequate treatment of nonstationary dynamics, and the consequent filtering out of rapid structural shifts in the economy (such as that which recently occurred with the slowdown in immigration). If the structure of the economy is thought to be reasonably stable and the growth of potential output relatively smooth, then the HP filter will provide a reasonable estimate of potential output. If, however, there are many structural breaks—as has likely been the case in Israel—then the use of the HP filter may be inappropriate since the estimation procedure may remove structural breaks from the underlying data that in fact represent a change in the trend level of potential output.

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[5]This choice can be traced back to Burns and Mitchell (1947), who found that the business cycle in the United States varied between two to eight years.

Using a "wavelet" filter...

11. The "waveshrink" methodology separates permanent movements in actual output from transitory fluctuations in actual output, and as such offsets some of the difficulties encountered with the use of the HP filter when the shocks experienced by the economy are thought to reflect a rapidly changing economic structure. Specifically, the methodology entails calculating a discrete transform of the actual data, eliminating components that correspond to transitory movements in output, then reconstructing a new series for potential output using only the remaining coefficients.[6] An advantage of a wavelet filter over the HP filter is that it does not rely on arbitrary assumptions about the regularity of the fluctuations, allowing potential output to evolve within rapidly changing dynamics, rather than simply following a smooth evolutionary path.

Estimating potential output through vector autoregression (VAR) procedures

12. The final estimate of potential output used in this study combines aspects of the Keynesian and neoclassical traditions, exploiting the statistical relationship between inflation and growth to distinguish between permanent and transitory movements in output. The additional information utilized in such a bivariate analysis can improve on the univariate HP and wavelet filters: for example, faster growth of output without a corresponding increase in the rate of inflation will be taken to imply that the economy is at that time operating below potential, while the emergence of inflation in the face of growth would suggest that the actual output level is at that time above its potential level. The structural VAR with output growth and inflation estimated was similar to that in Blanchard and Quah (1989).[7] The VAR was identified by imposing the restriction that a "demand" shock has a long run effect on the price level but only transitory effects on the level of output, while a "supply" shock was allowed to have permanent effects on both prices and output. The effects of both supply and demand shocks on prices and output were left unconstrained in the short run. The output gap was defined as the component of the forecast error of output that is attributed to demand—that is, the shortfall or excess of demand over supply that is attributable to "transitory" factors. Potential output then equals the sum of actual output and the output gap.

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[6]Donoho and Johnstone (1992) prove that if a wavelets basis exists, it provides the optimal method with which to extract a signal from white noise. Donoho (1993, 1994) develops a method, called wavelet de-noising or wavelet shrinkage (hence the term "waveshrink") to extract the unobserved series of potential output, Y*, from a regression-like equation in which the observed data for output equals the sum of potential output and short term stochastic movements in output.

[7]Inflation is used in place of the unemployment rate variable typically used in similar analyses for the United States because the relationship between output and unemployment appears to be unstable in Israel following the immigration.

13. Since inflation is likely to respond to changes in output growth only with a lag, the variables used in the VAR in this note were the contemporaneous quarterly growth rate of output and the logarithmic change in the price level between the current quarter and four quarters ahead. Moreover, since there are two distinct periods of inflation, with inflation rates between 15 percent to 25 percent until the beginning of 1991 and then between 8 percent and 15 percent afterwards, the inflation series used for the VAR was "de-meaned" or "standardized" by subtracting the average rate of inflation in each of the two periods before and after the second quarter of 1991. The VAR was run with four lags of each variable, since likelihood ratio tests did not reject the null hypothesis that additional lags were not statistically significant.[8]

C. Results of the Estimations

14. Table I.1 summarizes the results when the four methodologies are applied over the period 1987–96, while Figures I.1–I.4 show the (log) trend estimates of potential output against actual output over this period.[9] The results using the production function methodology suggest potential output was growing at around 4–5 percent in the second half of the 1980s, then accelerated to around 7 percent during the 1990s in response to the pick up in the rate of growth of investment as well as the high levels of immigration and consequent increase in the labor force. Although actual (business sector) output was also high during this period, the increase in aggregate supply was even larger. Assuming there was no output gap in 1988—the year prior to the first immigration wave when unemployment was at its recent nadir of around 6½ percent—the output gap was negative during most of the subsequent period, indicating that actual output level was below potential. For 1996, potential output of the business sector

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[8]Before estimating the VAR, the time series properties of the data for (business sector) output and inflation were examined. Standard statistical tests for stationarity such as the Dickey-Fuller and Phillips-Perron tests did not reject the null hypothesis of a unit root in the levels of prices and output, but did reject the null hypothesis that a unit root exists in growth rates (the results are not shown here). The Johansen-Juselius trace test for cointegration did not reject the null hypothesis of no cointegrating relationship between prices and output for the post-stabilization period, and rejected the null hypothesis of one cointegrating vector. These results indicated the VAR should be run on the first differences of output and the price level (that is, output growth and the rate of inflation), but there was no need to augment the VAR with an error correction mechanism.

[9]The estimate of potential output using a production function was based on annual data since the capital stock estimate is only available at end year dates. Following the Bank of Israel, this methodology was used to estimate potential output of just the business sector. For the other three methodologies, the estimate of potential output was based on seasonally unadjusted quarterly data for real total GDP. The estimation equation for the HP and wavelet filters were based on data for the period 1980–96, though only the estimates for 1987–96 are shown here.

was estimated to be growing at 6 percent annually, and the output gap stood at close to 2 percent of GDP (Figure I.1).

15. The estimates under the HP filter suggest the growth rate of potential output rose steadily, from 4 percent annually at the end of the 1980s to 5½ percent within three years thereafter, and then reached its maximum of 5.8 percent in 1994–95. It fell back marginally in 1996 reflecting the (small) effect on the HP estimate from the somewhat slower actual growth performance in that year. Output fluctuated around this trend—especially the quarterly estimates—though the output gap was generally positive (the actual output level was somewhat above its potential) during the 1990s. However, by 1996, when the rate of growth of potential output was estimated at 5.7 percent, the output gap had been closed (Figure I.2).

16. The estimates under both the wavelet and VAR methodologies show potential output moving much more in line with actual output levels as the estimate "adapts" to changing economic circumstances. Figure I.3 shows actual output along with the (log) level of potential output by applying an "s4" wavelet filter.[10] From a low point of around 2 percent annually at the end of the 1980s, the (smoothed) estimate of potential output accelerated rapidly in the early 1990s, reaching an annual rate of around 7 percent. Though the quarterly data were rather volatile, the estimated annual output gap remained close to zero during the 1990s. As suggested from the above, the magnitude of the gap is, in general, substantially smaller than that estimated using the HP filter, since the wavelet filter responds more rapidly to changes in underlying conditions. In 1996, the wavelet methodology suggests potential output was only growing at around 4 percent, but like the HP filter, that there was virtually no gap between actual and potential output at that time.

17. Finally, the VAR methodology shows a similar story to that for the wavelet procedure, as the results show estimated levels of potential output that were very closely in line with the actual quarterly output levels (Figure I.4). Following the acceleration of growth to 6–7 percent in the 1990s, the estimate of potential output fell back to around 5 percent by 1996, with virtually no gap between actual and potential output at that time.

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[10]This is one of many varieties of wavelets filters; it was chosen after an extensive selection process because the estimates from the s4 wavelet offer a balance between adaptability and stability. Moreover, statistical tests do not reject the null hypothesis that the residuals are white noise, indicating that the filter appropriately separates permanent movements in potential output from the "noise" of business cycle fluctuations.

D. Conclusions

18. All of the four methodologies used in this study indicate that annual potential output accelerated during the 1990s to a level of around 6–7 percent by 1995. The results are less uniform regarding the recent growth rate of potential output, which was estimated to be growing in 1996 at between 4–6 percent (depending on how sensitive the methodology is to the slowdown in growth that began in 1996). This implies some differences between the four approaches as regards the size of the existing gap in most recent periods. Three methodologies (second, third, and fourth) show that there was virtually no output gap in 1996 for the economy as a whole, while the production function methodology suggests an output gap of some 2 percent for business sector output at that time.

Table I.1. Estimates of Potential Output Under Varying Methodologies

	Actual 1/		Potential Output			
	GDP	Business Output	Production Function 2/	HP Filer	Wavelet Filter	VAR
			(Indices of output; 1988=100)			
1987	96.6	96.4	94.6	96.2	97.4	97.2
1988	100.0	100.0	100.0	100.0	100.0	100.0
1989	101.2	101.0	105.1	104.1	101.7	101.4
1990	107.4	108.7	109.8	108.7	106.5	106.9
1991	114.2	116.9	118.5	114.0	114.1	114.2
1992	121.6	126.5	126.5	120.2	121.2	121.1
1993	125.9	131.2	135.4	126.9	125.9	125.5
1994	134.4	141.6	145.1	134.3	134.5	134.9
1995	143.9	154.2	155.8	142.1	144.4	143.5
1996	150.2	161.9	165.4	150.3	149.9	150.6
			(Rates of growth; in percent)			
1987	6.3	8.5	3.8	...	6.3	..
1988	3.5	3.7	5.7	4.0	2.7	2.9
1989	1.2	1.0	5.1	4.1	1.7	1.4
1990	6.1	7.6	4.5	4.4	4.7	5.5
1991	6.3	7.6	8.0	4.9	7.2	6.8
1992	6.6	8.2	6.8	5.4	6.2	6.0
1993	3.5	3.7	7.0	5.6	3.9	3.6
1994	6.8	7.9	7.2	5.8	6.9	7.5
1995	7.1	8.9	7.4	5.8	7.4	6.4
1996	4.4	5.0	6.1	5.7	3.8	4.9
			(Output gap under different methodologies; in percent of GDP) 3/			
1987	...	...	1.9	0.4	-0.8	-0.7
1988	...	...	0.0	0.0	0.0	0.0
1989	...	...	-3.9	-2.7	-0.5	-0.2
1990	...	...	-1.0	-1.2	0.8	0.4
1991	...	...	-1.3	0.1	0.0	0.0
1992	...	...	0.0	1.2	0.4	0.5
1993	...	...	-3.1	-0.8	0.0	0.4
1994	...	...	-2.4	0.1	-0.1	-0.4
1995	...	...	-1.0	1.3	-0.3	0.3
1996	...	...	-2.1	0.0	0.2	-0.2

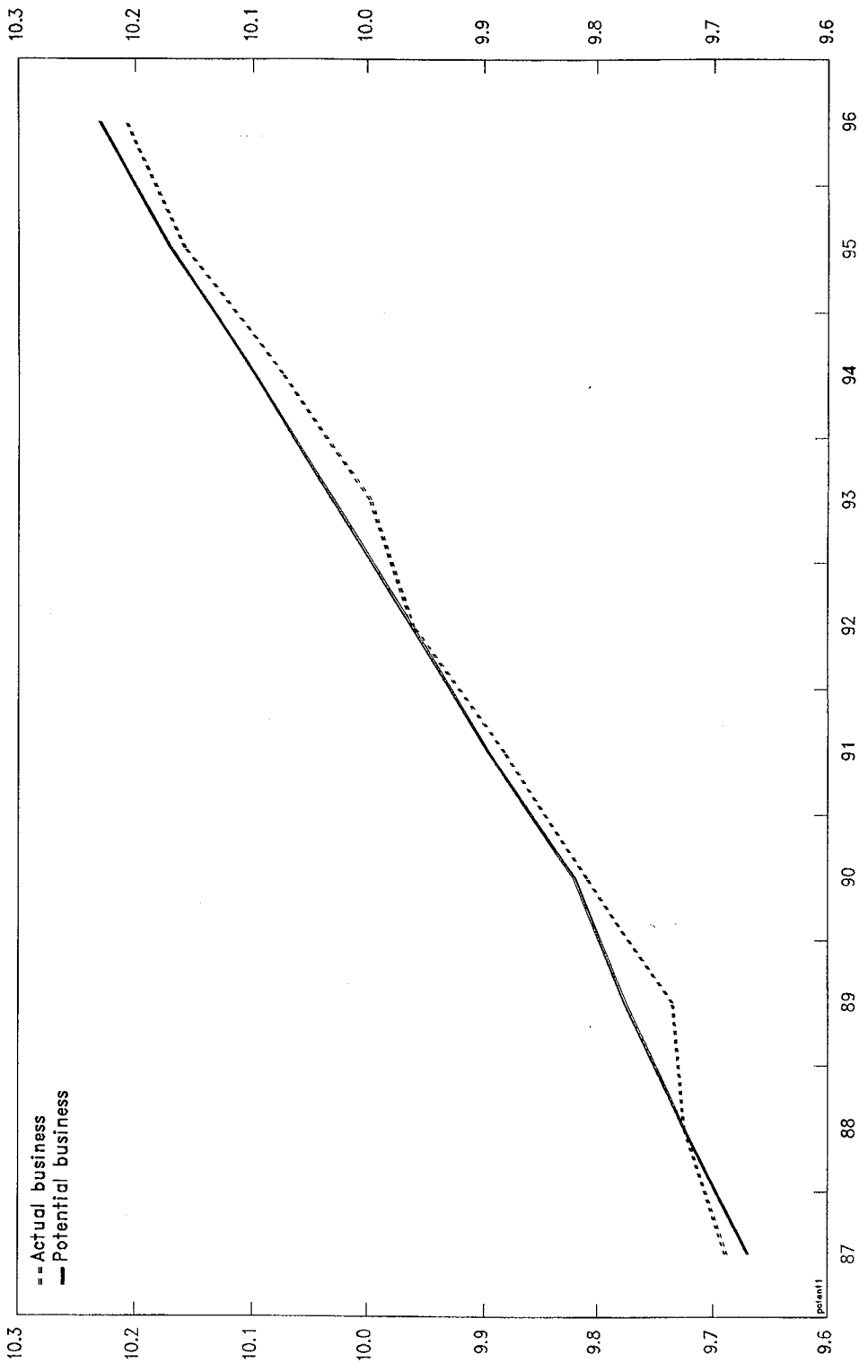
Source: Staff calculations.

1/ Based on 1990 prices; recent data based on 1995 prices show a similar trend, except for growth in 1991 which is now estimated to be around 1 percentage point lower.

2/ Refers to output of the business sector; other estimates for GDP.

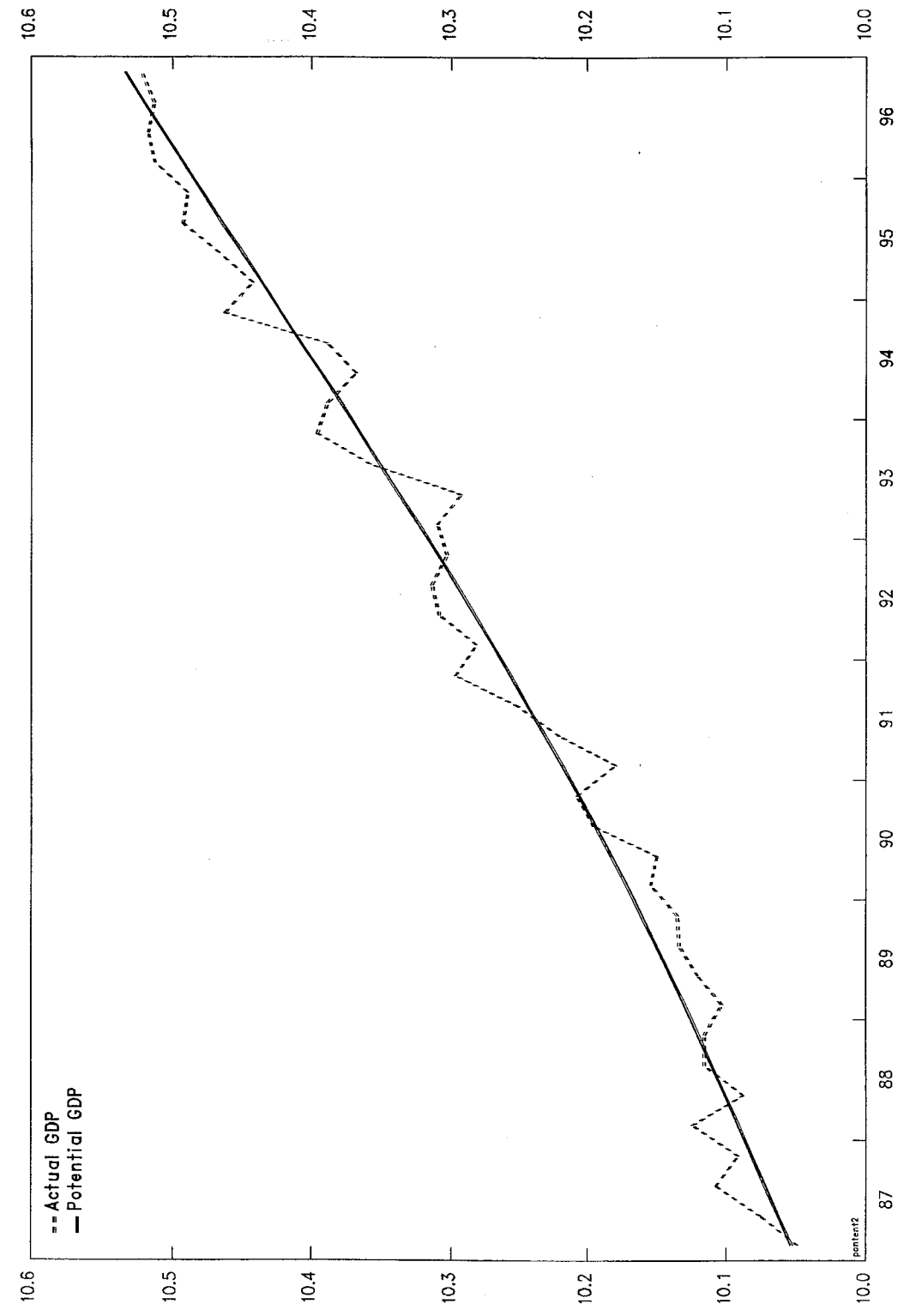
3/ Positive sign indicates actual output is above estimated potential output.

Figure I.1. Israel: Potential Output Using the Production Function, 1987-96



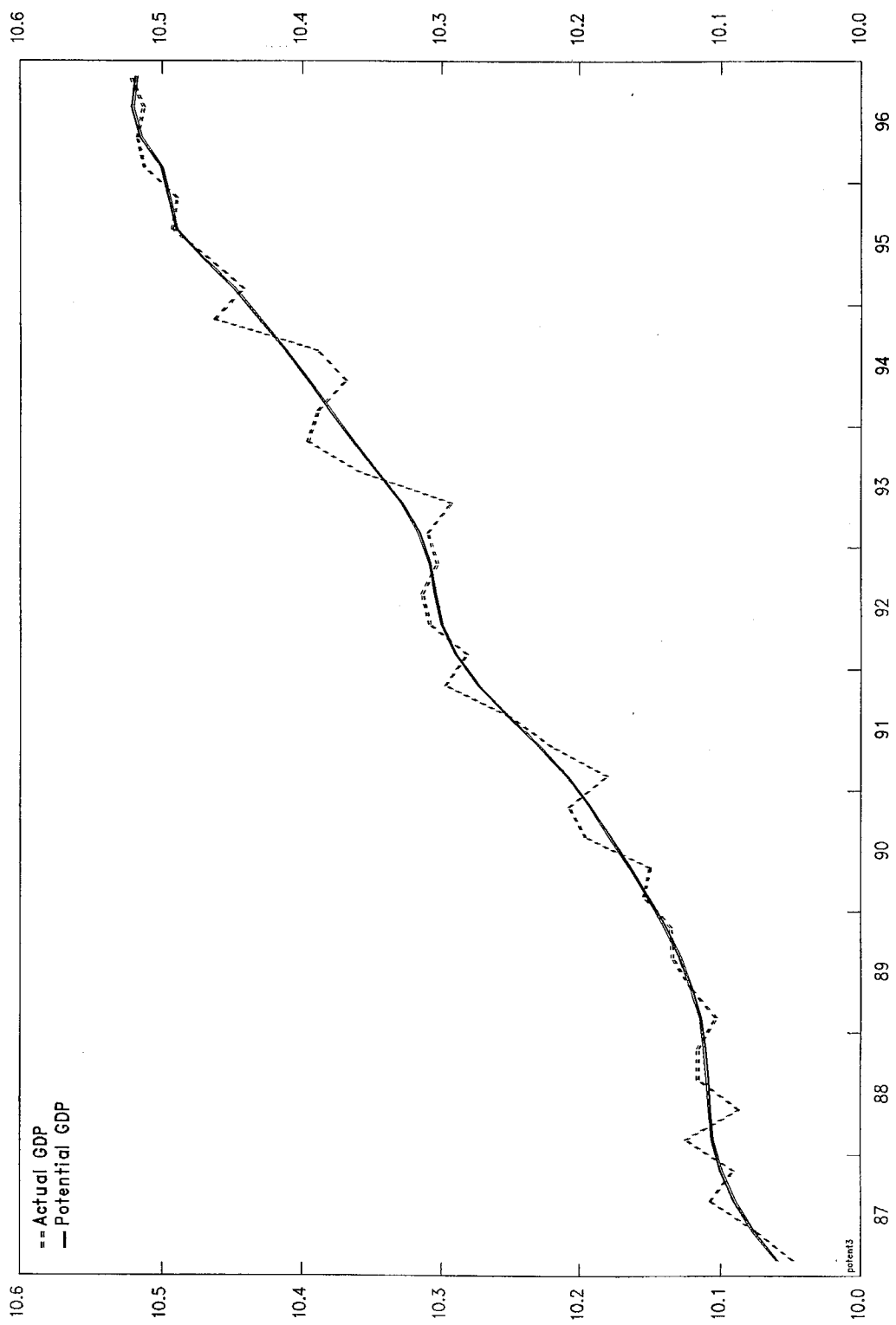
Source: Staff Estimates.

Figure I.2. Israel: Potential Output Using the HP Filter, 1987-96



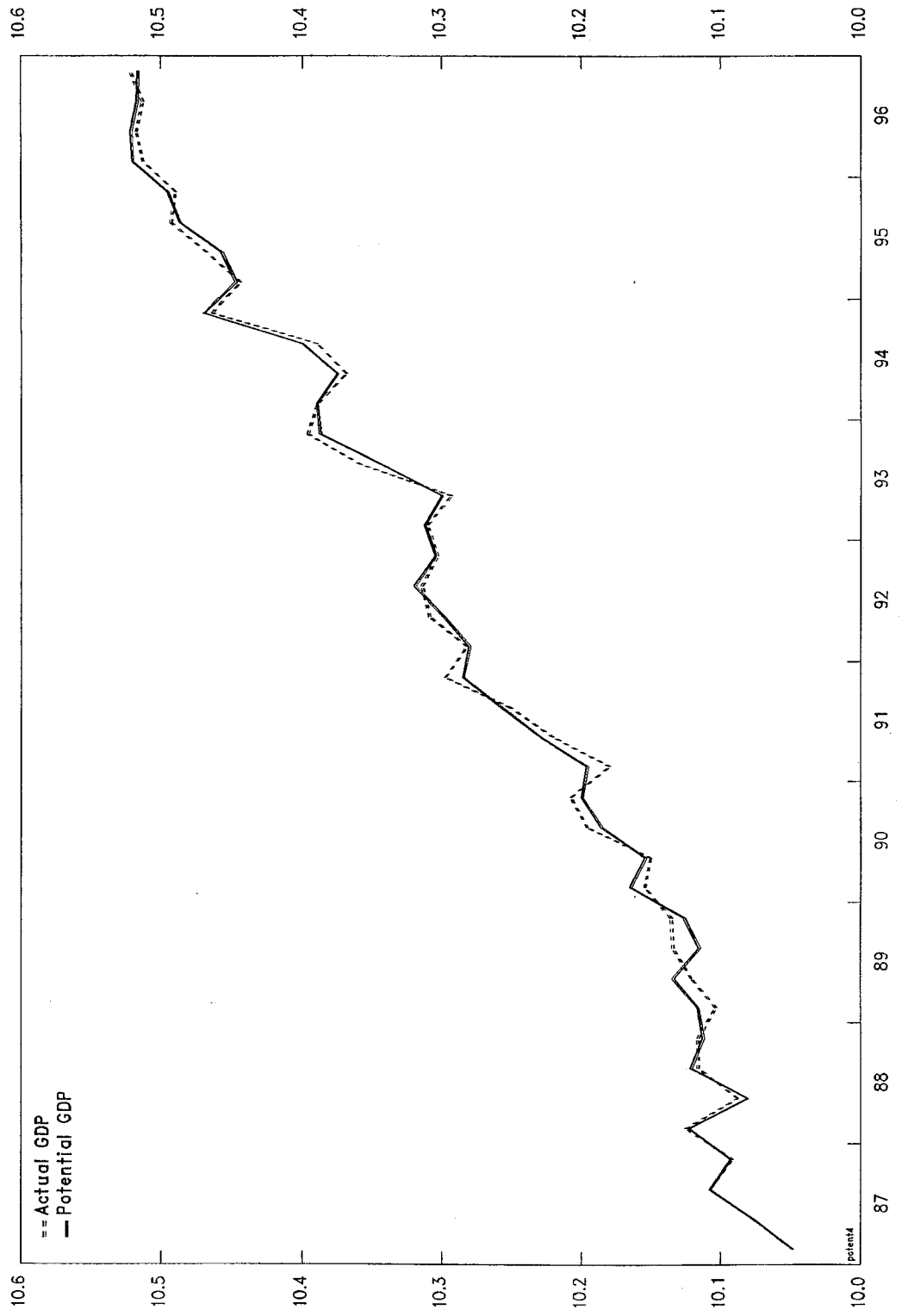
Source: Staff Estimates.

Figure I.3. Israel: Potential Output Using the Wavelet Filter, 1987-96



Source: Staff Estimates.

Figure I.4. Israel: Potential Output Using the VAR Function, 1987-96



Source: Staff Estimates.

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II. Tax Revenue Shortfalls in 1995–97[11]

19. Since the early 1990s, one objective of Israel's economic policies has been the consolidation of the public finances and maintenance of budgetary discipline despite the budgetary strain associated with large inflows of immigrants. However, in recent years, this objective has not always been met. In this study, the factors that have contributed to overruns in the budget deficit relative to its targeted level are examined. The study indicates that the main difficulty has stemmed from the revenue side, and details the various areas where problems have occurred. Finally, the study examines whether stable estimating equations for the major tax components can be established.

A. Budget Deficit Targets and Outcomes in 1992–97

20. The 1992 Deficit Reduction Law (DRL) attempted to impose control over the domestic component of the state deficit, setting specific targets for each year's domestic deficit to GDP ratio, with complete elimination of the deficit by 1995.[12] However, during the 1994 budget process, the provisions of the DRL were relaxed, mandating only a requirement that future budgets target a domestic deficit that was below that targeted in the previous year, without specifying an end date for a balanced domestic budget.

21. In the first three years following the application of the original DRL, the domestic component of the state budget deficit was reduced from almost 5 percent of GDP in 1992 to 2 percent of GDP in 1994; in fact, the domestic deficits recorded in 1992–94 were smaller than forecast (see table below). However, the situation was reversed in 1995: despite a modest deficit target for 1995 of 2.8 percent of GDP (which was actually larger than the realized deficit in 1994), the domestic deficit was overshot by 0.4 percent of GDP. In 1996, the domestic deficit reached 4.6 percent of GDP, almost twice the targeted level.

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[11]Prepared by Ling Hui Tan.

[12]The DRL excluded three types of transactions from the definition of the target deficit: (i) the foreign component of the state budget, which has primarily consisted of foreign grants on the revenue side (foreign revenue averaged about 4.6 percent of GDP and 12 percent of total state budget revenue during 1992–96) and foreign interest and defense imports on the expenditure side (foreign expenditure averaged about 4.7 percent of GDP and 10 percent of total state budget expenditure); (ii) net lending operations of the central government (primarily for housing assistance, the net quantitative impact of which has been minimal since 1994); and (iii) proceeds from the sale of government assets (the magnitude of which has been somewhat erratic from year to year). Furthermore, according to the accounting convention adopted by the state budget, the deficit is in essence an "operational" concept, as it excludes the nominal component of domestic interest payments. See *Israel–Selected Issues and Statistical Appendix* (SM/96/295, 12/4/96).

Deficit Targets and Outturns, 1992–97 1/

(In percent of GDP)

	1992	1993	1994	1995	1996	1997
Target:						
Domestic deficit	6.2	3.2	3.0	2.8	2.5	...
Overall deficit	...	...	...	...	...	2.8
Outturn:						
Domestic deficit	4.9	2.4	2.0	3.3	4.6	...
Overall deficit (projected)	...	...	...	...	...	2.8

Source: Data from the Israeli authorities.

1/ The official target was changed from the domestic deficit to the overall deficit in 1997.

22. Prompted by the deficit overruns in 1995 and 1996, the government introduced several new measures in 1997 to improve budget monitoring and control in order to avoid overshooting the deficit target for a third consecutive year. The deficit target was changed from the domestic deficit to the overall deficit, which was set at 2.8 percent of GDP (and is to be reduced to 1.5 percent of GDP by 2001). In addition, the 1997 Budget was adjusted at the beginning of the year to better reflect the actual revenue base from the previous year (see below), and it was agreed that the Finance Ministry would inform the government of budget developments, itemized by component, at the beginning of each quarter.

23. Table II.1 presents a general outline of the state budget balance—programmed and actual—for 1995–97. As can be seen, expenditure during this period was generally kept in line with projections, and was even sometimes below the original target. The Ministry of Finance maintains centralized control over the spending ministries, specifying in detail their annual budgets, and it is common for additional expenditure cuts to be implemented during the year. Table II.1 indicates that the source of the budget difficulties in the last two years lay principally on the revenue side, particularly in the underperformance of tax revenues relative to the budget targets.

24. Table II.2 provides a comparison of budgeted and actual tax revenues at a disaggregated level for 1995–97. As indicated, realized tax revenues in 1995 and 1996 fell short of the budget target by around NIS 3–4 million (around 1.3 percent of final GDP in each case), with the shortfall primarily due to lower-than-anticipated collections of corporate taxes and VAT. Smaller shortfalls in purchase and excise taxes and property taxes have also

occurred. A further shortfall in tax revenues on the order of NIS 4 million (equal again to 1.3 percent of estimated final GDP), due mainly to undercollection of VAT, is projected for 1997.

B. Possible Factors Contributing to the Revenue Shortfalls

25. The methodology employed by the Ministry of Finance to forecast tax revenue involves five main steps:

- *Estimating the tax collection in the preceding year:* Since the budget for year t is prepared before the end of year t-1, the tax revenue estimate for year t is based on available data in year t-1 at the time of the forecast (typically 8–9 months) and an estimate for the remainder of the year t-1.

- *Adjusting for one-off factors that distort the base:* Examples of such factors are exceptionally large tax refunds (such as NIS 500 million in tax refunds deferred from 1995 to 1996, which were added back to the 1996 base when preparing the 1997 forecast) and tax transfers to the Palestinian Authority.[13]

- *Estimating the effect of legislative changes:* The relevant legislative changes are those planned for year t or implemented during year t-1 but which will only have a full-year impact in year t; the effect is computed on the basis of activity and prices in year t-1.

- *Estimating the effect of improved collection efforts.* The forecast improvement in actual collections is entered as an assumption; no formal estimation procedure is employed.

- *Estimating revenue growth due to economic activity:* The sum of the first four steps yields the "forecast base" of revenue in year t. This forecast base is then multiplied by a real rate of change derived from a set of economic indicators including business sector product, public consumption, private consumption, durables imports, other imports, the number of workers and their real wage, and sales of new dwellings. Finally, the conversion to current prices in year t is made on the basis of the expected increase in the average CPI.

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[13]As part of the 1994 Paris Agreement, Israel forwards to the Palestinian Authority taxes collected from imports to the autonomous areas and trade with Israeli residents. Forecasts of these transfers have been very inaccurate—the actual final number of NIS 763 million in 1995 was three times higher than the original forecast—due to the paucity of data on the relevant transactions.

26. To better understand the sources of recent difficulties, Table II.3 provides a breakdown of nominal tax revenue—forecast and actual—over the last three years, categorizing separately the effect on total tax revenue arising from errors in the forecast of the previous year's tax base, real growth, improvements in collections, legislative changes, and inflation. Both the forecast and actual figures, as well as the breakdown of forecast errors, were obtained from the Ministry of Finance.

Overestimation of previous year's revenue

27. As noted earlier, at the time of budget preparation, the previous year's tax revenue (which forms the basis for the budget forecast) is estimated using collections data for part of the year and forecasts for the balance of the year. Table II.3 indicates that this step has been a source of several forecasting errors in recent years. In particular, for the 1995 Budget forecast, the estimated base-year revenue (i.e., the revenue that would be collected in 1994), after adjusting for exceptional factors, was overestimated by 0.3 percent of GDP. For the 1996 forecast, the base-year revenue estimate was again overestimated, this time by 0.8 percent of GDP. In light of these experiences, for the 1997 budget year, the authorities made it a point to adjust their budget forecast at the start of the budget year once more complete data on the preceding year's revenue were available, which necessitated an expenditure cut of around 0.2 percent of GDP at the beginning of 1997. In consequence, there seems to have been virtually no error in revenue collections arising from this source in 1997.

Overestimation of the revenue increase from economic growth

28. As indicated in Table II.3, the contribution of real economic growth to real tax revenue growth was also a major factor in the revenue errors, accounting for an overestimate of 0.7 percent and 0.4 percent of GDP in 1995 and 1996, and a projected overestimate of 0.7 percent of GDP in 1997. In principle, this could be due to unexpected macroeconomic changes (e.g., if a correct elasticity of tax receipts to real GDP growth was used, but real growth turned out to be lower than anticipated), forecasting error (e.g., if real GDP growth was accurately forecasted but the assumed elasticity of tax receipts to real GDP growth was too high), or both.

29. For 1995 and 1996, the evidence points toward use of incorrect elasticities as the main source of the overestimation. Since real GDP growth was 2 percent higher than expected in 1995 (see table below) and was only ½ percent lower than forecast in 1996, unanticipated macroeconomic slowdowns were not the main reason for the initial overestimation of revenue. Instead, the data shown in Table II.3 indicate that the implied elasticities at the time of the forecast were around 1.5 in 1995 and 1996, which, in retrospect, were too high; the actual elasticities came in on average closer to unity.[14]

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[14]Simple regressions of the log of real tax receipts on the log of real GDP over the period 1986–94 yield elasticity estimates of between 1.0 to 1.2.

Macroeconomic Indicators, 1995–97

(Percentage change)

	1995		1996		1997	
	Budget	Actual	Budget	Actual	Budget	Est.1/
Real GDP	5.0	7.1	5.0	4.5	4.0	2.0
Real business sector GDP	6.3	8.8	5.4	5.2	4.5	2.0
Real private consumption	6.0	7.4	5.7	5.2	4.3	3.0
Real imports	11.1	8.6	8.0	7.6	2.5	3.0
CPI	8.9	10.0	9.3	11.3	11.1	8.6

Source: Ministry of Finance, *State Budget Proposal for Fiscal Year 1995* and *1996*; Bank of Israel, *Main Israeli Economic Data*; data obtained through the Bank of Israel; and staff estimates.

1/ Authorities' estimates as of November 1997.

30. For 1997, however, a sharper-than-anticipated slowdown was likely the main reason behind the overestimation of the economic growth component of real tax revenue growth. Latest estimates by the Central Bureau of Statistics put the 1997 growth rate at 2 percent, significantly below the 4 percent growth envisaged in the budget papers. Hence, despite the improvement in the accuracy of the estimated base year collection and the lower implied elasticity of real tax revenue to GDP growth used (slightly less than unity, which is likely to be close to the actual elasticity), the net contribution of economic growth to tax revenue growth was overestimated by around 0.7 percent of GDP.

Overestimation of revenue increase from improvements in tax collection

31. The projected contribution of improved collection efforts to real growth in tax revenues appears in retrospect to have been optimistic in 1995 and 1996 (and in 1996 was of the wrong sign). Clearly there are inherent difficulties in quantifying this category, and the authorities have been gradually reducing the size of the projected contribution; improved collection efforts were expected to increase real tax revenues by 0.5 percent of GDP in the 1997 Budget, down from 1.1 percent of GDP in the 1995 Budget.

Underestimation of revenue decline due to legislative changes

32. Table II.3 shows that legislative changes were a contributing factor to the tax revenue shortfalls in 1995, when their (negative) effect on revenue growth was underestimated by 0.3 percent of GDP. In this instance, unanticipated legislative changes (i.e., changes that were

introduced after the budget had been passed) played a part, including the repeal of the capital gains tax on stock market transactions, reductions in property and real estate purchase taxes, and further reforms in personal income tax, notably, the award of a tax-credit point for married women, and the merging of two tax brackets that took effect in September. The net error in estimating the effect on tax revenue of legislative changes in 1996 and 1997 was minimal.[15]

Overestimation of revenue increase due to inflation

33. Finally, the assumed effect of inflation on nominal tax revenue was underestimated in 1995 and 1996: since the forecast inflation rates were below the actual rates by 1.1 percentage points in 1995 and 2 percentage points in 1996, nominal tax revenue was actually higher by 0.2 percent and 0.4 percent of GDP in these years. In 1997, however, it appears that the 11.1 percent inflation rate used in the budget forecast will turn out to have been too high, with a consequent reduction in actual nominal revenue due to this source by around 0.8 percent of GDP.

34. In summary, the main reasons for the deviations in total tax revenue in 1995 and 1996 were errors in forecasting the initial tax base and optimistic assumptions on the revenue impact of activity growth and in tax administration efforts. In 1997, however, these areas were addressed by the authorities and they have in consequence played only a minor role. Instead, the unexpected slowdown in actual real GDP and inflation were by far the main reasons for the decline in actual tax revenue relative to the forecasts presented in the 1997 Budget.

C. Behavior of Tax to GDP Ratios Over Time

35. In view of recent difficulties in accurately forecasting tax receipts, this section investigates whether a stable relationship can be found between tax/GDP ratios and cyclical and trend factors over time. Specifically, the tax/GDP ratios were regressed against the output gap (and other factors) using quarterly data from 1988-94, and then the equations were tested for parameter stability when the sample was extended to include data for 1995–96.[16] The analysis focused on personal and corporate income taxes and VAT; as can be seen from Table II.2, these three categories are the most important components of tax revenue, making

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[15]In 1996, the authorities overestimated the net negative effect of legislative changes (such as reductions in income, corporate, and property tax rates) in that year and in 1997, it appears that they may have underestimated the net positive effect of legislative changes (such as non-adjustment of income tax brackets and increases in the fuel tax and certain sales taxes).

[16]The quarterly data were obtained from Tables F-1 to F-4 of the Bank of Israel's *Main Israeli Economic Data*; (annual) corporate tax data were obtained from reports of the Revenue Authority, through the Bank of Israel.

up 34 percent, 11 percent, and 34 percent of the total, respectively. Key features of these taxes are described in Box 1.

Box 1. Key Features of the Major Taxes

- **Personal income tax (PIT):** All individuals, resident or not for tax purposes, are subject to PIT on Israel-source income and income received in Israel. Since 1995, the rate structure has comprised four (inflation-adjustable) brackets of 15, 30, 45, and 50 percent, with a minimum rate of 30 percent applying to passive (i.e., nonwage or nonbusiness) income. Tax is withheld at source on a variety of incomes and payments, including wages and national insurance contributions.

- **Corporate income tax (CIT):** All companies, resident or not for tax purposes, are subject to corporate tax on Israel-source income and income received in Israel. The CIT follows the classical system, i.e., profits are taxed at the corporate level and distributed dividends are taxed at the individual level. As of 1996, the regular rate of company tax is 36 percent.

- **Value-added tax (VAT):** A 17 percent VAT is levied on a broad range of goods (imported or domestically produced) and services (domestic only). Exports, unprocessed fruits and vegetables, and some tourism services are zero-rated; certain asset sales are exempt.

36. The economic cycle is measured by the output gap, which is defined as the difference between actual and potential (trend) output as a percentage of potential output. The output gap measure used here is based on potential output as estimated by means of the Hodrick-Prescott (HP) filter.[17]

37. Each tax/GDP ratio was regressed on up to four quarterly lags of the output gap (GAP) to capture cyclical effects, seasonal dummies, and up to four lags of the dependent variable. Also included were the log of real trend output ($\ln Y^*$) to capture the effect of real income growth and a time trend to proxy for trend changes in the tax burden.[18] The choice of this particular functional form was somewhat arbitrary; there is little theoretical guidance as to

[17]See Chapter I of this report for the derivation of this series for Israel.

[18]Statistical tests suggested that the tax/GDP ratios were nonstationary over the sample period. This could have reflected structural breaks in the series, or could have been due to the low power of such tests over short samples.

the precise form of the relationship between tax receipts and the cycle, and the search for a preferred functional form involved some trial and error.[19]

38. The coefficient on the output gap represents the change in the tax/GDP ratio associated with a percentage point change in the output gap. A zero coefficient on the output gap would imply that tax receipts move in strict proportion to changes in contemporaneous GDP, with the tax/GDP ratio unaffected by movements over the cycle (i.e., that the elasticity between nominal tax receipts and GDP is unity). A negative coefficient on the output gap implies that tax receipts change less than proportionately with GDP over the cycle, while a positive coefficient implies tax receipts change more than proportionately with GDP over the cycle.

39. The equations were first estimated using data from 1988 to 1994. The results are reported in Table II.4. For each of the taxes, the first column of figures shows the results from the regression with all the initial regressors; the second column shows a parsimonious specification from step-wise deleting insignificant variables from the initial set of regressors; and the third column shows the results after running the preferred specification on data that include 1995–96.

40. The results must be interpreted as illustrative only, due to a number of potential shortcomings and simplifications in the data and methodology. For example: the estimated relationship was a simple reduced form rather than a fully developed structural model which includes the determination of the tax base; the sample period used in the regressions was very short; the current GDP base may not have accurately reflected the underlying tax bases due to changes in the latter or to collection lags; and no attempt was made to account for changes in the tax structure or tax administration efficiency over time.[20]

Regression results

41. As reported in Table II.4, the elasticity of personal income tax receipts with respect to the cycle is smaller than one, as indicated by the negative coefficient on the contemporaneous

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[19]Other specifications attempted included running the regression in log levels, with log GDP on the right hand side together with the output gap, and running the regression in differences.

[20]With respect to the last point, Israel's tax structure has evolved substantially over the last ten years. Reforms in personal income tax were implemented in 1987 (rate reductions), in 1990 (introduction of tax credits), and in 1994–95 (lowering of the minimum tax bracket, raising of the maximum bracket, and broadening of the brackets in between). The effective tax rate on undistributed corporate profits was reduced from over 60 percent to 45 percent in 1987, to 42 percent in 1990, and by 1 percent each year thereafter to eventually reach 36 percent in 1996. Finally, the VAT rate was increased from 16 percent to 18 percent in 1992, but subsequently reduced to 17 percent in 1993.

cycle term. This is consistent with the usual observation that changes in wages and employment tend to lag the cycle, implying that personal income—the tax base—tends to fluctuate less than GDP itself.[21] The coefficient on the log of real trend output is significantly positive, indicating evidence of real fiscal drag. The coefficient on the time trend is negative, indicating that holding constant other effects, the PIT/GDP ratio has declined over time, possibly reflecting the effects of the various structural reforms aimed at reducing the tax burden. However, these relationships do not appear to be stable: the equation fails the test for parameter stability when it is re-estimated using data over 1988–96.

42. There is no discernible relation between the CIT/GDP ratio and the output gap. This is unsurprising considering the lags involved in the declaration and collection of corporate taxes: in general, corporate taxes in Israel are calculated on the basis of past-year profits, and are paid "in advance" during the year they are due. Given the lags involved, it is difficult to make any a priori assumptions regarding the relation between the ratio of corporate taxes to (contemporaneous) GDP and the output gap in any given quarter. The coefficient on the log of real trend output is significantly positive, while the coefficient on the time trend is negative, reflecting the effect of the steady reduction in corporate tax rates since 1987. Unlike the case of PIT/GDP, no instability is detected in the preferred specification: the equation passes the test for parameter stability when it is re-run using data over 1988–96.

43. The VAT/GDP ratio is found to vary positively with (the second lag of) the output gap but negatively with real growth in trend output. This latter effect might reflect the change in the structure of the economy toward more export oriented production, which are zero rated under the VAT. The equation also passes the parameter stability test.

44. In summary, the results of this empirical exercise point to the difficulty in establishing a stable pattern to the tax/GDP ratio for personal income taxes which could be usefully exploited to make more accurate revenue projections. This being the case, it is unsurprising for one to encounter fairly large errors in this major revenue term, suggesting the need for prudence in making revenue forecasts in such an uncertain environment. The tentative work here also suggests, however, that the corporate income tax and value-added tax equations presented may provide some scope for developing a stable forecast equation for these items.

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[21]The contemporaneous effect is consistent with the observation that in Israel, income taxes are paid monthly by withholding, rather than filed annually with a one-year lag.

Table II.1. Israel: State Budget Balance, 1995–97

	1995			1996			1997		
	Budget	Outturn	Deviation	Budget	Outturn	Deviation	Budget	Estimated Outturn	Deviation
	(In millions of new sheqalim)								
Total revenue and grants	115,311	109,595	-5,716	130,765	129,633	-1,132	150,058	144,336	-5,722
Of which: domestic	104,049	101,923	-2,126	119,829	113,749	-6,080	138,264	...	...
Tax revenue 1/	86,090	82,651	-3,439	97,987	93,941	-4,046	111,365	107,120	-4,245
Nontax revenue 2/	19,499	21,818	2,319	23,058	22,707	-351	27,998	26,826	-1,172
Foreign grants	9,722	5,126	-4,596	9,720	12,985	3,265	10,695	10,390	-305
Total expenditure 3/	125,106	120,516	-4,590	141,550	141,099	-451	159,801	153,801	-6,000
Of which: domestic	111,199	110,452	-747	127,405	127,701	296	145,124	...	...
Current expenditure and reserve	118,382	114,230	-4,152	134,018	133,622	-396	151,114	...	...
Capital expenditure	6,724	6,286	-438	7,532	7,477	-55	8,687	...	...
Budget balance	-9,795	-10,921	-1,126	-10,785	-11,466	-681	-9,743	-9,465	278
Budget balance excluding foreign grants	-19,517	-16,047	3,470	-20,505	-24,451	-3,946	-20,438	-19,855	584
Domestic balance	-7,150	-8,529	-1,379	-7,576	-13,952	-6,376	-6,860	...	...
Memorandum item:									
GDP	261,200	261,173	-27	304,000	303,812	-188	346,429	336,538	-9,890

Source: Data provided by the Ministry of Finance.

1/ Excluding fees, which are classified as nontax revenues.

2/ Excluding revenue from asset sales.

3/ Excluding allocation of credit.

4/ The deficit target was defined in terms of the domestic balance in 1995 and 1996, and in terms of the total balance in 1997.

Table II.2. Israel: Tax Revenue, 1995–97

	1995			1996			1997		
	Budget	Outturn	Deviation	Budget	Outturn	Deviation	Budget	Estimated Outturn	Deviation
	(In millions of new sheqalim)								
Tax revenue	86,090	82,651	-3,439	97,987	93,941	-4,046	111,365	107,120	-4,245
Income tax	39,730	37,892	-1,838	43,820	42,421	-1,399	51,290	51,150	-140
Personal income tax	29,480	28,734	-746	32,660	32,824	164	39,260	38,650	-610
Corporate tax	10,250	9,158	-1,092	11,160	9,597	-1,563	12,030	12,500	470
VAT	29,280	28,822	-458	34,327	32,506	-1,821	37,725	35,760	-1,965
Customs duties and levies	780	970	190	1,050	1,060	10	1,180	1,200	20
Purchase taxes and excises 1/	8,850	8,155	-695	9,380	9,160	-220	10,530	9,610	-920
Fuel tax	3,020	3,110	90	4,380	4,159	-221	5,280	5,000	-280
Property taxes	4,100	3,510	-590	3,970	3,634	-336	3,860	3,000	-860
Other taxes (net)	330	192	-138	1,060	1,001	-59	1,500	1,400	-100
Memorandum item:									
GDP	261,200	261,173	-27	304,000	303,812	-188	346,429	336,538	-9,890

Source: Data provided by the Ministry of Finance.

1/ Excluding fuel excise.

Table II.3. Israel: Tax Forecasts, 1995–97 1/

	1995	1996	1997
	(In millions of new sheqalim)		
Forecast:			
Base (previous) year revenue	74,330	85,400	95,400
Plus: Adjustment for exceptional factors 2/	0	-400	500
Adjusted base year revenue	74,330	85,000	95,900
Net revenue increase	12,770	14,200	17,500
Real increase	5,639	5,759	6,170
(Real growth, in percent)	(7.6)	(6.8)	(6.4)
Due to economic growth	6,079	5,779	3,570
(Contribution to real growth, in percent)	(8.2)	(6.8)	(3.7)
Due to improved collection	800	500	500
(Contribution to real growth, in percent)	(1.1)	(0.6)	(0.5)
Due to legislative changes	-1,240	-520	2,100
(Contribution to real growth, in percent)	(1.7)	(0.6)	(2.2)
Increase due to inflation	7,131	8,441	11,330
(Price increase, in percent)	(8.9)	(9.3)	(11.1)
Current year's revenue	87,100	99,200	113,400
Memorandum item: Real GDP growth	(5.0)	(5.0)	(4.0)
Actual:			
Base (previous) year revenue	73,655	83,943	95,263
Plus: Adjustment for exceptional factors 2/	-126	-1,496	430
Adjusted base year revenue	73,529	82,447	95,693
Net revenue increase	10,414	12,816	13,407
Real increase	2,783	3,144	4,767
(Real growth, in percent)	(3.8)	(3.8)	(5.0)
Due to economic growth	4,290	4,621	1,227
(Contribution to real growth, in percent)	(5.8)	(5.6)	(1.3)
Due to improved collection	623	-1,277	1,190
(Contribution to real growth, in percent)	(0.8)	(1.5)	(1.2)
Due to legislative changes	-2,130	-200	2,350
(Contribution to real growth, in percent)	(2.9)	(0.2)	(2.5)
Increase due to inflation	7,631	9,672	8,640
(Price increase, in percent) 3/	(10.0)	(11.3)	(8.6)
Current year's revenue	83,943	95,263	109,100
Memorandum item: Real GDP growth	(7.1)	(4.5)	(2.0)
	(In percent of GDP) 4/		
Deviation (Actual minus Forecast):			
Base (previous) year revenue	-0.3	-0.5	0.0
Adjustment for exceptional factors	0.0	-0.4	0.0
Adjusted base year revenue	-0.3	-0.8	-0.1
Net revenue increase	-0.9	-0.5	-1.2
Real increase	-1.1	-0.9	-0.4
Due to economic growth	-0.7	-0.4	-0.7
Due to improved collection	-0.1	-0.6	0.2
Due to legislative changes 5/	-0.3	0.1	-0.1
Increase due to inflation	0.2	0.4	-0.8
Current year's revenue	-1.2	-1.3	-1.3
Memorandum item: GDP in current prices (in NIS millions)	261,173	303,812	336,538

Sources: Data from the Ministry of Finance, the Bank of Israel, and the Central Bureau of Statistics; and staff estimates.

1/ The data in this table differ marginally from those in Tables 1 and 2 due to the inclusion here of some nontax items.

2/ Due to extraordinary tax refunds and tax clearances to the Palestinian Authority.

3/ Percentage change in average CPI; 1997 figure is annualized nine-month average inflation rate.

Table II.4. Summary of Regression Results 1/

Dependent variable	PIT/GDP	PIT/GDP	PIT/GDP	CIT/GDP	CIT/GDP	CIT/GDP	VAT/GDP	VAT/GDP	VAT/GDP
Sample	88:1-94:4	88:1-94:4	88:1-96:4	88:1-94:4	88:1-94:4	88:1-96:4	88:1-94:4	88:1-94:4	88:1-96:4
GAP	-0.22	-0.17	-0.07	-0.07			-0.01		
	(2.73)	(3.21)	(1.19)	(0.92)			(0.18)		
GAP(-1)	0.04			-0.03			0.04		
	(0.49)			(0.37)			(0.65)		
GAP(-2)	-0.05			0.02			0.13	0.14	0.14
	(0.64)			(0.20)			(2.10)	(2.89)	2.76
GAP(-3)	-0.10			0.01			-0.01		
	(1.08)			(0.14)			(0.18)		
GAP(-4)	0.03			-0.09			-0.01		
	0.38			(1.16)			(0.15)		
Dependent variable(-1)	-0.30			0.14	0.15	0.35	0.40	0.44	0.22
	(1.26)			(0.53)	(0.74)	(1.97)	(1.18)	(2.46)	(1.38)
Dependent variable(-2)	-0.21			-0.04			0.14		
	(0.83)			(0.16)			(0.44)		
Dependent variable(-3)	-0.23			-0.24			-0.11		
	(0.77)			(0.83)			(0.39)		
Dependent variable(-4)	0.07			-0.02			0.06		
	(0.30)			(0.06)			(0.21)		
ln Y*	194.23	111.11	68.31	116.37	79.94	34.19	-37.95	-39.81	-43.05
	(2.50)	(6.32)	(4.08)	(2.53)	(3.27)	(2.11)	(1.64)	(2.63)	(3.20)
Time trend	-2.53	-1.44	-0.91	-1.51	-1.02	-0.46	0.52	0.55	0.61
	(2.45)	(6.39)	(4.08)	(2.50)	(3.26)	(2.12)	(1.68)	(2.85)	(3.35)
Adjusted R squared	0.62	0.69	0.41	0.37	0.54	0.37	0.70	0.79	0.71
D.W.	1.94	2.48	1.58	2.26	2.02	1.90	2.05	2.04	2.26
Equation standard error	0.61	0.55	0.73	0.67	0.57	0.58	0.54	0.45	0.50
Test for residual autocorrelation: 2/									
F(4, T-k-4)		0.60 [0.67]	0.85 [0.50]		0.94 [0.47]	0.29 [0.88]		0.45 [0.77]	1.43 [0.25]
Test of parameter constancy: 3/									
F(8, T-k)		3.72 [0.01]			1.15 [0.38]			1.84 [0.13]	

Y* = trend output (in 1990 new sheqalim); T = number of observations; k = number of regressors.

1/ t-values in parentheses. Constant and three seasonal dummies included.

2/ F-approximation of the Lagrange Multiplier test for fourth order residual autocorrelation. The number in square brackets denotes the probability of rejecting the null hypothesis of autocorrelation.

3/ Chow test of the form $\eta = [(RSS_{T+8}-RSS_T)/8]/[RSS_T/(T-k)]$, where η is approximately distributed as F(8, T-k) on the null hypothesis of no structural change in any parameter between the sample and forecast periods. The number in square brackets denotes the probability of not rejecting the null hypothesis.

III. Volatility of Interest Rates in Israel[22]

45. For most of the 1990s, achieving a preannounced target inflation rate or range has been one of the goals of monetary policy in Israel. When Israel first announced an inflation target in December 1991, the inflation target was in the main viewed as a secondary goal, the achievement of which was necessary to support the crawling exchange rate band. However, after 1994, as the exchange rate band was steadily widened, meeting an annual inflation target became a major goal of monetary policy by itself.

46. A key feature of monetary policy in Israel during this period has been the considerable volatility of interest rates. This study first shows that official interest rates in Israel have been adjusted more frequently than in other countries—including countries where monetary policy is also guided by an inflation target—and that these adjustments per se have not led to a more stable inflation rate than in other countries.[23] The study then discusses a number of reasons why this has been the case, focusing on the interlink between monetary with fiscal and exchange rate policies, as well as operational aspects of Israel's targeting approach, including the main indicator for measuring inflation expectations.

A. Volatility of Interest Rates in Israel

47. As noted, official interest rates have been volatile in Israel. Since 1994, when the inflation target became a separate goal for monetary policy, the nominal discount rate has been changed 28 times in 44 months, has moved within an 8 percentage point range, and the adjustment of official rates has changed direction six times (Table III.1).[24] Further, the movements in the discount rate have tended to be large; the average size of the change has been 0.6 percentage points, while the standard deviation of these changes has been 0.41. The monetary loan rate[25] has moved very closely with this (volatile) trend, as have market lending rates, which reflects the importance of the discount rate as a key rate for the entire financial system. Since 1994, the real rate (the discount rate adjusted for movements in the CPI) has also fluctuated within an 8 percentage point band, though it has been somewhat more stable

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[22]Prepared by David W.H. Orsmond.

[23]Clearly the ideal comparison would be a counterfactual exercise that examined the stability of the inflation path under Israel's actual operating regime relative to alternative operating mechanisms.

[24]A recent example in volatility was the June 1997 decline in interest rates by 1.2 percent, followed in August 1997 by an increase in rates by 0.7 percent. Official rates were also increased in the final quarter of 1995, fell back in early 1996, then rose again shortly thereafter.

[25]Loans from the monetary authorities to the banking sector.

since 1996, remaining within a 4 percentage point band. Contrary to the intent, these movements in official interest rates have not in general kept the overall inflation rate fairly steady. Rather, the actual rate of inflation has fluctuated with a wide range, with a monthly standard deviation of the 12–month inflation rate equal to 0.71. Similarly, four-quarter GDP growth has not in general followed a smooth path during the inflation targeting period (Figure III.1).

48. Official interest rates and inflation rates in Israel have also been more volatile compared to those in other countries in terms of the number of times official interest rates have been changed, as well as the number of times the direction of the changes in interest rates has been reversed (Figures III.2–III.3 and Table III.1).[26] The standard deviation of the change in interest rates in Israel has also been relatively large, though not as large as in some countries which have had larger though much fewer changes in official rates. The degree of fluctuation in the 12-month inflation rate in Israel has also been substantially higher than in other inflation-targeting countries. As Table III.1 indicates, a similar story emerges for a small sample of countries that have not followed an inflation targeting approach, including Greece that has had a similar average inflation rate as that in Israel over this period. The remaining sections of this note address reasons for the relatively high volatility in Israel's official interest rates.

B. Reasons for Interest Rate Volatility in Israel

Consistency with other macroeconomic policies and clarity of monetary policy goals

49. One of the key factors behind interest rate volatility in Israel has been the lack of consistency at times between monetary policy and other policies relevant for inflation. When the inflation targeting approach was introduced, insufficient emphasis was paid to the need to coordinate fiscal policy with monetary policy in order to meet the inflation target (Liederman and Bufman, 1996). Experience in other inflation-targeting countries suggests that, while the monetary authorities need not have goal independence, they must have a fairly high degree of instrument (or operational) independence if they are to meet an inflation goal (Debelle and Fischer, 1994). However, in an environment where the tightness of the fiscal stance changes repeatedly, there is in practice a significant constraint on the independence of monetary policy operations since the central bank is largely constrained to simply counteract as best as possible the demand impact from just one (large) source (Masson, et al, 1997). In Israel, following fiscal expansions in 1994 and 1996, the full burden to offset the associated impact on domestic

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[26]Specifically, changes in the discount rate in Israel were compared with changes in the discount rate in Finland, Greece, Sweden, and the United States, and interbank market rates in Spain and the United Kingdom. The results are similar if the monetary auction rate in Israel is compared with changes in the repo and interbank rates in the other countries.

demand fell on monetary policy, with consequent sharp changes in nominal and real interest rates.[27]

50. The expansionary fiscal policy that was followed within the confines of an inflation target regime also carried other risks that can affect the level of interest rates. Firstly, it created a deleterious cycle between higher interest rates to offset the fiscal expansion and consequent higher deficits due to the increased debt service costs of the government (Griffiths, 1995).[28] Secondly, at over 100 percent, Israel's high public debt/GDP ratio may have created expectations of future inflation which over time raised the risk premium incorporated into the interest rate on government debt as well as the expected inflation rate built into medium term wage contracts, placing additional burdens on monetary policy to meet the inflation target. Thirdly, the lack of coordination of monetary and fiscal policies during 1994–96 confused which arm of the authorities should be held accountable to meet the inflation target, which is an important aspect for sustaining private sector credibility within an inflation targeting approach and hence in the private sector's price expectations.

51. Further, rather than assigning one target for one policy, monetary policy in Israel is supposed to achieve multiple goals which are changed annually. For example, according to the Government of Israel Statement of Policy issued in September 1997, the guidelines for monetary policy in 1998 are to achieve an inflation rate between 7–10 percent, support economic growth at the rate of increase in potential output (specified at 5 percent per annum), and to maintain the exchange rate within its band. No clear priority is specified between these three goals in the Statement, and in the event of a conflict, priority is to be established by the government.[29]

52. Potential conflicts between different tasks assigned to monetary policy have at times complicated monetary management in the past few years. For example, during 1997 large capital inflows have kept the exchange rate at or very close to the appreciated limit of the band for much of the year. Given the inability of the Bank of Israel (BoI) to reduce interest rates to offset such pressures due to the consequences this would have on its ability to meet the inflation target, the monetary authorities first undertook extensive intervention to hold the exchange rate within its band and then had to sterilize the liquidity so created in order to

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[27]By way of example, in 1994 the government raised controlled prices by 12 percent and government wages by 27 percent, actions that were not consistent with meeting the annual announced inflation target for that year of 8 percent.

[28]Sargent and Wallace (1981) outline a formal presentation of the "unpleasant" dynamics concerning the interplay of monetary policy, high levels of public debt, and inflation.

[29]The Bank of Israel has argued that there is no inconsistency between the government's long run economic growth goal and the inflation target since achieving a stable and low inflation environment is the best way to maximize the rate of growth of output.

maintain the inflation target, which in turn put upward pressure on official interest rates and provided an incentive for further capital inflows. Such a situation clearly hampers the ability of the monetary authorities to follow an independent monetary policy that can be primarily aimed at achieving the inflation target, adds to the volatility of interest rates as monetary policy is tightened or loosened to meet other policy goals, and sends confused signals since it is not clear the criteria the authorities use at any point in time to decide which of the nominal anchors will take precedence.[30]

Targeting overall versus underlying inflation

53. A key issue under an inflation target regime is to define exactly what prices should and will be targeted. In Israel, the inflation target is defined in terms of overall inflation. Since prices of certain items in Israel are very volatile, this practice makes monetary policy hostage to fluctuations in such prices. Fruit and vegetable prices (4 percent of the CPI) are volatile for seasonal reasons as well as security concerns that result in closures of the border between Israel and the West Bank and Gaza. Changes in the user cost of housing services (21 percent of the CPI) are measured by changes in housing prices—the price of the housing asset, not rents—which are quoted in dollars, making them sensitive to movements in the exchange rate and to asset price booms and busts.[31] Table III.2 and Figure III.4 indicate the extreme volatility of these items; indeed, the standard deviation of the underlying inflation rate that excludes fruit and vegetable and housing prices is only one quarter of that for the overall CPI. Clearly, the more volatile the targeted inflation indicator, the more frequent and large will be the interest rate changes necessary to keep inflation measured by that indicator within the target.

54. Despite the volatility of the overall inflation index, the authorities argue it is necessary to use the overall index due to the prevalence of indexation based on the overall CPI in Israel. However, this effect may not now be as important as it was in earlier years, and in any case there may be room for adopting a narrower target, at least for operational purposes in guiding monetary policy.[32] Specifically, wage setting arrangements in Israel's private sector are now

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[30]With the exception of Spain, every other country that has adopted an inflation targeting regime has a flexible exchange rate. Spain has a wide exchange rate band, and the inflation target is intended to be consistent with progression into the EMU.

[31]The CPI includes housing services of owner occupied homes by imputing an interest rate of 4 percent of their value. The housing market in the 1990s has been volatile following the wave of immigration.

[32]Several countries, such as Canada, use a different definition of inflation for the purposes of guiding monetary policy than that used to define the inflation target. See Annex I to this study.

largely in the private sector's hands; legislatively, the effect of changes in the overall CPI on wage increases is only at the margin (private and public wages are increased by 85 percent of just the excess of the CPI above an annual rate of 5.5 percent). Further, given that the mean of the changes in prices of fruits and vegetables is similar to those for the underlying index, this highly volatile category could safely be excluded from the definition used for operational purposes—if not for the announced inflation target itself.

55. With reference to the housing component, as the authorities have noted, the cost of housing has tended to rise at a rate that is around 6 percentage points higher than the underlying inflation rate (see Frenkel, 1996). Ideally, therefore, some measure of the cost of housing services should be included in the operational index in order that the change in the relative price of housing services is not omitted from consideration in the setting of monetary policy. In most countries, this effect is captured by including rents in the inflation index, which would be a "first-best" practice for Israel as well. Indeed, the Israeli Central Bureau of Statistics announced in December 1997 that the housing component of the CPI will be changed to reflect rental prices starting from January 1999. In the interim, given the extreme volatility of the current housing asset measure, its large weight in the overall CPI, and the likely weak link between changes in housing asset prices and the user cost of housing services, it would be best to use an index that excludes the volatile housing price component as the operational guide for monetary policy, and then simply take into consideration the average increase over time in housing service prices relative to the rest of the underlying CPI basket.[33]

Length of period over which targets are set

56. In Israel, while a long term goal of reaching average OECD country inflation by 2001 has been accepted, the inflation target is only specified one year at a time, and is only announced in the fall of the preceding year. This implies that, when the new inflation target is announced, there is at most only a 16–month window for monetary policy to achieve the inflation target. Given the long lags by which monetary policy has its impact, and the difficulty of discovering the likelihood of deviations between actual inflation and the target sufficiently ahead of time, this approach frequently encounters the need for large interest rate changes in response to small projected deviations in the current year's inflation outlook.[34] Further, not only does adjusting interest rates to meet short-term changes in the inflation outlook lead to frequent adjustments by itself, it risks introducing additional volatility as rates might have to be adjusted by ever-wider magnitudes to compensate for their own lagged effects (see Holbrook, 1972).

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[33]The United Kingdom excludes housing from both the operational measure and the definition of the target itself; see Annex I.

[34]For example, in August 1997 the discount rate was raised by 0.7 percent, apparently to offset a projected slight move in inflation outside of the 1997 range, mainly due to the impact of housing prices when the exchange rate depreciated in June.

57. One way to resolve the problem would be to set a 2–3 year inflation target to guide monetary policy decisions.[35] In the same vein, the monetary authorities could adopt a longer-term perspective and act on interest rates at each decision point on the basis of an assessment of what is required to eliminate the estimated gap between the desired inflation rate 18 months to 2 years hence and the inflation rate that would materialize if interest rates were frozen at their prevailing level. The BoI has progressively moved to adopt this perspective.

Israel's measure of inflation expectations

58. Monetary policy actions should be forward looking, and hence be guided by the prognosis for inflation—including inflation expectations, given their effect on current wage and price decisions—rather than by current or past inflation levels. Indeed, one of the benefits of adopting an inflation target approach is said to be that it focuses policy instruments on a systematic assessment of expected future inflation (Masson, et al, 1997).

59. In developing their forecasts, some central banks use a model-based approach to determine the underlying causes and projections of inflation, basing changes in monetary policy on the results of such models as well as on a wide variety of indicators. While the BoI has an annual model to forecast inflation over the medium term, to estimate inflation pressures in the short run it relies extensively on a measure of inflation expectations derived from the difference in the yield of 12-month indexed and nonindexed bonds (Figure III.5).[36] However, there may be problems with relying too heavily on this inflation expectations as a guide to monetary policy.

60. Firstly, instead of being a forward measure, statistically approximately 60 percent of the level of the expectations measure is based on previous rather than projected inflation.[37] In practice, the weight given past inflation is even higher since inflation in the most recent

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[35]Using a longer term horizon in the setting of monetary policy can also assist in dealing with supply shocks. The use of a longer term operational horizon would quarantine supply shocks from impacting on contemporaneous monetary policy decisions.

[36]The authorities note: "In the conduct of monetary policy, we make extraordinary use of inflation expectations as measured from financial variables. Since we have indexed and nonindexed for the same maturity and for the same government, we can read inflationary expectations over the next twelve months". See Frenkel (1996).

[37]Specifically, when the expectations measure is regressed against a constant and the 12-month to inflation rate for monthly observations over the period 1992–97, the coefficient on the 12-month inflation rate is 0.58 with a t-statistic of 13.5, and the constant is 4.07 with a t-statistic of 7.4. The adjusted R-squared is 0.70.Yariv (1995, p. 11) also notes "the process of forming expectations is to a considerable extent adaptive, as expectations are adjusted only after a new level of inflation has been experienced for a while."

12 months is also a separate variable that is used as an indication of the current inflation environment (see Sokoler and others, 1997). This would be a valid basis for guiding current decisions on monetary policy if previous inflation was indeed a good predictor of future inflation pressures. However, a regression of future inflation as a function of current 12-month inflation rates shows no close relationship between the two at all; the coefficient is insignificant and the regression R-squared adjusted statistic is zero. Similarly, Figure III.5 shows that while the inflation expectations measure has closely followed previous inflation—with a mean of the difference in these two measures just 0.7 percentage points—the difference between the expectations measure and inflation over the following 12 months has oscillated widely—with a mean of 2.7 percentage points—further implying that past inflation is not a good guide of future inflation, especially in measuring expected turning points in inflation.[38] Table III.3 indicates that the expectations measure is not a good predictor of future underlying inflation either. Hence, changes in interest rates that are based on this measure of inflation expectations would be unlikely to stabilize future inflation.[39]

61. Secondly, the relative price of indexed and nonindexed securities will in part be determined by their relative supply and demand rather than just by the private sector's inflation expectations. In particular, changes in the supply of nonindexed bills can have a significant impact on their price for reasons that relate to the nonperfect substitutability and relative supply of such bonds in the market rather than to changes in the expectations of inflation. Further, there can also be changes in demand for different types of bonds due to the different ways that they are taxed. The return from nonindexed treasury bills is not taxed for households, but for indexed bonds, while some investors are exempt (such as provident and pension funds), all others pay a 35 percent tax on the coupon. In calculating the inflation expectation measure in Israel, the authorities assume that holders of short term bonds are taxable.

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[38]Of course, a good predictor of inflation that is useful for policy purposes may not necessarily reflect well the actual future inflation rate if policy responds to the inflation forecast. Ideally, the expectations measure would be compared against future recorded inflation with an unchanged policy environment. Nonetheless, one would not expect that an expectations measure that accurately predicted future inflation pressure in the absence of policy changes would follow closely actual inflation over the past 12 months, as this measure of inflation expectations appears to do in Israel.

[39]Recent work at the BoI suggests that, along with past inflation, since 1994 the real discount rate has played a significant role in determining the private sector's inflation expectation; see Sokoler and others (1997). In discussing the pre-1994 experience, this paper also notes that "relying too much on market-based expectations as a guide to policy can be problematic. This is so particularly if there is a strong adaptive element in the formation of these expectations" (p.11).

62. While the authorities acknowledge that this assumption may introduce a bias in the calculated level of expectations, they argue that this bias should remain fairly steady over time and hence will not distort changes in the inflation expectations measure (Yariv, 1995). However, changes within the financial system may call this assumption into question, including the recent pension fund reform (where 30 percent of pension assets are now invested in market securities rather than in earmarked treasury securities that carry a favorable real return), and proposed efforts to make some domestically traded bonds tax free for foreigners. Since these reforms will likely alter the relative desire of nontaxable entities to hold one of these types of bonds, there may be a consequent adjustment in relative prices for reasons that are not related to changes in expected inflation.

63. Thirdly, risk aversion toward inflation will bias the level of this inflation expectations indicator; the higher the perceived volatility of inflation, the higher the risk factor that will be reflected in the price of nonindexed bonds. Hence, the relative price of indexed to nonindexed securities will not just reflect expected levels of inflation, but also include a factor that depends on the volatility of inflation around its mean (Fama, 1975).[40] While the authorities assume that, to the extent such a risk factor exists, it remains constant over time, this may not be true, especially since the volatility of inflation has changed during the period (Table III.2).

64. Finally, and potentially most importantly, an inflation expectations measure derived from private sector behavior on which monetary policy is based may be impaired by the very fact that the monetary authority responds to it. In a recent paper, Bernanke and Woodford (1997) show that targeting private sector forecasts is problematic once these forecasters incorporate the central bank's feedback rule into their forecast. In particular, the relative price of indexed and nonindexed bonds must in turn be a function of expected changes in monetary policy, especially since market participants know that the difference in the price of these securities will be used by the monetary authorities as the measure of inflation expectations and will hence form the basis for changing monetary policy. Thus, there is a circularity in the stance of monetary policy which no longer targets the private sector's expected evolution of prices, but is affected by the private sector's perceived changes in monetary policy. Bernanke and Woodford (1997) show in such circumstances added interest rate volatility is a likely result.

65. To offset these problems, it is important that a central bank develops and responds to a model of the structural determinants of both short- and medium-term inflation pressures based on a set of relevant variables, and places a high weight on measures of inflationary pressures that are impervious to whether the financial markets know them or not (like the output gap). Variables that have been used in other countries to guide the setting of monetary policy

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[40]Presumably reflecting in part the risk factor, the Australian Treasury, Bank of Canada, and Bank of England report that the difference between indexed and nonindexed debt consistently overpredicts actual and survey based inflation (Price, 1997), in the U.K. case by 1.7 percentage points (see Cote, et al, 1996).

include the potential output gap, capacity utilization, prevailing unemployment rates, current wages, import prices, changes in the exchange rate, and raw material and intermediate goods prices. Monetary aggregates, surveys of inflation, and private sector inflation expectations derived from bond prices have also been used as important indicators, and are also considered in Israel.[41] Armed with its own analysis of inflation pressures, credibility and accountability can then be enhanced if the central bank regularly publishes a report on inflation pressures and the inflation outlook, which can also help to explain the nature of the inflation target regime to the public. The BoI is in fact in the process of initiating the publication of a regular report on the inflation outlook from 1998.

C. Conclusions

66. This study illustrates that, relative to other countries, volatility in nominal and real interest rates has been high in Israel but this has not led to a relatively stable inflation path. The contribution of fiscal and exchange rate polices which were not well coordinated with monetary policy directed at the inflation target has no doubt played a major role in this volatility. Closer coordination between fiscal and monetary (and exchange rate) goals as well as clearly establishing the primacy of the inflation target in the event of a conflict with other goals for monetary policy would be a first best outcome to lower volatility and would also help to anchor private sector price expectations and maximize credibility.

67. The study also notes that operational aspects in Israel's inflation targeting regime may have been part of the cause of the volatility in official rates. In this regard, the discussion makes the case for using the underlying rather than the overall inflation rate (at least in setting the operational target that guides monetary policy decisions) and for setting explicit multi-year targets that outline the adjustment path from the current inflation level to a medium term (lower) level. Further, to reduce volatility in interest rates, the intermediate target should be the monetary authorities' own structural forecast based on the fundamental determinants of inflation, with minimal use of variables that are themselves affected by perceived changes in monetary policy.

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[41]Klein (1997) reports that demand for M1 has a unitary elasticity of money demand with respect to changes in economic activity, and an interest rate elasticity of money demand of negative 0.2. Further, changes in M1 in excess of demand generated by economic activity affect prices with a 2–3 quarter lag. However, Offenbacher (1996) claims that M1 was a good predictor of inflation in 1994 but not in 1996.

Table III. 1. Indicators of Monetary Policy Volatility: January 1994 to August 1997

Country	Discount rate			Inflation rate	
	No. of Changes	No. Changes in Direction	Standard Deviation 1/	Average Rate (%)	Standard Deviation 1/
Israel	28	6	0.41	11.0	0.71
European inflation-targeting countries					
U.K.	12	3	0.33	2.8	0.24
Sweden	10	2	0.92	1.4	0.43
Finland	7	0	0.06	0.9	0.33
Spain	20	2	0.35	4.0	0.21
Other countries					
U.S.A.	8	1	0.22	2.8	0.17
Greece	10	1	0.63	8.9	0.47

Source: IMF, *International Financial Statistics*; and staff estimates.

1/ Standard deviation of the monthly first difference in the discount rate and in the 12-month inflation rate.

Table III.2: Measures of Inflation Volatility
(12 month data; in percent) 1/

	Annual inflation target	General CPI Indicators			Price Components	
		Overall	Excluding fruit and vegetables	Excluding fruit, vegetables, and housing	Fruit and vegetables	Housing
1988	...	16.4	16.2	14.7	18.9	23.0
1989	...	20.7	21.7	18.6	4.4	35.2
1990	...	17.6	18.4	14.9	4.9	31.6
1991	...	18.0	18.2	15.2	14.3	28.1
1992	14.5	9.4	9.2	10.4	14.2	5.4
1993	10.0	11.2	11.9	8.1	-1.2	23.7
1994	8.0	14.5	12.7	9.8	56.1	23.6
1995	8-11	8.1	10.0	8.8	-24.6	13.6
1996	8-10	10.6	10.8	10.1	4.9	13.2
1997	7-10	8.7	8.8	8.7	6.0	12.0
Average:						
1988-97		13.5	13.8	11.9	9.8	20.9
1992-97		10.4	10.6	9.3	9.2	15.3
1994-97		10.5	10.6	9.4	10.6	15.6
Standard Deviation:						
1988-97		4.5	4.5	3.6	20.2	9.6
1992-97		2.3	1.5	0.9	26.5	7.2
1994-97		2.9	1.6	0.7	33.5	5.4
Memorandum:						
Weight in CPI basket (in percent)					3.7	20.7

Sources: Central Bureau of Statistics; and staff estimates.

1/ 1997 data for period through to September.

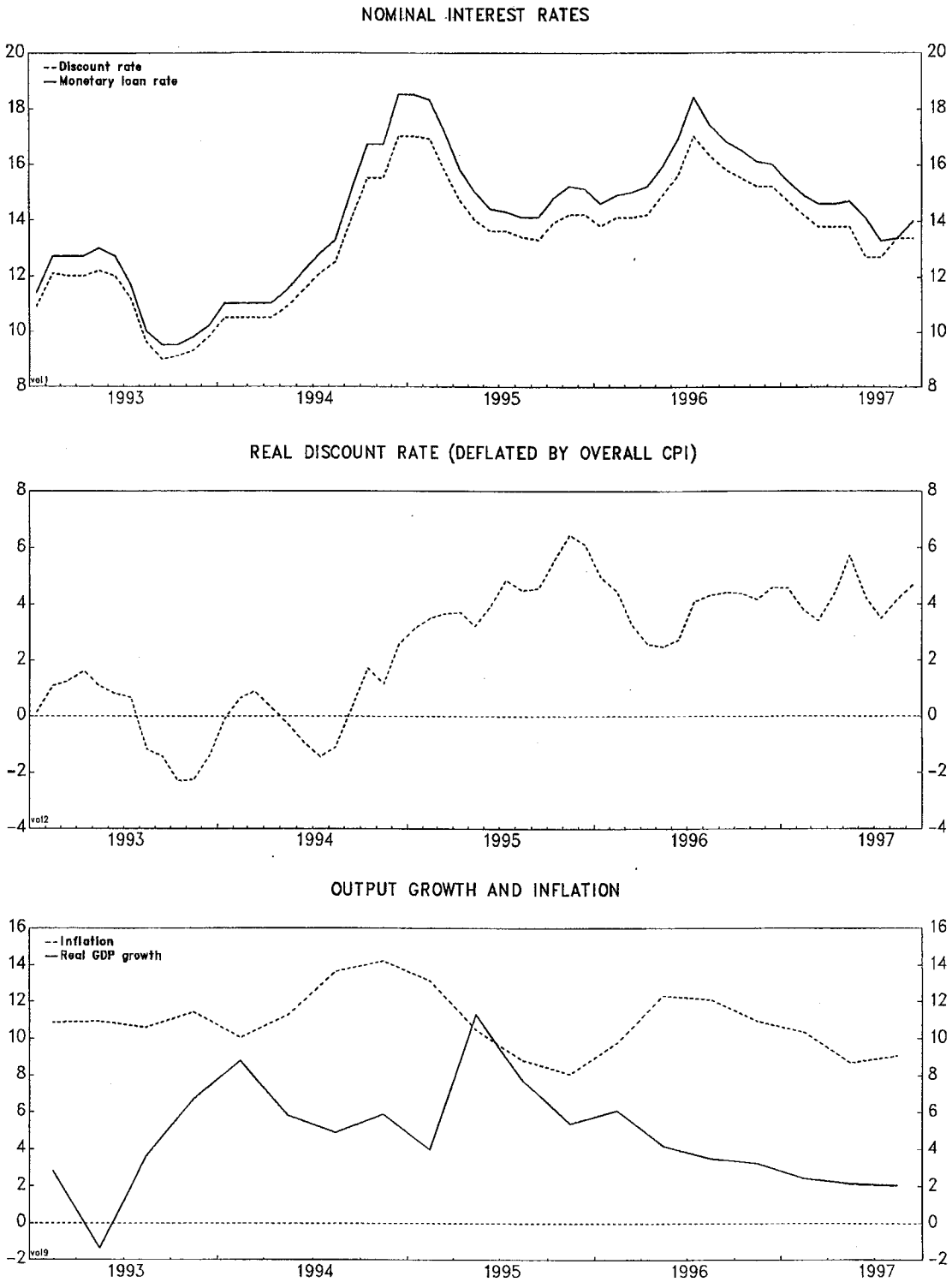
Table III.3: Indicators of Discount Rate and Inflation Expectation Determination
(12 month data; in percent) 1/

	Discount rate	Expected inflation	Discount rate less expected inflation	Discount rate less overall inflation	Discount rate less underlying inflation	Expected less past overall inflation	Expected less past underlying inflation	Expected less future overall inflation	Expected less future under--lying inflation
1989	14.2	15.0	-0.8	-6.5	-4.4	-5.7	-3.6	-2.6	0.1
1990	15.3	18.5	-3.2	-2.3	0.4	0.9	3.6	0.5	3.3
1991	15.3	15.7	-0.4	-2.7	0.1	-2.3	0.5	6.3	5.3
1992	11.8	9.6	2.2	2.4	1.4	0.2	-0.8	-1.6	1.5
1993	11.3	9.0	2.3	0.1	3.2	-2.2	0.9	-5.5	-0.8
1994	13.4	12.9	0.5	-1.1	3.6	-1.6	3.1	4.8	4.1
1995	15.5	10.8	4.7	7.4	6.7	2.7	2.0	0.2	0.7
1996	16.1	11.8	4.3	5.5	6.0	1.2	1.7	3.1	3.1
1997	14.5	9.3	5.2	5.8	5.8	0.6	0.6	...	...
Average:									
1988-97	14.2	12.5	1.6	1.0	2.5	-0.7	0.9	0.7	2.2
1992-97	13.8	10.6	3.2	3.4	4.5	0.2	1.3	0.2	1.7
1994-97	14.9	11.2	3.7	4.4	5.5	0.7	1.9	2.7	2.6
Standard Deviation:									
1988-97	1.7	3.3	2.8	4.6	3.6	2.5	2.2	3.9	2.1
1992-97	2.0	1.6	1.8	3.4	2.0	1.8	1.3	4.0	1.9
1994-97	1.2	1.5	2.1	3.8	1.3	1.8	1.0	2.3	1.7

Sources: Central Bureau of Statistics; Bank of Israel; and staff estimates.

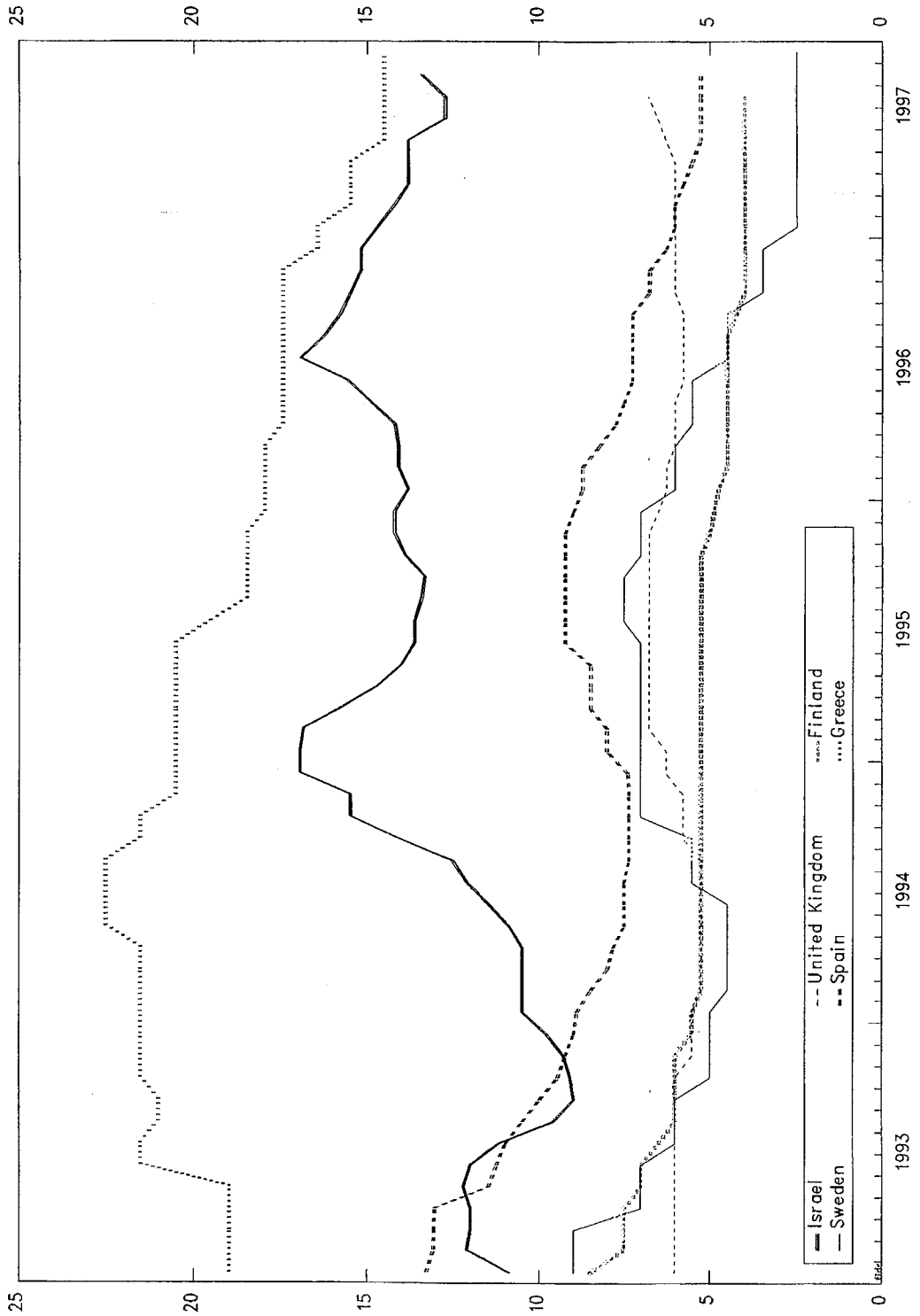
1/ 1997 data for period through to September.

Figure III.1. Israel: Measures of Volatility, 1993–97



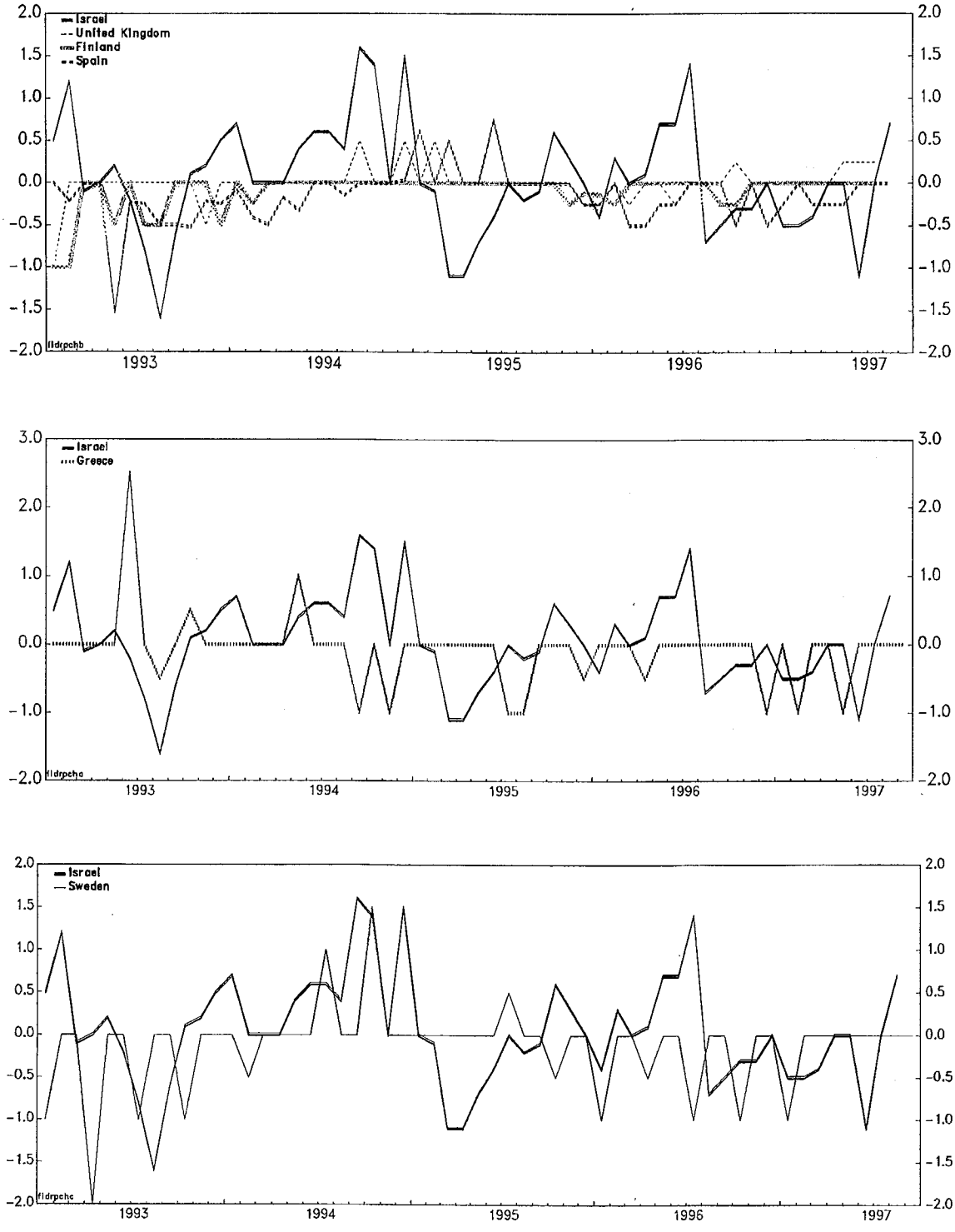
Sources: Central Bureau of Statistics; and Bank of Israel.

Figure III.2. Israel: Comparison of Official Interest Rates, 1993-97



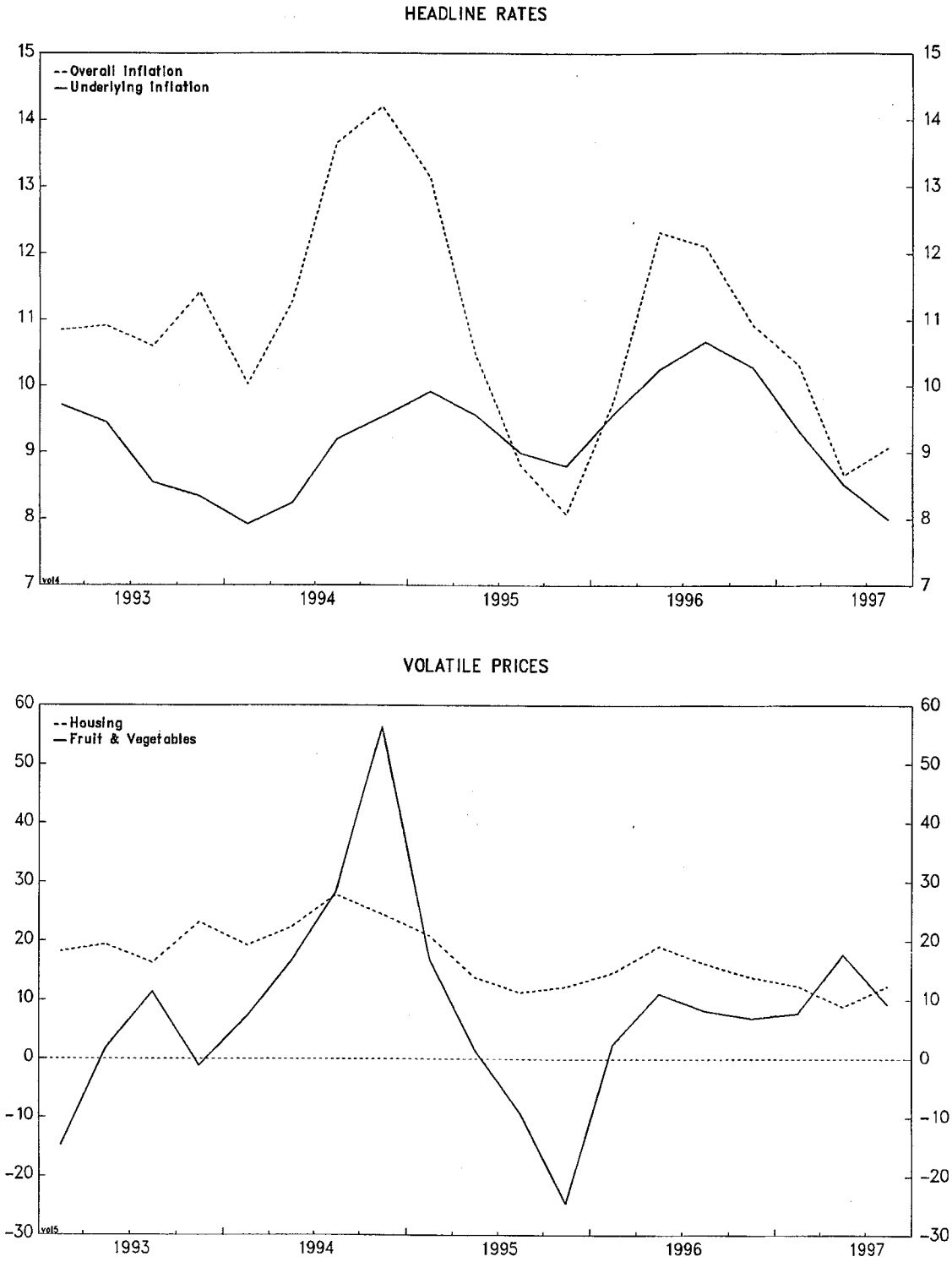
Source: IMF, International Financial Statistics.

Figure III.3. Israel: Comparison of Official Interest Rates, 1993-97
(Period-to-period change)



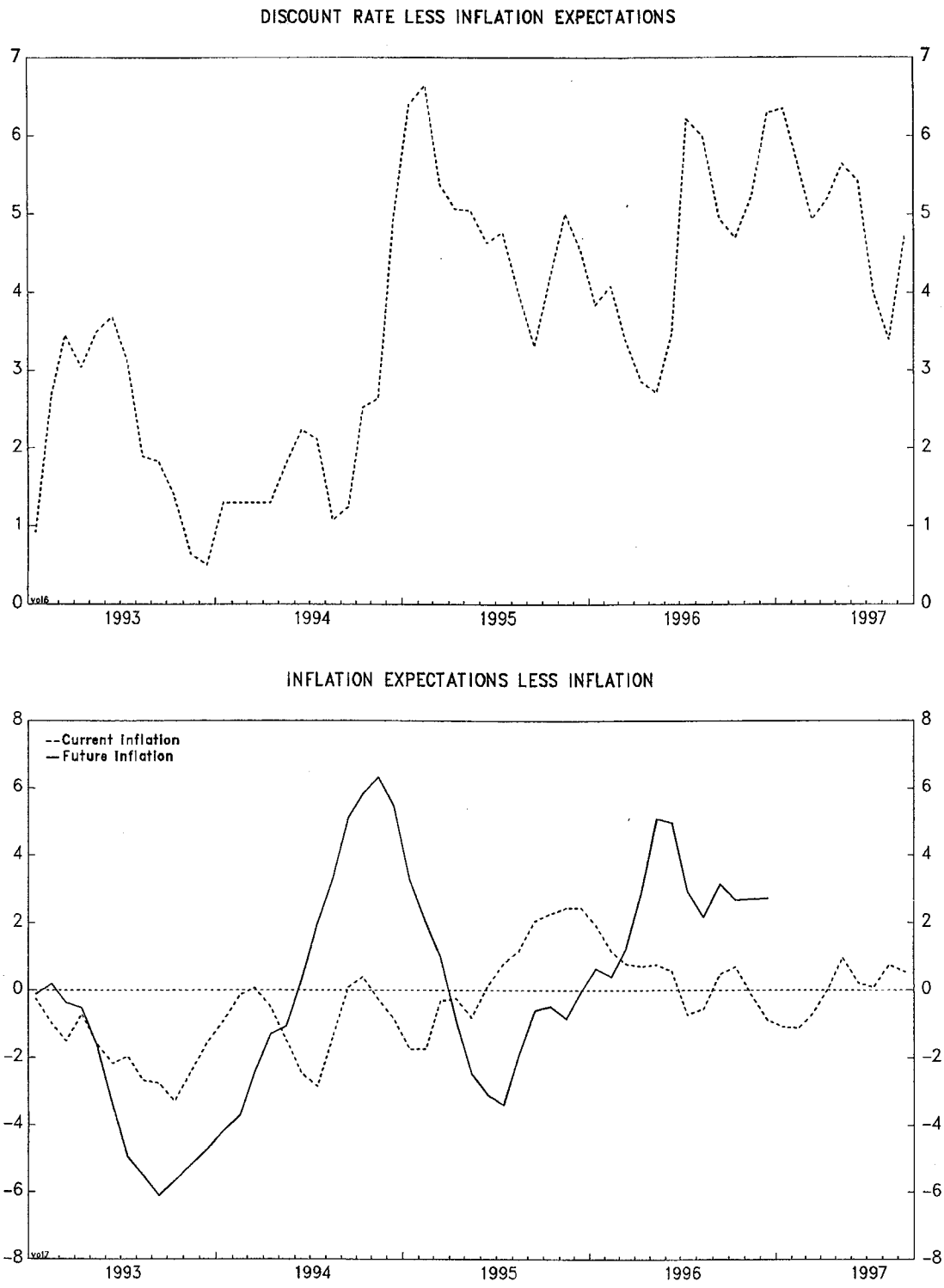
Source: IMF, International Financial Statistics.

Figure III.4. Israel: Measures of Inflation, 1993–97



Sources: Central Bureau of Statistics; and Bank of Israel.

Figure III.5. Israel: Measures of Inflation Expectations, 1993-97



Sources: Central Bureau of Statistics; and Bank of Israel.

Country	Starting date	Inflation target	Caveats	Transparency measures	Credibility measures
New Zealand	March 1990	Four quarter to underlying CPI of 0-3 percent through the 5 year term of the Governor.	Underlying CPI excludes significant changes in indirect taxes and subsidies, mortgage interest rates, terms of trade, and natural disasters.	Monthly publication of monetary policy statement, quarterly release of inflation projections, and frequent statements by Reserve Bank officials.	The 1989 Reserve Bank Act defined price stability as the sole objective of monetary policy. Policy Target Agreements are negotiated between the Reserve Bank and the Government, subject to a public Government override
Canada	February 1991	12-month overall CPI of 1-3% through 1998.	Overall CPI. Operationally the underlying CPI is targeted excluding food and energy, indirect taxes, and large terms of trade shocks.	Regular progress monitoring, including the half yearly reports; official inflation forecasts are not made public.	Joint announcement of the inflation target by the Minister of Finance and the Governor of the Bank of Canada. There were no major changes to the BOC's mandate; it remains responsible for the operation of monetary policy, subject to a public government override.
United Kingdom	October 1992	Adjusted CPI of 1-4%, through spring 1997, and 2½ percent or less thereafter.	Adjusted CPI is the retail price index excluding mortgage interest payments. Operationally, an underlying rate is targeted that also excludes indirect tax changes.	Publication of quarterly inflation report by Bank of England (including its inflation outlook), and monthly monetary report.	Initially, there were no major institutional changes--the Government could control short term interest rates, although the Bank of England could determine the timing of interest rate changes. Recently, the BoE has been made independent in setting interest rates after the inflation target is announced by the Treasury.
Sweden	January 1993	Annual CPI of 2% in a range of ±1%.	Overall CPI.	Publication of quarterly inflation reports, but not with explicit inflation forecasts.	Target is set by the Bank of Sweden. There is no legislated price stability goal; the Riksbank can change the target at any time.
Finland	February 1993	Underlying CPI of 2% from 1996.	Underlying CPI excludes changes in indirect taxes and subsidies, house prices, and mortgage interest payments.	Publication of twice-yearly monetary policy reports, and a quarterly inflation report. Occasional publication of inflation forecasts.	Target is set by the Bank of Finland. No accompanying institutional changes were proposed, but the Bank of Finland has called for "broad social commitment" to the target.
Australia	April 1993	Underlying CPI of 2-3% on average over the business cycle	Underlying CPI excluding changes in mortgage interest rates, indirect taxes, and other volatile factors.	Quarterly release of inflation figures, but not with explicit inflation forecasts.	Target set by the Reserve Bank of Australia and endorsed by the Government. There were no major accompanying institutional changes.
Spain	Summer 1994	Overall CPI of less than 3% in 1997 and of 2% in 1998. Stable exchange rate to lock into 1999 also important. After 1998, Spain is expecting to join EMU.	Overall CPI (as is used for Maastricht convergence criteria)	Targets announced by the Governor and published bi-annually in the inflation report, which explains the evaluation of inflationary pressures and the criteria used for policy decisions, but doesnot forecast the inflation rate.	Target set by the Bank of Spain, which was granted a degree of autonomy in June 1994, and reports to government and parliament on its objectives. The exchange rate system is set by the government, following consultation with the Bank, though the Bank is responsible for implementing the exchange-rate policy.
Israel	December 1991	Twelve month CPI within an annually set range.	Overall CPI.	From time to time a prognosis of inflation is presented by BoI officials.	Targets announced by the Government following consultation with the Governor. No accompanying measures were introduced.

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ISRAEL: SUMMARY OF THE TAX SYSTEM AND TAX INCENTIVES AS OF JANUARY 1, 1997

Corporate income tax (CIT)

General nature: The CIT follows the classic system: profits are taxed at the corporate level and distributed dividends are taxed at the individual level (see withholding tax below). All companies, resident or nonresident for tax purposes, are subject to tax on Israeli-sourced income.

Notable special features: A comprehensive set of inflation adjustments is available. For resident companies, the adjustments generally involve a deduction from taxable income, the amount of which is linked to the shareholders' equity. These deductions are reduced, however, by assets that are considered inflationary-immune, e.g., fixed assets. For nonresident companies meeting certain criteria, an option to keep records for tax purposes in U.S. dollars is available.

Rate structure: The regular rate is 36 percent since 1996 (which has been reduced by 1 percent each year from 40 percent in 1992). The tax rate for income accrued outside of Israel and then received in Israel is 25 percent. Numerous special rates are available (see tax incentives below).

Revenue significance: 3.2 percent of GDP and 10.4 percent of total tax revenue in 1996.

Personal income tax (PIT)

General nature: All individuals, resident or nonresident for tax purposes, are subject to the PIT on Israel-source active and passive income. Deductions of national insurance contributions can be made against wage income for employees and against 52 percent of nonwage income for the self-employed as well as contributions to advanced training funds. Capped deductions are also allowed for charitable donations, shift labor, and residents living in certain geographic areas. Tax relief for interest on savings plans and for incomes from pensions and provident funds is provided. A system of tax credits based on points is in operation with a minimum of 2.25 credit points for each Israeli resident taxpayer with, inter alia, working women entitled to an additional 0.5 point, married persons with nonworking spouses an additional 1 point, working women with children under 18 an additional one point for each child, and recent immigrants an additional 1–3 points for periods up to 3½ years. As of January 1997, each credit point was worth NIS 141 per month; the value of a credit point is adjusted once per year.

Notable special features: Fringe benefits provided by employers are comprehensively taxed, including an imputed value of usage of company cars.

Rate structure: In 1997, five periodic inflation-adjustable brackets of 10–20–30–45–50 percent. A minimum rate of between 25–35 percent applies to various types

of passive income (i.e., nonwage or nonbusiness income), including dividends, interest, rental income, and capital gains; income from these sources is taxed at the marginal personal income tax rate thereafter (i.e., at 45 percent and 50 percent). The tax rate for income accrued abroad and remitted to Israel is 25 percent. Since 1995, citizens over 59 years pay a minimum tax on active and passive income of 10 percent.

Revenue significance: 10.8 percent of GDP and 35.0 percent of total tax revenue in 1996.

Withholding tax

General nature: Tax is withheld at source on a variety of incomes and payments, including wages, national insurance contributions, royalties and most investment incomes (e.g., interest and dividends). Withholding on investment incomes paid to individuals is generally final.

Rate structure: For dividends, rates are 25 percent (regular rate) and 15 percent (approved enterprises—see tax incentives below); for interest, rates are 35 percent (on interest from government and private bonds to residents and from residents' foreign currency bank accounts) and 25 percent (on interest from private bonds to nonresidents).

Capital gains tax (CGT)

General nature: The CGT is formally a part of the CIT or PIT, as the case may be. Under the CIT and PIT, resident companies and individuals are taxed on their world-wide gains; nonresident companies and individuals are taxed on gains from Israel-source assets. Gains from real estate are taxed under a separate Land Betterment Tax with broadly similar rules (see below).

Capital gains arising from the sale of securities listed on the Tel Aviv Stock Exchange and of securities in Israeli industrial companies and industrial holding companies listed on specified foreign stock exchanges are usually taxed only if the seller is a company or an individual who holds securities as part of the primary business. For other individuals (resident or nonresident), their gains are exempt from taxes. Capital gains accruing to dealers of securities are taxed as for regular income under the CIT. Gains from the sale of securities of unlisted companies are taxable as for individuals.

Rate structure: Nominal gains on assets acquired after 1960 are divided into real and inflationary parts. Real gains are taxable as regular income rates, while inflationary gains accrued until 1994 are taxable at 10 percent; nominal gains accrued after 1994 are tax exempt. Assets acquired before 1960 are taxed as follows: for assets acquired up to 1948, the final tax is 12 percent; for assets acquired between 1949–60, 1 percent is added to the 12 percent tax rate for each year after 1948, up to a total of 24 percent. Sales by individuals and mutual funds of foreign securities that are not traded on the Tel Aviv Stock Exchange are taxed at the flat rate of 35 percent.

Payroll taxes

General nature: There are four main payroll categories: (a) national insurance (social security) contributions from both employers and employees to cover an array of benefits, such as old age pensions, disability benefits, family allowances, and unemployment benefits; (b) employer's tax (paid by public and nonprofit institutions only); (c) national health insurance premiums (effective from 1995) from all residents, in lieu of such payments on a private-billing basis; and (d) payroll taxes in lieu of value-added tax (VAT) paid by certain organizations (see VAT below).

Rate structure: As of January 1997, for category (a), resident employees pay either 4.93 percent or a reduced rate of 2.66 percent on active income (the reduced rate applies to the first 50 percent of the average wage) and on the share of husband's passive income that exceeds 50 percent of his total income; employers pay a flat amount of 4.93 percent of payroll. For the self-employed, the combined rates (also progressive) are 5.72 percent and 9.62 percent. For category (b), resident employees also pay either 4.93 percent or the reduced rate of 2.66 percent, though employers pay just 4 percent of payroll. The maximum taxable income subject to payroll taxes is four times the average wage (NIS 20,176 per month as of January 1, 1997; the nominal value of the ceiling is adjusted once per year and whenever the official cost of living is adjusted). All citizens are required to pay national insurance payroll taxes, regardless of whether they work (except married homeworkers who do not work outside of the home), or whether they reside abroad. Career soldiers, foreign workers in Israel, and workers from the territories are exempt. For category (c), the arrangements are similar as for those above. Only individuals contribute, at 4.8 percent and a reduced rate of 3.1 percent on the first 50 percent of the average wage.

Revenue significance: 7.2 percent of GDP; though not part of the general budget, they represent 18.0 percent of total (nonpayroll) tax revenue in 1996.

Property-related taxes

(1) Land Betterment Tax: levied on capital gains arising from the sale of real estate. The rate structure applying to the sale of real estate is the same as for the capital gains tax. Sale of one residential dwelling is exempt from land betterment tax once every four years, and the sale of two dwellings with a combined value of NIS 1.2 million (adjusted annually for changes in the CPI) is exempt once per taxpayer's lifetime (and is subject to a variety of conditions).

(2) Real Estate Purchase Tax: levied on the purchase of all residential apartments, buildings and vacant land. Rates are 3.5 percent on business buildings, 5 percent on vacant land, 0.5–4.5 percent on residential apartments (rising with value, which in general is adjusted quarterly on the rate of increase in the housing price index), and either 0.5 percent or 5 percent on farms. Various preferences qualify for the 0.5 percent rate for real estate holdings.

(3) Property Tax: levied annually on the value of vacant urban land. The rate is 2.5 percent, but is taxed at 1.2 percent if the land is part of a business's inventory. Government, public institutions, and United Nations agencies are exempt. Fruit orchards qualify for a deduction of NIS 60,200 per dunam for property tax purposes.

Revenue significance: Total property tax was 1.2 percent of GDP and 4 percent of total tax revenue in 1996.

VAT

General nature: Standard credit-invoice based.

Notable special features: The base is broad with exemptions limited to certain sales of assets. Major zero-rated items are exports, unprocessed fruits and vegetables, and tourism services.

Rate structure: 17 percent (apart from the zero rate). Financial institutions pay 17 percent on their payroll and profits (deductible against taxable income under the CIT but not creditable against other VAT payments), and nonprofit institutions pay 8 percent on their payroll (not creditable against other VAT payments).

Revenue significance: 10.7 percent of GDP and 34.6 percent of total tax revenue in 1996.

Purchase tax

General nature: A purchase tax is imposed on the wholesale price of selected final consumer goods (imported or locally produced), most notably motor vehicles and a limited number of raw materials and intermediate goods.

Rate structure: Between 5 percent to 95 percent.

Revenue significance: 2.5 percent of GDP and 8.1 percent of total tax revenue in 1996.

Excise and stamp duties

General nature: Excises are imposed on tobacco, cement and fuel. Stamp duties are imposed on most legal documents, though several government contracts are exempt.

Rate structure: Excise duty rates vary. On cigarettes, the rate is 55 percent of the consumer price excluding VAT plus NIS 0.875 per pack. On fuel, the rate varies between NIS 1.68-1.75 per liter for petroleum, and NIS 0.06 per liter for diesel and kerosene (adjusted quarterly on the rate of increase in the CPI). Stamp duty rates vary between 0.4–3.0 percent.

Revenue significance: 1.9 percent of GDP and 6.1 percent of total tax revenue in 1996.

Customs duties

General nature: Most imports to Israel are exempt from customs and duties, and all quotas have been converted into tariffs. For non-food imports which are not exempt, as of September 1996 customs duties generally varied between 8 percent and 20 percent. For sensitive products (textiles and lumber) the rates are 55 percent and 38.7 percent. Imports of lumber, footwear, fertilizers, sheet metal, ceramic implements, and electric motors will attain their final rate of 8–12 percent in September 1998. The textile industry will do so in September 2000. In general, imports of ships, aircraft, diamonds, and inputs and intermediate goods are exempt. Processed foods are charged customs duties of between 30–100 percent.

All goods imported under the Free-Trade Agreements with the United States, European Union and EFTA (European Free Trade Area) are duty free. Since 1997 there is a trade agreement between Israel and Canada, the Czech Republic, Slovakia and Turkey, which will reduce tariffs on industrial products to zero by the year 2000.

Rate structure: See description above.

Revenue significance: 0.3 percent of GDP and 1 percent of total tax revenue in 1996.

Local taxes

General nature: Local taxes comprise primarily those on property (arnona) and a range of user fees and water charges.

Tax incentives

General nature: Most tax incentives are granted under the Encouragement of Capital Investment Law (1959, as amended), Encouragement of Industry (Taxes) Law (1969, as amended) , Encouragement of Industry (Taxes) Law 1969, as amended), Encouragement of Capital Investments in Agriculture Law (1980, as amended), and Encouragement of Industrial Research and Development Law (1984, as amended) to: (a) approved enterprises (projects) without sectoral restrictions but mostly in manufacturing and tourism, with varying benefits depending on location (i.e., whether then are in or outside national priority zones A and B); (b) approved agricultural projects; (c) income from properties which form part of an approved enterprise enjoying the tax benefits; (d) industrial companies with at least 90 percent of gross revenue derived from productive activities; (e) companies with at least 25 percent of foreign investment that own approved enterprises; and (f) approved international trading companies (excluding importing to and exporting from Israel).

There are, in addition, the Free Port Zone Law (1969), establishing Kishon Port (Haifa), Port of Ashdod, and Port of Eilat as free ports; the Eilat Free Trade Zone Law (1985), establishing the city of Eilat and its surrounding one kilometer area as a free trade zone; and the Free

Export Processing Zone Law (1994), under which one such zone is being established near Beer Sheva.

Approved enterprise status is granted by the Investment Center at the Ministry of Trade and Industry, and generally required a minimum of 30 percent in paid-up capital by the investor(s).

Forms of incentives: The system of incentives is complex, with varying incentives subject to differing requirements. In general, it has the following structure.

(1) Investment (cash) grants: provided as a percentage of investment in net fixed assets. The grant is deducted from the value of fixed assets for depreciation and capital gains purposes. Grants range from 5 percent to 24 percent (in 1994), depending on nature and location of the approved enterprise. Approved enterprises may also receive an accelerated depreciation schedule.

(2) Reduced CIT rate: provided on taxable income of an approved enterprise (including agricultural projects) with a reduced CIT rate of 25 percent for 7 years. The withholding tax on dividends paid by an approved enterprise is 15 percent for 19 years. The benefits are enhanced if the approved enterprise has substantial foreign ownership: a reduced rate of 25 percent applies for 10 years if the percentage of foreign ownership is 25–49 percent; the applicable CIT rate further decreases (to a low of 10 percent) with increases in foreign ownership (to 90 percent or more). Dividends paid by approved enterprises with a minimum of 25 percent foreign ownership are subject to a withholding tax of 15 percent with no time limit. Rate incentives on income from approved assets are similar to those applicable to approved enterprises described above.

(3) Tax holidays (alternate track): instead of receiving investment grants, approved enterprises can opt for a CIT holiday of 2–10 years, depending on location (if the holiday period is shorter than the applicable period of reduced CIT rate, the benefits of the latter commence upon the expiration of the holiday). Withholding tax on dividends is applicable as if the enterprises had not chosen the holiday option. Approved international trading companies can enjoy a CIT holiday of 10 years.

(4) Industrial incentives: such companies can deduct from taxable income various capital and R&D expenditures.

(5) Free port zones: enterprises established in a free port enjoy a CIT holiday (except on real capital gains, which are taxed under the regular system) of 7 years, after which a 25 percent rate applies without time limit. Dividends are taxed at 15 percent, also without time limit. Under the Eilat free trade zone, residents are entitled to a tax credit of 10 percent of their taxable income (but no more than the total tax otherwise payable) under the PIT. Employers are allowed to retain 20 percent of wages from payroll taxes withheld from employees (but no more than the actual taxes withheld). The VAT is also exempted. Under the free export

processing zone, there is a CIT holiday of 20 years, but dividends and capital gains are taxed at 15 percent. Imports and intra-zone sales are free from indirect taxes.

Revenue significance: Total investment grants and subsidies, which represent explicit outlays, amounted to about 3.2 percent of GDP in 1996. Total tax expenditures (inclusive of all direct and indirect taxes), which represent revenue forgone, have been estimated at about 5.2 percent of GDP for 1996.

ISRAEL: RECENT DEVELOPMENTS IN THE EXCHANGE AND TRADE SYSTEM

A full description of the exchange control system (and changes up to February 1997) is available from the *Annual Report on Exchange Arrangements and Exchange Restrictions, 1997.* This appendix updates developments from February 1997 to January 1, 1998.

Exchange arrangement

In June 1997, the shekel trading band was widened: the upper band was raised to 21 percent with an unchanged slope of 6 percent, and the slope of the lower band was reduced to 4 percent.

Exchange controls

The following changes were announced in July 1997:

- The limit on financial investment abroad by provident funds was raised from 2 percent to 5 percent of their assets.
- The limit on financial investment abroad by mutual funds was raised from 10 percent to 50 percent of their assets.[42]
- The limit on holdings of foreign securities and foreign currency abroad by Israeli companies was raised from 5 percent of their turnover or 10 percent of their equity capital, whichever was higher, to 15 percent of their turnover or 25 percent of their equity capital, whichever was higher.
- Institutional investors were permitted to engage in foreign securities transactions directly with a broker abroad.
- All restrictions on futures transactions abroad by Israeli residents were eliminated.
- The annual limit on foreign currency remittances abroad by Israeli residents as gifts or support payments was raised from $2,000 to $10,000.
- The monthly limit on foreign currency student support payments abroad was raised from $1,000 to $2,500.

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[42]Prior to that, only mutual funds specializing in investment abroad could invest up to 50 percent of their assets abroad. Nonresident mutual funds are permitted to invest up to 75 percent of their assets in foreign financial assets.

- Recipients of restitutions payments from Germany or of pensions from abroad were permitted to deposit these payments in bank accounts abroad.

In August 1997, the following liberalization measures were announced as part of the budgetary and structural reform decisions for 1998:

- Israeli residents will be permitted to purchase foreign currency with local currency and to deposit it in foreign currency deposits in Israeli banks.
- Israeli residents will be permitted to transfer money between foreign currency deposits.
- All restrictions on mutual funds' investments in foreign securities will be abolished.
- The limit on holdings of foreign securities and foreign currency abroad by Israeli companies will be abolished.
- Israeli residents and nonresidents traveling abroad will be permitted to purchase $1,000 on leaving the country without having to produce documents or personal identification.
- Israeli residents living abroad will be permitted to open bank accounts there.
- Nonresidents will be permitted to convert local currency deposited in the Bank of Israel into foreign currency.
- Israeli banks will be permitted to purchase local currency from banks abroad against foreign currency.

The first four of the above measures went into effect on January 1, 1998. Also, at that time, restrictions on local or foreign currency derivatives transactions by Israeli residents were lifted.

Table A1. Israel: GDP by Expenditure Components in Current Prices, 1992-97

	1992	1993	1994	1995	1996	1997 Jan.-Sep.
	(In millions of new sheqalim; current prices)					
Consumption	143,211	168,995	204,558	239,526	278,605	229,850
Private	98,079	116,563	142,768	161,831	187,831	154,759
Public	45,132	52,432	61,790	77,695	90,774	75,091
Gross domestic capital formation	39,922	45,929	53,085	64,801	73,181	53,503
Fixed capital formation	38,086	42,484	52,023	61,393	70,634	53,045
Increase in stocks	1,836	3,445	1,062	3,408	2,547	458
Total domestic demand	183,133	214,924	257,643	304,328	351,786	283,353
Exports of goods and nonfactor services	49,351	60,610	73,292	82,919	93,660	79,223
Imports of goods and nonfactor services	71,714	90,616	107,750	126,074	141,634	112,231
Foreign balance	-22,363	-30,006	-34,458	-43,155	-47,974	-33,008
GDP	160,770	184,918	223,185	261,173	303,812	250,345
	(In percent of GDP; current prices)					
Consumption	89.1	91.4	91.7	91.7	91.7	91.8
Private	61.0	63.0	64.0	62.0	61.8	61.8
Public	28.1	28.4	27.7	29.7	29.9	30.0
Gross domestic capital formation	24.8	24.8	23.8	24.8	24.1	21.4
Fixed capital formation	23.7	23.0	23.3	23.5	23.2	21.2
Increase in stocks	1.1	1.9	0.5	1.3	0.8	0.2
Total domestic demand	113.9	116.2	115.4	116.5	115.8	113.2
Exports of goods and nonfactor services	30.7	32.8	32.8	31.7	30.8	31.6
Imports of goods and nonfactor services	44.6	49.0	48.3	48.3	46.6	44.8
Foreign balance	-13.9	-16.2	-15.4	-16.5	-15.8	-13.2
GDP	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics* and *1997 Statistical Abstract of Israel.*

Table A2. Israel: GDP by Expenditure Components in Constant Prices, 1992-97 1/

	1992	1993	1994	1995	1996	1997 Jan-Sep 2/
	(In millions of new sheqalim; constant 1995 prices)					
Consumption	201,440	214,252	227,004	239,526	252,247	194,623
Private	128,520	138,008	150,684	161,832	170,276	132,045
Public	72,920	76,244	76,320	77,693	81,971	62,578
Gross domestic capital formation	51,872	54,112	58,788	64,804	69,208	48,096
Fixed capital formation	48,844	49,700	56,294	61,394	66,786	47,301
Increase in stocks	3,470	6,741	1,597	3,409	2,421	795
Total domestic demand	310,563	332,414	359,870	387,247	408,533	311,316
Exports of goods and nonfactor services	60,500	66,836	75,280	82,918	87,079	68,597
Imports of goods and nonfactor services	91,724	104,704	116,140	126,075	135,718	104,639
Foreign balance	-31,224	-37,868	-40,860	-43,157	-48,639	-36,042
GDP	220,980	228,512	243,964	261,172	272,815	206,677
	(Annual percentage change)					
Consumption	5.3	6.4	6.0	5.5	5.3	2.6
Private	5.2	7.4	9.2	7.4	5.2	2.4
Public	5.5	4.6	0.1	1.8	5.5	3.0
Gross domestic capital formation	6.8	4.3	8.6	10.2	6.8	-7.2
Fixed capital formation	8.8	1.8	13.3	9.1	8.8	-4.7
Total domestic demand	29.5	7.0	8.3	7.6	5.5	1.9
Exports of goods and nonfactor services	5.0	10.5	12.6	10.1	5.0	7.2
Imports of goods and nonfactor services	7.6	14.2	10.9	8.6	7.6	2.8
GDP	4.1	3.4	6.8	7.1	4.5	1.4

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics* and *1997 Statistical Abstract of Israel.*

1/ Estimates in 1995 prices derived by chaining each categories growth rate computed at different base year prices; hence totals do not reflect the sum of their components.

2/ Percentage change refers to same period in 1996.

Table A3. Israel: Investment, 1992-96 1/

	In millions of new sheqalim	Percentage change at constant prices				
	1996	1992	1993	1994	1995	1996
Gross domestic capital formation	73,181	6.6	4.3	8.6	10.2	6.8
Gross fixed capital formation	70,634	6.7	1.8	13.3	9.1	8.8
Machinery, transport, and other equipment	30,802	5.9	11.9	22.5	0.5	11.2
Land transport equipment	6,941	22.8	5.9	19.1	-8.3	20.2
Other machinery and equipment	23,107	3.5	14.1	19.9	4.2	9.5
Ships and aircraft	755	-42.6	0.9	184.7	-20.5	-9.3
Construction	39,832	7.2	-5.6	5.3	17.6	6.9
Residential	22,145	0.0	-23.5	4.0	21.7	11.8
Private	17,027	9.9	11.8	15.6	16.7	6.9
Public	5,118	-8.7	-60.7	-30.9	47.3	31.5
Nonresidential	17,687	24.0	27.7	6.8	13.2	1.3

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics and 1997 Statistical Abstract of Israel*; and data provided by the Bank of Israel.

Table A4. Israel: Consumption, 1992-96 1/

	In millions of new sheqalim	Percentage change at constant prices				
	1996	1992	1993	1994	1995	1996
Private consumption	187,831	7.8	7.4	9.2	7.4	5.2
Consumption by Israeli households						
Household consumption in the domestic market	184,182	9.5	6.9	8.2	7.5	4.6
Food, beverages, and tobacco	40,983	4.1	7.5	8.6	6.5	4.8
Fuel and electricity	7,747	18.1	5.5	6.8	6.5	5.8
Clothing, footwear, and personal effects	11,064	14.4	19.0	15.1	8.9	0.8
Other goods	10,062	12.5	14.3	8.1	9.2	5.0
Durable goods	21,223	24.6	0.5	11.1	15.9	5.5
Of which						
Passenger cars	7,512	47.8	-13.9	11.1	8.7	5.2
Housing	42,437	5.2	4.5	3.3	3.0	3.7
Other services	50,666	9.9	7.9	9.9	8.2	5.5
Plus: Consumption by Israelis abroad	8,995	0.4	14.0	22.9	9.8	8.6
Less: Consumption by nonresidents	9,709	49.1	7.9	9.0	16.3	-3.8
Consumption by nonprofit institutions	4,362	2.8	6.1	7.6	3.9	1.6
Public consumption (excluding net defense imports)	84,459	3.0	0.6	5.3	2.1	3.0
Civilian	60,476	4.7	4.3	6.9	4.0	3.8
Compensation of employees	38,762	2.4	2.5	5.6	3.3	2.8
Indirect taxes on salaries	3,064	1.2	3.1	5.6	3.3	3.2
Consumption of fixed capital	3,861	3.4	3.8	4.1	4.0	3.0
Other current purchases	14,789	14.2	10.3	11.9	5.9	6.6
Domestic defense	23,983	0.0	-6.2	2.0	-2.0	1.1
Compensation of employees	12,749	-2.3	-1.1	0.0	-0.8	-1.4
Indirect taxes on salaries	631	-1.2	1.2	-0.6	0.0	-1.1
Other current purchases	10,603	2.2	-11.3	4.1	-3.3	4.4
Memorandum items:						
Net defense imports	6,316	-23.6	52.7	-31.4	-13.3	18.2
Defense imports	6,948	-24.9	41.4	-29.1	-11.3	17.0
Less: Sales	632	-32.6	-34.9	7.4	9.0	7.3
Public consumption including net defense imports	90,775	-0.3	5.4	0.3	0.6	3.9

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics* and *1997 Statistical Abstract of Israel*; and data provided by the Bank of Israel.

Table A5. Israel: Gross Private Income and Savings, 1992–96

	1992	1993	1994	1995	1996
	(In millions of new sheqalim; at current prices)				
GNP at market prices	158,617	183,832	220,787	257,246	300,003
Plus:	4,131	4,302	4,862	4,446	4,484
Subsidies on domestic production	3,594	3,831	4,442	4,082	4,159
Subsidies on government loans	537	471	420	364	325
Less:					
Indirect taxes on domestic production	24,033	26,365	31,055	36,119	42,985
GNP at factor cost	138,715	161,769	194,594	225,573	261,502
Plus:					
Net private transfers from abroad	6,261	7,568	9,591	11,041	11,692
Net transfers to domestic households and private nonprofit institutions	24,227	28,120	32,438	39,646	44,789
Less:					
Public sector income from property and entrepreneurship	2,342	2,113	2,376	4,018	3,973
Public sector consumption of fixed capital	2,328	2,608	2,917	3,415	3,880
Private income	164,533	192,736	231,330	268,827	310,130
Less: Direct taxes 1/	28,160	34,673	44,669	53,567	59,847
Gross private disposable income	136,373	158,063	186,661	215,260	250,283
Private consumption	98,079	116,563	142,768	161,831	187,831
Private savings	38,294	41,500	43,893	53,429	62,452
	(Percent of gross private disposable income)				
Private consumption	71.9	73.7	76.5	75.2	75.0
Private savings	28.1	26.3	23.5	24.8	25.0

Sources: Central Bureau of Statistics, *Current Briefings in Statistics*; and data provided by the Bank of Israel.

1/ Including contribution to National Insurance Institute.

Table A6. Israel: National Saving, Foreign Savings, and Investment, 1992–96

	1992	1993	1994	1995	1996
	(In percent of total income) 1/				
Gross national savings	22.2	20.3	18.6	17.8	17.1
General government	1.1	0.6	0.8	-0.7	-1.7
Private sector	21.1	19.7	17.8	18.5	18.8
Foreign savings	-0.2	1.3	3.0	4.3	5.8
Current account	0.5	-1.0	-2.7	-4.0	-5.5
Civilian import surplus	5.9	6.4	7.9	9.1	7.9
Unilateral transfers	6.4	5.4	5.2	5.1	2.4
Transfers on capital account	0.3	0.3	0.3	0.3	0.3
Gross investment	22.1	21.7	21.6	22.0	21.9
Inventories	1.1	1.3	0.7	0.7	0.7
Fixed residential	7.9	5.7	5.4	6.4	6.7
Fixed nonresidential	13.1	14.7	15.5	14.9	14.5

Source: Bank of Israel, *Annual Report 1996*.

1/ Total income defined as GNP plus unilateral transfers from abroad.

Table A7. Israel: Industrial Production Indices, 1992-97

	Weight	Percentage change at constant prices					
		1992	1993	1994	1995	1996	1997 1/
Food, beverages, and tobacco	12.7	2.6	8.0	6.6	8.2	0.2	2.7
Textiles, clothing, and leather	6.7	5.8	5.8	10.7	2.4	-5.6	-4.5
Wood, furniture, paper, and printing	12.1	9.7	13.0	7.0	3.8	3.0	0.5
Chemicals, rubber, and plastics	15.2	11.1	11.5	11.0	7.5	8.3	-0.3
Mining and nonmetallic minerals	6.5	12.2	3.0	5.4	18.0	8.4	-0.3
Basic metals and metal products	12.5	5.5	4.2	11.0	12.6	5.2	4.6
Machinery and equipment (incl. electric)	7.0	10.8	12.4	5.0	4.3	1.1	-5.0
Transport equipment	5.7	9.3	-6.9	-8.0	0.7	5.5	2.9
Electronic equipment	19.9	4.2	5.9	8.4	9.0	6.5	2.7
Jewelry and miscellaneous articles	1.8	21.3	4.8	10.4	15.4	7.1	4.3
Total industrial production	100.0	8.2	6.8	7.4	8.4	5.4	0.8

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics*; and data provided by the Bank of Israel.

1/ Data for the first six months; percentage change relative to the same period in the previous year.

Table A8. Israel: Labor Market Indicators, 1992–97

	In thousands	Percentage change					
	1996	1992	1993	1994	1995	1996	1997 1/
Israeli working-age population 2/	4,020	4.3	3.0	2.9	3.0	3.0	2.8
Israeli civilian labor force	2,157	4.9	4.8	4.3	4.0	2.2	2.3
Total Israelis employed	2,013	4.2	6.1	6.9	5.0	2.4	2.5
Public services	566	3.2	3.5	4.8	4.0	3.9	2.8
Business sector	1,447	5.9	4.7	7.2	7.7	1.9	2.4
Workers from administered areas	42	18.1	-27.3	-16.7	-14.3	-31.7	43.0
Foreign workers 3/	119	...	...	75.0	107.1	29.3	12.0
Total employed	2,174	5.0	4.9	6.4	5.9	2.7	1.3
Memorandum items:							
Participation rate (in percent of working-age population)		52.0	52.9	53.6	54.1	53.7	53.4
Unemployment rate (in percent of civilian labor force)		11.2	10.0	7.8	6.9	6.7	7.1

Sources: Bank of Israel, *Annual Report*; Central Bureau of Statistics, *Monthly Bulletin of Statistics*; and data provided by the Bank of Israel.

1/ Data for the first six months; percentage change relative to the same period in the previous year.
2/ Aged 15 and above.
3/ Includes unreported foreign workers.

Table A9. Israel: Employment and Labor Input by Industry, 1992-96 1/

	1996	Annual percentage change				
		1992	1993	1994	1995	1996
Employed persons 2/	(In thousands)					
Total 3/	2,013	4.2	6.1	6.9	5.0	2.4
Agriculture	51	4.2	7.4	1.6	-11.7	-11.1
Industry	405	2.7	6.5	6.7	2.2	0.2
Public utilities	19	-13.7	21.4	15.3	-5.4	-3.1
Construction	150	2.6	-3.4	21.2	3.3	6.7
Commerce	255	2.6	-3.4	21.2	3.3	2.7
Hotels and restaurants	76	2.2	7.3	22.1	10.6	-6.3
Transport, storage, and communication	124	7.8	2.4	3.0	2.0	8.2
Banking, insurance, and finance	68	2.1	6.8	6.4	4.0	-0.1
Business services	194	8.4	6.8	12.5	11.9	9.8
Community, social, and personal services	95	11.4	6.1	5.1	10.0	3.3
Civil service	108	-0.9	0.0	7.3	-0.7	0.7
Education	243	3.5	2.9	4.5	5.9	3.1
Health and welfare	179	3.8	7.8	6.3	7.0	4.1
Private household services	34	5.0	13.4	11.8	11.6	3.7
Foreign organizations	1	10.0	9.1	0.0	16.7	-23.1
Labor input	(In millions of man-hours)					
Total 3/	76.1	6.9	6.4	8.6	5.6	2.7
Agriculture	2.1	3.7	9.4	2.9	-7.9	-10.9
Industry	16.9	6.4	7.5	7.3	3.7	0.5
Public utilities	0.8	-11.5	18.7	19.2	-4.3	-0.3
Construction	6.6	3.4	-1.7	24.7	5.9	6.0
Commerce	10.6	5.4	-2.5	22.1	2.5	3.2
Hotels and restaurants	3.0	7.2	4.1	32.1	0.9	-5.6
Transport, storage, and communication	5.2	8.6	4.8	6.6	1.7	8.7
Banking, insurance, and finance	2.5	4.1	6.8	7.8	3.4	-0.9
Business services	7.5	11.3	6.2	13.4	11.9	10.7
Community, social, and personal services	3.1	16.1	4.5	3.9	10.3	1.1
Civil service	4.2	-1.7	0.0	9.3	-0.2	1.9
Education	6.3	6.1	0.9	7.9	7.9	1.5
Health and welfare	6.0	5.7	8.8	6.0	7.0	7.0
Private household services	0.8	8.8	10.0	17.7	17.1	8.5
Foreign organizations	0.0	16.2	6.2	12.6	20.2	-24.2

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics* ; and Bank of Israel, *Annual Report 1996.*

1/ Employment figures are annual averages; labor input figures are weekly averages.

2/ Israeli employees.

3/ Data do not sum to total due to an "unknown" category.

Table A10. Israel: Real Wages, Labor Costs, and Productivity, 1992-96

	1992	1993	1994	1995	1996
	(Percentage change)				
Real wages per employee post 1/					
Total economy	1.2	0.6	2.3	2.1	1.7
Business sector					
Real consumption wages	1.8	0.3	-0.4	0.6	1.5
Real production wages	-6.1	...	...	...	...
Public sector	-0.4	1.2	9.8	5.8	1.9
Labor costs and productivity in the business sector					
Real compensation 2/	-0.8	0.7	0.8	0.2	3.4
Labor productivity 3/	-0.9	-2.2	-1.5	0.4	1.1
Real unit labor costs 4/	-1.7	2.9	2.3	-0.2	2.3

Sources: Bank of Israel, *Annual Report 1996*; and data provided by the Bank of Israel.

1/ Real wages in the public sector and real consumption wages in the business sector are deflated by the consumer price index; real production wages are deflated by the implicit price index of business sector net domestic product at factor cost.

2/ Measured on an hourly basis; deflated by the implicit price index of business sector net domestic product at factor cost.

3/ Business sector net domestic product per man-hour estimated from the expenditure side.

4/ Ratio of real labor cost per man-hour to labor productivity.

Table A11. Israel: Real Wage Indices, 1992-97 1/

	Public Services	Business Sector	Total
		(1994=100)	
1992	90.0	100.1	96.9
1993	91.1	100.4	97.5
1994	100.0	100.0	100.0
1995	105.8	100.7	102.1
1996	107.8	102.2	103.8
1995			
I	101.8	100.3	100.3
II	110.6	100.1	100.1
III	110.0	101.8	101.8
IV	100.9	100.7	100.7
1996			
I	104.4	102.2	102.2
II	110.9	101.3	101.3
III	112.0	102.1	102.1
IV	104.1	103.3	103.3
1997			
I	104.8	102.9	102.9
II	109.6	103.7	103.7

Source: Data provided by the Bank of Israel.

1/ Average monthly wage per employee post at constant prices, based on employers' contributions to the National Insurance Institute, deflated by the consumer price index. Data from 1994 are based on a new sample and a new definition of "public services;" data from earlier years were connected via linking indices.

Table A12. Israel: Consumer Price Index and its Main Components, 1992-97

	Weight in index	Percentage change											
		1992		1993		1994		1995		1996		1997 1/	
		Annual average	During year	Annual average	During year	Annual average	During year	Annual average	During year	Annual average	During year	Annual average	During year
General index	1000.0	11.9	9.4	10.9	11.2	12.3	14.5	10.0	8.1	11.3	10.6	11.0	8.6
General index excluding agricultural products	957.7	11.7	9.2	11.5	11.9	11.9	12.7	10.5	10.0	11.5	10.7	10.7	8.3
Agricultural products	44.1	19.1	16.0	1.4	-1.6	16.6	50.7	0.4	-23.6	6.4	7.9	17.1	15.9
Fruits, vegetables and field crops	37.0	18.1	14.9	0.3	-1.7	23.6	63.3	-0.5	-27.3	4.0	5.2	17.4	18.0
Fish and animal products	7.1	23.2	21.0	6.5	-1.4	-19.8	-18.1	7.6	17.4	24.0	24.8	15.0	4.2
Industrial products	381.5	9.6	7.2	6.5	6.5	7.2	8.5	8.5	8.2	9.3	8.6	7.6	4.6
Food, beverages and tobacco	141.5	11.3	8.3	6.5	8.6	9.5	9.4	9.3	10.0	11.5	10.1	10.7	11.5
Clothing and textiles	52.1	8.2	4.8	6.1	3.9	3.9	7.7	7.3	6.3	6.5	4.9	1.3	-16.8
Wood and wood products	19.4	7.9	6.0	7.3	7.2	6.9	10.3	11.8	10.4	10.1	9.6	9.3	6.9
Footwear, leather goods, rubber and plastic	17.7	10.7	7.1	5.5	4.5	5.1	6.8	5.8	3.6	5.2	5.3	2.8	-3.3
Chemical and fuel products	44.3	7.7	6.4	5.3	2.4	6.3	9.9	9.6	9.8	18.4	21.0	15.3	10.7
Metals, machinery, transport and electronic equipment	74.2	8.4	6.9	7.1	6.1	5.8	6.3	6.1	4.4	2.2	1.2	1.4	2.2
Miscellaneous	32.3	9.3	7.8	8.0	7.3	8.4	9.6	9.6	9.8	9.1	7.7	6.6	5.7
Electricity and water	27.1	11.1	10.5	7.7	5.7	8.5	8.7	10.0	9.1	8.2	10.5	9.4	3.6
Building and housing services	206.5	11.0	5.4	18.5	22.5	23.1	23.6	14.5	13.9	16.0	13.2	13.4	10.9
Transportation and communications	65.8	10.1	9.2	11.6	10.9	7.0	5.5	6.3	6.8	8.0	9.1	11.6	10.7
Services	275.0	15.2	14.6	12.3	11.0	12.3	13.2	11.2	9.9	11.6	11.8	12.4	11.0
Municipal taxes and insurance	61.8	17.0	14.6	12.9	14.0	15.0	15.5	12.4	10.7	11.8	11.6	13.2	9.8
Public sector services	105.8	18.5	19.3	13.8	10.0	12.8	14.9	11.8	9.8	12.4	13.0	12.6	11.1
Education	41.8	15.0	15.3	14.5	13.7	13.2	13.1	11.6	10.4	12.2	11.6	11.6	11.1
Health	64.0	21.2	22.5	13.3	7.3	12.5	16.5	12.4	8.9	12.7	14.9	14.0	11.3
Personal services	107.4	11.0	8.8	8.6	8.1	9.0	10.2	10.1	9.3	10.3	10.8	10.7	9.4
Entertainment	19.4	15.1	12.3	13.8	13.9	13.1	13.2	12.9	11.0	10.2	10.9	14.1	14.8
Other	38.6	9.5	7.5	6.5	5.9	7.0	8.5	8.6	8.4	10.3	10.7	8.8	6.5
Hotels, guest accommodation	41.7	11.7	13.4	13.0	12.1	11.5	9.7	8.6	9.9	11.5	11.8	13.9	15.2
Business services	7.7	15.4	7.8	14.1	16.8	14.5	14.1	10.7	9.7	11.8	9.9	10.3	10.3

Source: Central Bureau of Statistics data, as prepared and compiled by the Bank of Israel.

1/ January-September data, annualized.

Table A13. Israel: Selected Price Indices, 1992-97

	Weight	1992	1993	1994	1995	1996	1997 1/
		(Percent increase during the period, at annual rates)					
Consumer price index							
General index	1000.0	9.4	11.2	14.5	8.1	10.6	8.6
Controlled prices	121.4	15.7	9.9	12.0	7.1	11.5	9.0
Uncontrolled prices	844.6	8.3	11.5	14.9	8.0	10.5	8.5
Tradables	380.4	8.8	6.5	9.0	7.7	8.3	5.7
Nontradables	585.6	9.7	13.7	18.0	8.4	12.0	10.3
Of which: Housing	207.7	5.4	23.7	23.6	13.6	13.2	10.9
CPI excluding housing	792.3	10.6	7.6	12.2	6.4	9.8	7.8
CPI excluding housing and fruits & vegetables	750.0	10.4	8.1	9.8	8.8	10.1	7.4
CPI excluding housing, fruits & vegetables, controlled prices, clothing & footwear	535.1	9.3	7.9	9.3	9.2	10.2	9.5
Wholesale price index of industrial output		9.1	7.2	9.7	10.0	7.0	7.1
Exchange rates							
Against the U.S. dollar		16.9	10.1	1.8	3.1	5.0	9.5
Against the currency basket		14.9	8.0	5.4	5.8	3.0	3.7

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics*; IMF, *International Financial Statistics;* and data provided by the Bank of Israel.

1/ Twelve-month rate through September.

Table A14. Israel: Regulated Prices in the Consumer Price Index (as of August 1997)

	Weight (from 1000)		Weight (from 1000)
A. Controlled prices		**B. Prices under supervision**	
Public bus transportation	14.7	Flour	1.5
Meat	7.8	Margarine	0.8
Municipal taxes	20.0	Yogurt	5.7
Electricity (for domestic use)	18.4	Bread	9.0
Water (for domestic use)	8.6	Milk	7.6
Education fees	22.7	Cream	1.1
Sick Fund services	8.1	Butter	0.5
Train and domestic flight tickets	0.3	Cheese	9.8
Phone services	20.3	Refrigerators	5.0
Mail services	0.5	School books	4.4
Total	121.4	Medicines	4.2
		Gas (for domestic use)	3.2
		Oil and fuel (for domestic use)	0.4
		Taxi rides	3.4
		Total	56.6

Source: Bank of Israel.

Table A15. Israel: Bank of Israel Accounts, 1992-97

	1992	1993	1994	1995	1996	1997 September
	(In millions of new sheqalim; end of period)					
Total assets	36,103	46,881	46,677	41,674	51,465	84,579
Foreign assets	14,185	19,063	20,507	25,576	37,126	66,347
Domestic assets						
Credit to the government (long term debt)	8,644	8,373	8,080	7,773	7,448	7,456
Loans and notes	11,053	16,972	15,564	4,503	1,236	3,763
Monetary	10,507	16,501	15,011	4,009	957	3,655
Other	546	471	553	494	279	108
Government securities	1,775	1,965	1,896	3,045	4,856	5,338
Other accounts	446	508	630	777	799	1,675
Total liabilities	36,103	46,881	46,677	41,674	51,465	84,579
Foreign liabilities	1,190	1,286	1,366	1,242	724	614
Allocations of SDRs	405	437	467	496	496	...
Liabilities to international monetary organizations	785	849	899	746	228	...
Currency in circulation	4,793	5,652	6,454	7,916	9,222	10,199
Deposits of the government	11,694	16,165	17,456	19,325	23,013	30,975
In Israeli currency	8,040	8,867	6,682	16,828	15,670	...
In foreign currency	3,654	7,298	10,774	2,497	7,343	...
Deposits of banking institutions	17,004	22,291	19,603	11,126	16,484	39,811
In Israeli currency	1,111	2,088	3,190	1,007	8,502	32,579
In foreign currency	15,893	20,203	16,413	10,119	7,982	7,232
Against resident deposits	...	9,884	8,074	9,844	7,649	6,933
Against nonresident deposits	2,953	3,236	3,885	0	0	0
Free deposits of banking institutions	...	7,083	4,454	275	333	299
Other deposits and accounts	1,102	1,167	1,478	1,745	1,952	2,910
Capital and reserves	320	320	320	320	70	70

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics*; and data provided by the Bank of Israel.

Table A16. Israel: Monetary Survey, 1992–97

	1992	1993	1994	1995	1996	1997 June
	(In millions of new sheqalim; end of period)					
Net foreign assets	9,505	12,545	14,295	16,642	28,233	36,262
Bank of Israel	13,400	18,214	19,608	24,830	36,898	63,827
DMBs	-3,895	-5,669	-5,313	-8,188	-8,665	-27,565
Net domestic assets	138,125	158,964	182,144	232,442	272,996	287,768
Domestic credit	145,253	167,458	194,691	235,127	272,931	289,494
Net claims on government	52,117	46,902	41,639	50,987	54,445	49,570
Total gross claims	72,513	75,418	76,216	80,715	89,790	87,476
Bank of Israel	10,419	10,338	9,975	10,804	12,265	12,383
DMB claims	62,094	65,080	66,241	69,911	77,525	75,093
Government bonds	16,976	21,784	24,583	36,624	47,206	45,944
From bank resources	14,744	13,399	12,078	7,031	6,802	6,120
Foreign currency credit	2,883	2,636	2,336	1,323	650	1,195
From earmarked deposits	27,491	27,261	27,244	24,933	22,867	21,834
Less: Government deposits held at:	20,396	28,516	34,577	29,728	35,345	37,906
Bank of Israel	5,249	8,912	11,366	3,044	7,755	9,634
DMBs	15,147	19,604	23,211	26,684	27,590	28,272
Mortgage banks	8,627	10,260	14,581	18,128	24,352	26,977
Private sector	84,509	110,296	138,471	166,012	194,134	212,947
Nondirected credit in Israeli currency	55,616	80,461	105,515	119,660	140,262	138,852
Nondirected credit in foreign currency	12,447	12,587	15,565	33,992	42,169	61,638
Directed credit in foreign currency	441	403	491	327	152	3
Credit from earmarked deposits	15,018	15,761	15,739	10,994	10,610	11,473
Securities	987	1,084	1,161	1,039	941	981
Other items, net	-7,128	-8,494	-12,547	-2,685	65	-1,726
Monetary liabilities	110,239	134,667	167,419	199,732	250,111	266,807
M1	10,567	13,571	14,608	17,034	20,294	19,983
Quasi-money	99,672	121,096	152,811	182,698	229,817	246,824
Time and saving deposits	89,151	104,333	139,123	166,354	211,415	228,732
Time deposits	11,532	17,494	35,289	52,494	75,961	86,859
Saving schemes	36,888	42,908	53,459	61,459	75,537	79,287
Long-term indexed deposits	10,926	11,364	13,129	12,331	13,732	14,306
Foreign currency deposits	29,805	32,567	37,246	40,070	46,185	48,280
CDs	10,521	16,763	13,688	16,344	18,402	18,092
Earmarked deposits	30,157	28,992	28,834	25,850	23,804	22,802

Source: Data provided by the Bank of Israel.

Table A17. Israel: Financial Assets of the Public, 1992-97 1/

	1992	1993	1994	1995	1996	1997 June
			(In millions of new sheqalim; end of period)			
Total assets in banks and government bonds	...	228,110	265,502	302,023	358,704	386,814
Broad money assets	139,661	163,857	196,413	226,017	274,210	289,770
Liquid financial assets (M3)	50,110	67,603	86,531	109,973	145,098	157,433
Money supply (M1)	10,390	13,571	14,608	17,034	20,294	19,983
Time deposits and negotiable CDs	21,882	34,257	48,977	68,838	94,363	104,952
Special deposits 2/	301	194	195	434	295	155
Resident foreign currency	17,537	19,581	22,751	23,667	30,146	32,343
Medium-term assets	89,551	96,254	109,882	116,044	129,112	132,337
Restitution deposits	12,103	12,986	14,495	16,403	16,039	15,942
Saving schemes	36,876	42,848	53,401	61,446	75,537	79,287
Long-term linked deposits	10,731	11,364	13,129	12,331	13,732	14,306
Earmarked deposits	29,841	29,056	28,857	25,864	23,804	22,802
Short-term treasury bills	...	2,560	4,262	7,393	8,934	8,888
Tradable linked government bonds 3/	58,820	61,693	64,827	68,613	75,560	88,156
Stocks	81,907	151,607	98,800	114,500	116,600	160,900
Total financial assets	...	379,717	364,302	416,523	475,304	547,714
Of which: Nonindexed short term assets	...	50,582	67,847	93,266	123,591	133,822
			(In percent of total financial assets)			
Total assets in banks and government bonds		60.1	72.9	72.5	75.5	70.6
Broad money assets		43.2	53.9	54.3	57.7	52.9
Liquid financial assets (M3)		17.8	23.8	26.4	30.5	28.7
Money supply (M1)		3.6	4.0	4.1	4.3	3.6
Time deposits and negotiable CDs		9.0	13.4	16.5	19.9	19.2
Special deposits 2/		0.1	0.1	0.1	0.1	0.0
Resident foreign currency		5.2	6.2	5.7	6.3	5.9
Medium-term assets		25.3	30.2	27.9	27.2	24.2
Restitution deposits		3.4	4.0	3.9	3.4	2.9
Saving schemes		11.3	14.7	14.8	15.9	14.5
Long-term linked deposits		3.0	3.6	3.0	2.9	2.6
Earmarked deposits		7.7	7.9	6.2	5.0	4.2
Short-term treasury bills		0.7	1.2	1.8	1.9	1.6
Tradable linked government bonds 3/		16.2	17.8	16.5	15.9	16.1
Stocks		39.9	27.1	27.5	24.5	29.4
Total financial assets		100.0	100.0	100.0	100.0	100.0
Of which: Nonindexed short term assets		13.3	18.6	22.4	26.0	24.4
			(Real rate of growth) 4/			
Total assets in banks and government bonds		...	1.7	5.2	7.4	9.8
Broad money assets		5.5	4.7	6.4	9.7	7.9
Liquid financial assets (M3)		21.3	11.9	17.6	19.3	16.7
Money supply (M1)		17.4	-5.9	7.9	7.7	2.4
Time deposits and negotiable CDs		40.7	24.9	30.0	23.9	23.6
Special deposits 2/		-42.1	-12.2	105.9	-38.5	-66.6
Resident foreign currency		0.4	1.5	-3.8	15.2	7.8
Medium-term assets		-3.4	-0.2	-2.3	0.6	-1.0
Restitution deposits		-3.6	-2.5	4.7	-11.6	-8.5
Saving schemes		4.4	8.9	6.4	11.1	7.5
Long-term linked deposits		-4.8	1.0	-13.1	0.7	-2.9
Earmarked deposits		-12.5	-13.2	-17.1	-16.8	-17.8
Short-term treasury bills		...	45.5	60.5	9.3	4.4
Tradable linked government bonds 3/		-5.7	-8.2	-2.1	-0.4	17.2
Stocks		66.4	-43.1	7.2	-7.9	35.1
Total financial assets		...	-16.2	5.8	3.2	16.2
Of which: Nonindexed short term assets		...	17.2	27.2	19.8	18.5

Source: Data provided by the Bank of Israel.

1/ The public consists of individuals and corporations excluding the Government, Bank of Israel, ordinary banking corporations, and banks abroad. It includes social and life insurance funds but does not include the assets of these funds held out of the ordinary banking system.

2/ Noninterest-bearing deposits mandated by law to cover total subscriptions for securities flotations in the TASE.

3/ Defined to exclude bond holdings of pension funds and insurance companies.

4/ Nominal rate deflated by consumer price index.

Table A18. Israel: Commercial Bank Credit to the Private Sector, 1992-97 1/

	1992	1993	1994	1995	1996	1997 September
	(In millions of new sheqalim; end of period)					
Total	92,159	119,482	151,892	183,167	217,594	242,476
Short-term credit	47,561	64,236	79,013	100,469	116,439	132,314
Nondirected credit	47,121	63,833	78,522	100,142	116,287	132,311
In Israeli currency 2/	34,673	51,219	62,633	65,564	73,118	71,088
In U.S. dollars	12,448	12,614	15,889	34,578	43,169	61,223
Directed credit	441	403	491	327	152	3
Medium- and long-term credit	44,598	55,247	72,879	82,698	101,155	110,162
Of which: Indexed NIS credit	29,569	39,475	57,139	64,989	84,019	92,564
	(In percent of total)					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Short-term credit	51.6	53.8	52.0	54.9	53.5	54.6
Nondirected credit	51.1	53.4	51.7	54.7	53.4	54.6
In Israeli currency 2/	37.6	42.9	41.2	35.8	33.6	29.3
In U.S. dollars	13.5	10.6	10.5	18.9	19.8	25.2
Directed credit	0.5	0.3	0.3	0.2	0.1	0.0
Medium- and long-term credit	48.4	46.2	48.0	45.1	46.5	45.4
Of which: Indexed NIS credit	32.1	33.0	37.6	35.5	38.6	38.2
	(Nominal percentage increase)					
Total		29.6	27.1	20.6	18.8	15.8
Short-term credit		35.1	23.0	27.2	15.9	18.5
Nondirected credit		35.5	23.0	27.5	16.1	18.7
In Israeli currency 2/		47.7	22.3	4.7	11.5	1.9
In U.S. dollars		1.3	26.0	117.6	24.8	46.7
Directed credit		-8.5	21.8	-33.4	-53.5	-98.3
Medium- and long-term credit		23.9	31.9	13.5	22.3	12.8
Of which: Indexed NIS credit		33.5	44.7	13.7	29.3	15.6
	(Real percentage increase) 3/					
Total		16.5	11.1	11.6	7.4	6.5
Short-term credit		21.4	7.5	17.6	4.8	9.0
Nondirected credit		21.8	7.5	18.0	5.0	9.2
In Israeli currency 2/		32.8	6.9	-3.2	0.8	-6.3
In U.S. dollars		-8.9	10.1	101.3	12.9	34.9
Directed credit		-17.7	6.5	-38.4	-58.0	-98.4
Medium- and long-term credit		11.3	15.3	5.0	10.6	3.7
Of which: Indexed NIS credit		20.0	26.5	5.2	16.9	6.3

Source: Data provided by the Bank of Israel.

1/ Includes credit to local authorities (the credit excludes deductions for loan-loss provisions).

2/ Includes indexation increments.

3/ Nominal rate deflated by consumer price index.

Table A19. Israel: Interest Rates, 1992-97

	Inflation rate	Change in NIS/US$ exchange rate	Lending rates			Discount-window loan, average cost 3/	Monetary loan (maximum bracket)	Three-month Euro-dollar rate 4/	Deposit rates			Yield to maturity on treasury bills	Yield to maturity on 5-year bonds	Yield to maturity on 10-year bonds
			Overdraft facilities 1/	Exceptional credit	Nondirected NIS credit 2/				Reserve deposits with BoI	Self Renewing Overnight	Time deposits			
	(Average annual rate)		(Nominal rates in percent per annum) 5/											
1992	11.9	7.9	22.0	25.9	19.9	11.9	...	3.7	1.6	10.3	11.3	12.2	2.3	...
1993	10.9	15.1	18.1	20.2	16.5	11.3	11.3	3.1	1.1	9.7	10.4	11.4	2.8	2.9
1994	12.3	6.4	19.8	21.8	17.4	13.4	12.9	4.6	2.2	11.6	12.2	13.0	2.9	3.2
1995	10.0	0.0	22.4	25.0	20.2	15.5	14.8	5.9	0.3	13.3	14.1	15.4	4.1	4.3
1996	11.3	6.0	23.0	24.9	20.7	16.1	15.3	5.4	3.8	13.8	14.5	15.6	4.4	4.5
	(Annualized rate)													
1996 Jan.	10.7	3.8	21.4	23.9	19.2	14.6	13.9	5.4	0.2	12.4	13.2	13.6	4.0	4.2
Feb.	11.6	-6.1	21.9	24.4	19.7	14.9	14.1	5.2	0.1	12.6	13.3	13.5	4.2	4.3
Mar.	12.5	-5.3	21.9	24.4	19.7	15.0	14.1	5.3	0.1	12.6	13.4	14.1	4.3	4.4
Apr.	21.8	28.7	22.0	23.6	19.7	15.2	14.4	5.4	0.2	12.8	13.6	14.8	4.2	4.4
May	22.4	38.9	22.8	24.5	20.4	16.0	15.0	5.4	0.2	13.7	14.2	15.6	3.9	4.2
June	9.1	1.0	23.7	25.5	21.3	16.9	15.8	5.4	0.6	14.4	14.6	16.6	4.1	4.4
July	3.5	-24.7	25.2	26.8	22.7	18.4	17.2	5.5	3.1	15.8	16.1	17.8	4.7	4.7
Aug.	4.4	-11.9	24.2	25.8	21.8	17.4	16.4	5.4	6.6	15.1	15.7	17.0	5.1	5.1
Sept.	5.3	8.2	23.6	25.3	21.4	16.8	16.0	5.5	8.7	14.4	15.3	16.3	4.7	4.8
Oct.	9.8	24.5	23.4	25.0	21.0	16.5	15.6	5.4	9.0	14.1	15.1	16.0	4.3	4.5
Nov.	7.9	7.3	22.9	24.7	20.6	16.1	15.3	5.4	8.8	13.8	14.7	15.8	4.3	4.4
Dec.	9.7	12.5	22.7	24.6	20.5	16.0	15.2	5.4	9.7	13.8	14.6	15.6	4.3	4.3
1997 Jan.	5.1	-0.1	22.3	24.0	20.0	15.4	14.8	5.4	10.5	13.3	14.3	15.0	4.3	4.3
Feb.	15.2	24.6	21.9	23.7	19.6	14.9	14.3	5.4	11.9	12.8	13.8	14.5	3.9	4.1
Mar.	12.2	11.3	21.7	23.6	19.4	14.6	14.1	5.5	12.5	12.4	13.4	14.2	3.9	4.1
Apr.	9.4	8.7	21.4	23.4	19.2	14.6	14.0	5.7	12.5	12.4	13.4	14.2	4.1	4.2
May	5.8	3.2	21.3	23.4	19.1	14.7	14.1	5.7	12.6	12.5	13.3	14.3	4.0	4.0
June	13.7	20.9	20.8	22.8	18.7	14.1	13.6	5.7	12.4	12.0	13.0	13.7	3.9	3.9
July	12.7	36.6	19.8	21.6	17.7	13.3	13.0	5.6	11.9	11.2	12.4	13.0	3.6	3.8
Aug.	4.9	-4.6	19.8	21.7	17.7	13.4	13.0	...	12.1	11.3	12.3	13.3	3.5	3.7
Sept.	-0.8	-7.3	...	...	18.4	14.1	13.6	...	...	12.0	...	14.1	3.7	3.8

Source: Data provided by the Bank of Israel.

1/ Includes basic interest rate, commitment fees and the higher interest charged for drawings in excess of approved ceiling.
2/ Includes interest on overdraft facilities.
3/ The interest specified here is the weighted average of Bank of Israel auctions on monetary loans.
4/ The base for interest on dollar loans is the euro expressed in dollar terms for three months.
5/ Monthly rates compounded annually.

Table A20. Israel: Interest Rates on Various Types of Credit and the Public's Assets, 1992-97

	1992	1993	1994	1995	1996	1995				1996				1997		
						I	II	III	IV	I	II	III	IV	I	II	III
						(Annual rates in percent, before tax)										
Nominal interest rates																
Short-term bank credit to the private sector 1/	20.3	16.0	15.5	17.8	17.6	16.5	16.5	17.9	29.2	13.3	24.8	11.1	21.7	19.7	18.9	...
Nondirected credit	20.5	16.1	15.6	17.8	17.6	16.6	16.6	180.0	20.2	13.3	24.8	11.1	21.8	19.7	18.9	...
In Israeli currency	19.9	16.5	17.4	20.2	20.7	22.5	19.7	18.9	19.8	19.6	20.5	21.9	20.7	19.7	19.0	...
Overdraft facilities	22.0	18.1	19.8	22.4	23.0	24.8	21.8	21.1	22.1	21.7	22.8	24.3	23.0	22.0	21.1	...
Fixed-term credit	12.5	15.0	15.6	18.4	18.8	20.6	18.0	17.0	17.9	17.7	18.6	20.0	19.0	17.8	17.2	...
Self-renewing overnight deposits	10.3	9.7	11.6	13.3	13.8	15.6	12.8	12.0	12.7	12.5	13.6	15.1	13.9	12.8	12.3	...
Time deposits 2/	11.3	10.4	12.2	14.1	14.5	16.3	13.7	12.8	13.5	13.3	14.1	15.7	14.8	13.8	13.3	...
One-month treasury bills	12.2	11.4	13.0	15.4	15.6	17.4	15.2	14.0	15.1	13.7	15.7	17.0	15.8	14.6	14.1	13.5
Real actual interest rates 3/																
Short-term bank credit to the private sector 1/	10.0	4.3	0.9	9.0	6.3	15.3	6.6	7.1	7.0	1.5	6.1	6.4	11.5	8.1	8.5	...
Nondirected credit	10.2	4.4	1.0	9.0	6.3	15.4	6.6	7.1	7.1	1.6	6.1	6.4	11.6	8.1	8.5	...
In Israeli currency	9.6	4.7	2.6	11.2	9.1	21.3	9.5	7.9	6.7	7.1	2.4	16.8	10.6	8.1	8.6	...
Overdraft facilities	11.5	6.2	4.7	13.2	11.2	23.6	11.5	9.9	8.7	9.0	4.4	19.1	12.7	10.1	10.5	...
Fixed-term credit	2.9	3.4	1.0	9.5	7.4	19.4	7.9	6.3	4.9	5.5	0.8	15.0	9.0	6.4	6.9	...
In foreign currency (euro) 4/	2.9	2.1	-7.0	1.0	0.1	-1.8	-2.4	3.2	5.0	-8.1	9.1	-9.5	10.6	6.1	6.7	6.7
CDs	0.8	-1.4	-2.5	4.8	2.9	14.5	3.2	1.6	0.4	0.8	-3.4	10.2	4.3	1.9	2.5	...
Time deposits 2/	1.8	-0.8	-2.0	5.5	3.5	15.1	4.1	2.4	1.1	1.5	-3.0	10.8	5.2	2.8	3.3	...
One-month treasury bills	2.6	0.1	-1.3	6.7	4.5	16.2	5.4	3.5	2.5	1.9	-1.6	12.1	6.1	3.5	4.1	7.6
Indexed 5-year government bonds	2.3	2.8	2.9	4.1	4.4	4.0	4.1	4.1	4.3	4.2	4.1	4.8	4.3	4.0	4.0	3.6
Interest rate spread 5/	10.7	7.7	7.5	8.2	8.2	8.1	8.1	8.2	8.4	8.2	8.2	8.1	8.1	8.2	8.0	...

Source: Data provided by the Bank of Israel.

1/ Includes directed credit and nondirected foreign currency linked credit.

2/ Average for all time deposits, overdrafts, and the rate on certificates of deposit.

3/ Nominal rate deflated by consumer price index.

4/ Euro expressed in dollar terms for three months is the base for interest on dollar loans, excluding public companies.

5/ Interest rate differential defined as the gap in nominal percentage points on an annual basis between the effective rate on overdrafts and the rate on certificates of deposit.

Table A21. Israel: Reserve Requirements on Deposits and Interest Brackets, 1992-97

	Demand deposits	Time deposits		
		(In percent)		
		(November 2, 1992 to December 28, 1994)		
		1-6 days (daily)	1 week-3 months	3 months+
Reserve requirement				
Domestic holdings	8	8	6	4
Foreign holdings				
Percentage of reserve requirement on which interest is paid by the Bank of Israel	0	0	33.3	50
		(from December 29, 1994)		
		1-6 days	1 week-1 year	Over 1 year
Reserve requirement	6	6	3	0
Domestic holdings	6	6	3	0
Foreign holdings	6	6	3	0
Percentage of reserve requirement on which interest is paid by the Bank of Israel	0	0	0	0

Source: Bank of Israel.

Table A22. Israel: Sources of Changes to the M3 Base, 1992-97 1/

	1992	1993	1994	1995	1996	1996				1997		
						I	II	III	IV	I	II	III
	(In millions of new sheqalim)											
Public sector injection 2/	5,156	2,628	4,940	2,841	8,582	575	1,687	2,465	3,855	-2,390	-2,044	814
Total public sector domestic deficit	8,012	7,053	6,098	11,428	16,429	2,342	2,677	4,693	6,717	1,196	1,774	1,977
Less: Amount absorbed by net borrowing 3/	2,856	4,425	1,158	8,587	7,847	1,767	990	2,228	2,862	3,586	3,818	1,163
Bank of Israel injection	2,884	3,800	-4,188	-21,975	-10,534	-1,762	-1,075	-4,890	-2,806	-12,867	-5,868	-443
Monetary loans	5,370	5,994	-1,490	-11,002	-3,052	761	-330	-1,935	-1,549	62	104	2,532
Swaps	0	0	0	-5,146	-917	-893	498	-150	-372	-664	715	1,104
Open market operations	-108	996	1,386	-3,061	890	-923	317	1,040	457	736	768	-1,322
Other factors 4/	-2,378	-3,190	-4,084	-2,766	-7,455	-707	-1,560	-3,846	-1,342	-13,001	-7,455	-2,757
Total liquidity injection	8,040	6,428	752	-19,134	-1,952	-1,187	612	-2,425	1,049	-15,257	-7,912	371
Net foreign currency purchases by private sector	7,180	4,591	-1,151	-18,413	-5,753	-2,122	125	-2,888	-868	-13,997	-8,924	69
Additions to money base	860	1,837	1,903	-720	3,801	935	487	463	1,917	-1,259	1,012	301

Source: Data provided by the Bank of Israel.

1/ Excluding changes resulting from the revaluation of government bonds and Patam deposits.
2/ Includes the injection of the Jewish Agency and interest payments on internal debt. Sale of tradable bonds is not considered as absorption.
3/ Net government borrowing from the private sector less early redemption of State of Israel bonds.
4/ Consists mostly of absorption/injection generated by various items in the Bank of Israel's balance sheet (such as interest paid on liquid assets in local and foreign currency).

Table A23. Israel: Factors Affecting the M3 Base, 1992-97

	1992	1993	1994	1995	1996	1997 1/ September
	(In millions of new sheqalim; end of period)					
M3 base	9,139	10,127	11,184	10,858	14,843	14,696
Narrow money base 2/	5,903	7,740	9,643	8,923	12,724	12,778
Reserve requirements on Patam deposits	3,236	2,387	1,541	1,935	2,119	1,918
	(Real percentage increase during the period) 3/					
M3 base	-2.5	-0.4	-3.5	-10.2	23.6	-20.7
Narrow money base 2/	7.0	17.9	8.9	-14.4	28.9	8.8
Reserve requirements on Patam deposits	-16.2	-33.7	-43.6	16.2	-1.0	-71.7
	(In percent)					
Percent of increase in narrow liquid asset base due to:						
Revaluation increments	99.8	18.0	1.5	-22.1	1.9	-6.5
Nonrevaluation increments	0.2	82.0	98.5	122.1	98.1	106.5
	(In millions of new sheqalim; flows)					
Memorandum items:						
Increase in M3 base	565	986	1,058	-327	3,986	-2,346
Of which:						
Revaluation increments on Patam deposits' reserve requirements	563	177	16	72	76	152
Nonrevaluation increments	1	809	1,041	-399	3,910	-2,497

Source: Data provided by the Bank of Israel.

1/ Period of change relates to September 1997 versus September 1996.
2/ Currency held by public and liquid assets of banking institutions.
3/ Nominal rate deflated by consumer price index.

Table A24. Israel: The Israeli Capital Market, 1996

	Total	Shares 1/	Tradable bonds 2/	Indexed earmarked bonds	Treasury bills 2/	Other assets held by institutions
	(In billions of new sheqalim; end of period)					
Institutions						
Provident funds	109.1	11.0	49.4	10.6	0.6	37.4
Pension funds	78.1	0.0	0.3	73.3	0.0	4.6
Life insurance	39.2	0.7	4.6	26.3	0.0	7.6
Mutual funds 3/	12.7	5.0	6.6	0.0	0.6	0.4
Households and firms	64.3	28.3	28.6	0.0	7.4	0.0
Nonresidents	17.4	16.5	0.8	0.0	0.1	0.0
Banks	45.2	0.0	37.3	0.0	7.8	0.0
Total	365.5	61.6	127.6	110.2	16.5	49.6
	(Real percentage change from 1995)					
Institutions						
Provident funds	-10.0	-21.5	-14.6	-17.9	-59.6	5.7
Pension funds	4.2	--	--	4.8	--	-5.2
Life insurance	13.6	26.6	37.5	9.7	--	16.6
Mutual funds 3/	-24.7	-36.6	-10.8	--	-32.2	-40.0
Households and firms	-12.7	-7.5	37.6	--	30.7	-40.0
Nonresidents	8.5	8.9	20.6	--	-9.6	--
Banks	9.5	--	9.6	--	9.0	--
Total	1.3	-9.9	2.8	3.8	7.6	4.7
Real change in price (in percent)	2.5	-12.0	-1.0	--	--	--
Real change in quantity (in percent)	3.8	2.4	3.8	3.8	7.6	4.7

Source: Data provided by the Bank of Israel.

1/ Excluding double counting and government-owned quoted companies.
2/ Excluding securities held by the Bank of Israel.
3/ Adjusted for provident funds' and nonresidents' holdings in mutual funds.

Table A25. Israel: Principal Stock Market Indicators, 1992–96

	1992	1993	1994	1995	1996
	(In millions of 1996 new sheqalim)				
Private sector issues (excluding privatizations) 1/	6,360	11,583	5,936	1,708	1,117
Market value 2/	125,013	208,567	120,960	127,405	116,629
Volume of stock exchange trade 3/	54,226	118,764	92,467	30,397	25,617
	(In percent)				
Annual turnover ratio 4/	0.60	0.75	0.64	0.26	0.23
Real overall rate of return 5/					
All shares	71.5	27.0	-45.2	4.3	-13.0

Sources: Data provided by the Bank of Israel; and Central Bureau of Statistics.

1/ Shares, convertible securities, and exercised options.
2/ End-of-year figures.
3/ Volume of trade on and off the floor.
4/ Ratio of monthly volume of trade (on and off the floor) to average monthly market value of the stock of shares.
5/ Deflated by end-of-month CPI.

Table A26. Israel: Principal Bond Market Indicators, 1992–96

	1992	1993	1994	1995	1996
	(In millions of 1996 new sheqalim, unless otherwise indicated)				
Market value of listed bonds					
Government	112,741	114,823	109,500	117,103	122,766
Corporate 1/	16,470	15,821	13,251	11,351	9,678
Total	129,211	130,644	122,751	128,454	132,444
Of which:					
Percentage held by:					
Public	27	28	26	25	31
Commercial banks	19	19	21	27	28
Social insurance funds	52	51	50	45	37
Bank of Israel	2	2	2	3	4
Volume of stock exchange trade					
Government	17,496	20,155	16,881	17,678	26,003
Corporate 1/	1,812	1,180	1,406	1,005	757
Total	19,308	21,335	18,287	18,683	26,760
Bank of Israel intervention 2/ (in percent)	2.0	2.2	1.8	2.9	2.5
Net issues of tradable bonds (issues less redemptions)					
Government	4,856	1,884	-3,640	5,971	1,685
Private 1/	-1,433	-1,352	-2,362	-1,641	-1,594
Total	3,423	532	-6,002	4,330	91
Annual turnover 3/					
Government	0.17	0.18	0.15	0.17	...
Private 1/	0.12	0.08	0.10	0.09	...
Total	0.17	0.18	0.15	0.16	...
			(In percent)		
Real overall rate of return					
CPI-indexed bonds	5.5	-1.4	-3.4	1.0	2.4
Exchange-rate indexed bonds	18.9	-4.3	-10.4	1.1	-0.4
Nominal bonds	...	2.7	-3.6	8.5	5.8

Sources: Data provided by the Bank of Israel and Central Bureau of Statistics.

1/ Including public sector corporations.

2/ Ratio of the central bank's sales and purchases in the secondary market to total volume of stock exchange trade in bonds.

3/ Ratio of monthly volume of trade (on and off the floor) to market value of the stock of bonds. Calculated from monthly ratios.

Table A27. Israel: Institutional Investor Indicators, 1992–96

	1992	1993	1994	1995	1996
Mutual funds					
Total assets (in 1996 NIS billions)	43.8	49.8	23.1	17.5	12.7
Real growth rate of total assets (in percent)	92.9	13.8	-53.7	-24.0	-24.7
Real annual rate of return (in percent)	27.9	10.3	-29.0	2.8	-9.7
Percent of total tradable assets:					
CPI indexed bonds	10	8	6	4	3
Foreign-currency indexed bonds	37	32	17	11	9
Nonbank shares	13	12	9	6	5
Unindexed assets	10	9	3	3	3
Provident funds					
Total assets (in 1996 NIS billions)	129	134	126	122	109
Real growth rate of total assets (in percent)	11.5	4.3	-6.1	-3.1	-10.0
Real annual rate of return (in percent)	11.3	2.7	-8.3	2.5	1.5
Percent of total tradable assets:					
Tradable government bonds	51	51	51	48	43
Private bonds	57	53	62	63	63
Nonbank shares	10	9	12	11	9
Unindexed assets	9	7	7	6	5
Pension funds					
Total assets (in 1996 NIS billions)	63	67	70	74	78
Real growth rate of total assets (in percent)	4.1	5.5	4.7	6.4	4.2
Real annual rate of return (in percent)	4.9	5.1	5.1	5.1	5.1

Sources: Data provided by the Bank of Israel; and Central Bureau of Statistics.

Table A28. Israel: State Budget Balance and Financing, 1992-98

	1992	1993	1994	1995	1996	1997		1998
						Budget	Estimated Outturn	Budget
				(In millions of new sheqalim)				
Total revenue (excluding foreign grants)	62,858	73,018	90,120	104,469	116,648	139,363	133,946	148,588
Total expenditure	78,073	85,861	103,411	120,516	141,099	159,801	153,801	168,850
Budget balance before foreign grants	-15,215	-12,843	-13,291	-16,047	-24,451	-20,438	-19,855	-20,262
Foreign grants	9,063	8,232	8,018	5,126	12,985	10,695	10,390	11,070
Budget balance after foreign grants	-6,152	-4,611	-5,273	-10,921	-11,466	-9,743	-9,465	-9,192
Total financing	6,152	4,611	5,273	10,921	11,466	9,743	9,465	9,192
Foreign (net)	1,967	1,157	86	3,912	3,450	2,785	...	2,000
Gross	5,145	5,248	5,489	9,397	9,486	11,550	...	9,980
Repayment	3,178	4,091	5,403	5,485	6,036	8,765	...	7,980
Domestic (net)	4,185	3,454	5,187	7,009	8,016	6,958	...	7,192
Nonbank borrowing (net)	5,582	2,652	-323	6,440	7,923	3,189	...	1,983
Gross	18,745	14,335	20,358	24,206	34,006	28,700	...	34,463
Repayment	13,163	11,683	20,681	17,766	26,083	25,511	...	32,480
Bank of Israel credit (net)	-218	140	4,242	-1,405	765	0	...	0
Sale of assets	1,202	3,254	703	1,798	349	4,300	...	4,300
Lending (net) (-)	-2,277	-2,589	564	181	-807	-629	...	809
Gross (-)	-4,686	-5,523	-2,825	-3,555	-4,507	-5,129	...	-4,491
Of which: housing (-)	-2,631	-2,856	-2,334	-2,797	3,264	-3,999	...	3,584
Repayment	2,409	2,934	3,389	3,736	3,699	4,500	...	5,300
Residual	-104	-3	1	-5	0	99	...	100
Memorandum items:								
Primary balance	4,779	8,208	8,731	4,738	6,472	9,893	...	11,428
Current balance	1,188	1,440	932	-4,635	-3,989	2,725	...	3,765
Domestic balance	-7,954	-4,360	-4,372	-8,529	-13,952	-6,860	...	-8,405
Foreign balance	1,802	-251	-901	-2,392	2,486	-2,883	...	-787
Nominal GDP	160,770	184,918	223,185	261,173	303,812	346,429	336,538	376,810
				(In percent of GDP)				
Total revenue (excluding foreign grants)	39.1	39.5	40.4	40.0	38.4	40.2	39.8	39.4
Total expenditure	48.6	46.4	46.3	46.1	46.4	46.1	45.7	44.8
Budget balance before foreign grants	-9.5	-6.9	-6.0	-6.1	-8.0	-5.9	-5.9	-5.4
Foreign grants	5.6	4.5	3.6	2.0	4.3	3.1	3.1	2.9
Budget balance after foreign grants	-3.8	-2.5	-2.4	-4.2	-3.8	-2.8	-2.8	-2.4
Total financing	3.8	2.5	2.4	4.2	3.8	2.8	2.8	2.4
Foreign (net)	1.2	0.6	0.0	1.5	1.1	0.8	...	0.5
Gross	3.2	2.8	2.5	3.6	3.1	3.3	...	2.6
Repayment	2.0	2.2	2.4	2.1	2.0	2.5	...	2.1
Domestic (net)	2.6	1.9	2.3	2.7	2.6	2.0	...	1.9
Nonbank borrowing (net)	3.5	1.4	-0.1	2.5	2.6	0.9	...	0.5
Gross	11.7	7.8	9.1	9.3	11.2	8.3	...	9.1
Repayment	8.2	6.3	9.3	6.8	8.6	7.4	...	8.6
Bank of Israel credit (net)	-0.1	0.1	1.9	-0.5	0.3	0.0	...	0.0
Sale of assets	0.7	1.8	0.3	0.7	0.1	1.2	...	1.1
Lending (net) (-)	-1.4	-1.4	0.3	0.1	-0.3	-0.2	...	0.2
Gross (-)	-2.9	-3.0	-1.3	-1.4	-1.5	-1.5	...	-1.2
Of which: housing (-)	-1.6	-1.5	-1.0	-1.1	1.1	-1.2	...	1.0
Repayment	1.5	1.6	1.5	1.4	1.2	1.3	...	1.4
Memorandum items:								
Primary balance	3.0	4.4	3.9	1.8	2.1	2.9	...	3.0
Current balance	0.7	0.8	0.4	-1.8	-1.3	0.8	...	1.0
Domestic balance	-4.9	-2.4	-2.0	-3.3	-4.6	-2.0	...	-2.2
Foreign balance	1.1	-0.1	-0.4	-0.9	0.8	-0.8	...	-0.2

Sources: Ministry of Finance, *State Budget Proposal*; and data provided by the Israeli authorities.

Table A29. Israel: State Budget Revenue, 1992-98

	1992	1993	1994	1995	1996	1997		1998
						Budget	Estimated Outturn	Budget
	(In millions of new sheqalim)							
Total tax revenue	50,565	59,186	72,650	82,651	93,941	111,365	107,120	121,100
Taxes on income and profits	20,453	25,730	33,302	37,892	42,421	51,290	51,150	58,070
Companies	4,577	6,113	9,121	9,158	9,597	12,030	12,500	...
Individuals	15,876	19,617	24,181	28,734	32,824	39,260	38,650	...
Wage & salary	11,987	14,909	18,691	22,241	26,175	31,480	31,150	...
Self-employed	3,889	4,708	5,490	6,493	6,649	7,780	7,500	...
Payroll tax (nonprofit)	752	592	697	914	1,265	1,500	1,400	1,560
Taxes on property	1,338	2,087	3,299	3,510	3,634	3,860	3,000	3,440
Real-estate purchase tax	603	1,002	1,474	1,505	1,574	1,840	1,200	1,350
Land betterment tax	369	669	1,136	1,227	1,149	1,220	1,050	1,180
Property tax	366	416	689	778	911	800	750	910
Taxes on goods and services	27,914	30,482	35,604	41,057	46,885	54,715	51,570	58,030
VAT	18,518	20,334	24,313	28,822	32,506	37,725	35,760	40,440
Domestic expenditure & civilian imports	15,481	17,080	20,567	24,217	27,872	32,540	30,750	...
Nonprofit entities	1,862	2,011	2,634	3,310	2,865	3,340	3,200	...
Financial institutions	551	594	687	836	874	1,040	1,010	...
Defense imports	624	649	425	459	895	805	800	...
Excises	3,002	3,444	3,821	4,196	5,647	6,990	6,610	7,430
Fuel	2,213	2,427	2,715	3,110	4,159	5,280	5,000	5,620
Tobacco	458	541	565	586	737	890	850	950
Stamp	331	476	541	500	751	820	760	860
Purchase tax	4,772	5,553	6,625	7,069	7,672	8,820	8,000	8,850
Domestic	654	676	654	705	718	820	800	...
Imports	4,118	4,877	5,970	6,364	6,954	8,000	7,200	...
Customs duties	1,622	1,151	845	970	1,060	1,180	1,200	1,310
Adjustment to budget frame	108	295	-252	-722	-264	0	0	0
Total nontax revenue	12,293	13,832	17,470	21,818	22,707	27,998	26,826	27,488
Interest	1,482	1,374	1,709	2,914	2,465	2,840	...	3,180
Domestic	1,399	1,231	1,528	1,973	2,224	2,450	...	2,750
Foreign	83	143	181	941	241	390	...	430
Loans from National Insurance Institute	3,250	3,100	4,750	4,965	5,370	6,872	...	6,600
Fees, royalties, pension provisions, & misc.	3,168	2,853	3,011	4,875	5,618	6,064	...	8,570
Income from Israel Land Administration	463	1,000	1,808	1,643	1,715	1,510	...	1,215
Revenue for revenue-dependent expenditure	3,930	5,505	6,192	7,421	7,539	10,712	...	7,923
Total revenue	62,858	73,018	90,120	104,469	116,648	139,363	133,946	148,588
Foreign grants	9,063	8,232	8,018	5,126	12,985	10,695	10,390	11,070
Total revenue and grants	71,921	81,250	98,138	109,595	129,633	150,058	144,336	159,658
Memorandum items:								
Domestic revenue	61,012	71,944	89,079	101,923	113,749	138,264	...	145,092
Foreign revenue and grants	10,909	9,306	9,059	7,672	15,884	11,794	...	14,566
Nominal GDP	160,770	184,918	223,185	261,173	303,812	346,429	336,538	376,810
	(In percent of GDP)							
Total tax revenue	31.5	32.0	32.6	31.6	30.9	32.1	31.8	32.1
Taxes on income and profits	12.7	13.9	14.9	14.5	14.0	14.8	15.2	15.4
Companies	2.8	3.3	4.1	3.5	3.2	3.5	3.7	0.0
Individuals	9.9	10.6	10.8	11.0	10.8	11.3	11.5	0.0
Payroll tax (nonprofit)	0.5	0.3	0.3	0.3	0.4	0.4	0.4	0.4
Taxes on property	0.8	1.1	1.5	1.3	1.2	1.1	0.9	0.9
Taxes on goods and services	17.4	16.5	16.0	15.7	15.4	15.8	15.3	15.4
VAT	11.5	11.0	10.9	11.0	10.7	10.9	10.6	10.7
Excises	1.9	1.9	1.7	1.6	1.9	2.0	2.0	2.0
Purchase tax	3.0	3.0	3.0	2.7	2.5	2.5	2.4	2.3
Customs duties	1.0	0.6	0.4	0.4	0.3	0.3	0.4	0.3
Adjustment to budget frame	0.1	0.2	-0.1	-0.3	-0.1	0.0	0.0	0.0
Total nontax revenue	7.6	7.5	7.8	8.4	7.5	8.1	8.0	7.3
Total revenue	39.1	39.5	40.4	40.0	38.4	40.2	39.8	39.4
Foreign grants	5.6	4.5	3.6	2.0	4.3	3.1	3.1	2.9
Total revenue and grants	44.7	43.9	44.0	42.0	42.7	43.3	42.9	42.4
Memorandum items:								
Domestic revenue	37.9	38.9	39.9	39.0	37.4	39.9	...	38.5
Foreign revenue and grants	6.8	5.0	4.1	2.9	5.2	3.4	...	3.9

Sources: Data provided by the Ministry of Finance; and staff estimates.

Table A30. Israel: State Budget Expenditure (Economic Classification), 1992-98

	1992	1993	1994	1995	1996	1997		1998
						Budget	Estimated Outturn	Budget
					(In millions of new sheqalim)			
Current expenditure	70,733	79,810	97,206	114,230	133,622	147,333	...	155,894
Wages	14,462	16,054	20,937	25,494	29,576	33,409	...	33,370
Of which: Defense	6,100	6,372	8,036	9,475	10,629	11,817	...	12,645
Goods and services	16,618	17,728	21,641	24,873	28,685	29,007	...	31,042
Of which: Defense	11,090	11,423	13,332	15,530	17,369	17,967	...	19,715
Interest	12,413	14,193	15,713	18,573	20,403	22,476	...	23,800
Domestic	8,811	10,063	11,098	13,739	14,425	16,527	...	17,640
Foreign	3,602	4,130	4,615	4,834	5,978	5,949	...	6,160
Subsidies and transfers	25,852	30,050	36,579	42,471	51,729	58,559	...	63,202
Subsidies	4,010	4,484	4,595	4,982	5,156	5,733	...	5,950
Nonexport	819	1,125	1,524	1,572	1,771	1,766	...	1,966
Export	675	409	86	0	0	0	...	0
Investment grants	2,516	2,950	2,985	3,410	3,385	3,967	...	3,985
Transfers	21,842	25,566	31,984	37,489	46,572	52,826	...	57,252
To local authorities	2,791	3,276	4,605	5,780	7,072	7,843	...	9,053
To National Insurance Institute	8,139	9,680	12,711	15,260		...	...	...
To nonprofit institutions	9,625	11,269	13,168	14,678		...	...	...
To defense	1,287	1,341	1,500	1,771	1,980	2,400	...	2,555
Repayment to National Insurance Institute	1,388	1,785	2,336	2,819	3,230	3,882	...	4,480
Capital expenditure	7,340	6,266	6,205	6,286	7,477	8,687	...	8,736
Of which: Housing	5,310	2,691	1,863	1,843	2,139	2,356	...	2,205
Reserve	0	-215	0	0	0	3,781	...	4,220
Total expenditure	78,073	85,861	103,411	120,516	141,099	159,801	153,801	168,850
Memorandum items:								
Domestic expenditure	68,966	76,304	93,451	110,452	127,701	145,124	...	153,498
Foreign expenditure	9,107	9,557	9,960	10,064	13,398	14,677	...	15,353
Nominal GDP	160,770	184,918	223,185	261,173	303,812	346,429	336,538	376,810
					(In percent of GDP)			
Current expenditure	44.0	43.2	43.6	43.7	44.0	42.5	...	41.4
Wages	9.0	8.7	9.4	9.8	9.7	9.6	...	8.9
Goods and services	10.3	9.6	9.7	9.5	9.4	8.4	...	8.2
Interest	7.7	7.7	7.0	7.1	6.7	6.5	...	6.3
Domestic	5.5	5.4	5.0	5.3	4.7	4.8	...	4.7
Foreign	2.2	2.2	2.1	1.9	2.0	1.7	...	1.6
Subsidies and transfers	16.1	16.3	16.4	16.3	17.0	16.9	...	16.8
Repayment to National Insurance Institute	0.9	1.0	1.0	1.1	1.1	1.1	...	1.2
Capital expenditure	4.6	3.4	2.8	2.4	2.5	2.5	...	2.3
Of which: Housing	3.3	1.5	0.8	0.7	0.7	0.7	...	0.6
Reserve	0.0	-0.1	0.0	0.0	0.0	1.1	...	1.1
Total expenditure	48.6	46.4	46.3	46.1	46.4	46.1	45.7	44.8
Memorandum items:								
Domestic expenditure	42.9	41.3	41.9	42.3	42.0	41.9	...	40.7
Foreign expenditure	5.7	5.2	4.5	3.9	4.4	4.2	...	4.1

Sources: Data provided by the Ministry of Finance; and staff estimates.

Table A31. Israel: State Budget Expenditure (Functional Classification), 1992-98

	1992	1993	1994	1995	1996	1997		1998
						Budget	Estimated Outturn	Budget
	(In millions of new sheqalim)							
General public service	5,179	5,973	7,594	9,657	11,763	13,426	...	14,982
General administration	3,592	4,100	5,135	6,626	8,242	9,514	...	10,722
Public order	1,587	1,873	2,459	3,031	3,521	3,912	...	4,260
Defense	18,618	19,286	22,050	26,926	30,852	32,297	...	34,793
Education	8,218	10,017	13,564	15,661	20,211	23,339	...	25,508
Of which: Universities	1,524	1,691	2,383	2,747	3,649	4,056	...	4,501
Health	3,336	3,727	6,146	6,828	8,802	15,204	...	13,097
Labor and welfare	10,036	11,945	15,469	18,636	21,891	18,709	...	19,905
Other social services	13,008	11,690	10,056	10,707	11,769	13,539	...	13,063
Of which: Housing	10,959	9,721	7,898	8,173	9,226	10,646	...	9,895
Immigrant absorption	1,351	1,147	1,244	1,241	1,377	1,567	...	1,616
Economic services	6,246	8,375	7,289	8,717	9,792	11,157	...	11,522
General	246	384	545	698	731	807	...	700
Agricultural	2,538	2,860	732	971	1,399	1,171	...	1,286
Manufacturing	1,473	2,016	2,460	3,075	3,290	3,738	...	3,948
Water and energy	604	679	772	824	726	1,187	...	1,205
Transport and communications	968	1,553	1,960	2,025	2,181	2,158	...	2,452
Other	417	883	821	1,124	1,465	2,096	...	1,931
Unallocable and other functions	14,326	15,439	17,713	20,392	22,980	27,718	...	29,789
Interest	12,414	14,193	15,910	18,574	20,403	22,476	...	23,800
Interest and loan subsidy	536	472	420	365	297	186	...	278
Subsidy for basic products	1,254	1,495	1,725	1,633	1,839	1,962	...	2,059
Export market development	675	410	86	0	0	0	...	0
General transfers	1,856	2,018	2,961	3,556	4,142	3,812	...	4,732
Reserves	0	-215	0	0	0	3,781	...	4,220
Repayment of loans (-)	-2,409	-2,934	-3,389	-3,736	-3,699	-4,500	...	-5,300
Adjustment to total expenditure (excluding net lending)	-3,303	-3,525	141	-744	-659	-88	...	893
Total expenditure and net lending	78,967	86,452	99,881	117,524	138,059	155,389	...	162,657
	(Percent of GDP)							
General public service	3.2	3.2	3.4	3.7	3.9	3.9	...	4.0
Defense	11.6	10.4	9.9	10.3	10.2	9.3	...	9.2
Education	5.1	5.4	6.1	6.0	6.7	6.7	...	6.8
Health	2.1	2.0	2.8	2.6	2.9	4.4	...	3.5
Labor and welfare	6.2	6.5	6.9	7.1	7.2	5.4	...	5.3
Other social services	8.1	6.3	4.5	4.1	3.9	3.9	...	3.5
Of which: Housing	6.8	5.3	3.5	3.1	3.0	3.1	...	2.6
Immigrant absorption	0.8	0.6	0.6	0.5	0.5	0.5	...	0.4
Economic services	3.9	4.5	3.3	3.3	3.2	3.2	...	3.1
Unallocable and other functions	8.9	8.3	7.9	7.8	7.6	8.0	...	7.9
Interest	7.7	7.7	7.1	7.1	6.7	6.5	...	6.3
Interest and loan subsidy	0.3	0.3	0.2	0.1	0.1	0.1	...	0.1
Subsidy for basic products	0.8	0.8	0.8	0.6	0.6	0.6	...	0.5
Export market development	0.4	0.2	0.0	0.0	0.0	0.0	...	0.0
General transfers	1.2	1.1	1.3	1.4	1.4	1.1	...	1.3
Reserves	0.0	-0.1	0.0	0.0	0.0	1.1	...	1.1
Repayment of loans (-)	-1.5	-1.6	-1.5	-1.4	-1.2	-1.3	...	-1.4
Adjustment to total expenditure (excluding net lending)	-2.1	-1.9	0.1	-0.3	-0.2	0.0	...	0.2
Total expenditure and net lending	49.1	46.8	44.8	45.0	45.4	44.9	...	43.2

Source: Data provided by the Ministry of Finance.

Table A32. Israel: General Government Balance and Financing (National Accounts), 1992-96

	1992	1993	1994	1995	1996
	(In millions of new sheqalim)				
Total receipts (including foreign receipts)	85,416	97,704	115,721	135,290	154,271
Total expenditure (including foreign expenditure)	91,854	104,187	120,646	144,104	166,858
Overall balance	-6,438	-6,483	-4,925	-8,814	-12,587
Total financing	6,438	6,483	4,925	8,814	12,587
Change in monetary base	793	1,838	1,987	-772	3,600
Foreign borrowing (net)	3,014	-4,780	7,286	-8,232	-4,500
Domestic borrowing (net)	-4,124	0	-662	16,206	14,700
Through government (net)	1,586	1,287	442	7,460	7,500
Through Bank of Israel (net)	-5,710	-1,287	-1,104	8,746	7,200
Sale of assets	1,269	3,125	662	1,029	300
Residual 1/	5,486	6,299	-4,348	582	-1,513
Memorandum items:					
Current balance (net saving)	-1,356	-2,463	-1,934	-5,378	-9,494
Current balance + depreciation (gross saving)	972	145	984	-1,965	-5,706
Domestic balance	-11,709	-9,507	-7,118	-11,399	-15,681
Foreign balance	5,271	3,024	2,193	2,585	3,094
	(In percent of GDP)				
Total receipts (including foreign receipts)	53.1	52.8	51.8	51.8	50.8
Total expenditure (including foreign expenditure)	57.1	56.3	54.1	55.2	54.9
Overall balance	-4.0	-3.5	-2.2	-3.4	-4.1
Total financing	4.0	3.5	2.2	3.4	4.1
Change in monetary base	0.5	1.0	0.9	-0.3	1.2
Foreign borrowing (net)	1.9	-2.6	3.3	-3.2	-1.5
Domestic borrowing (net)	-2.6	0.0	-0.3	6.2	4.8
Through government (net)	1.0	0.7	0.2	2.9	2.5
Through Bank of Israel (net)	-3.6	-0.7	-0.5	3.3	2.4
Sale of assets	0.8	1.7	0.3	0.4	0.1
Residual	3.4	3.4	-1.9	0.2	-0.5
Memorandum items:					
Current balance (net saving)	-0.8	-1.3	-0.9	-2.1	-3.1
Current balance + depreciation (gross saving)	0.6	0.1	0.4	-0.8	-1.9
Domestic balance	-7.3	-5.1	-3.2	-4.4	-5.2
Foreign balance	3.3	1.6	1.0	1.0	1.0

Source: Bank of Israel, *Annual Report 1996*.

1/ The deficit is calculated on the basis of flows rather than on a cash basis, so there are timing discrepancies between certain items. The financing of the deficit relates to the central government and not the rest of the public sector.

Table A33. Israel: General Government Receipts (National Accounts), 1992-96

	1992	1993	1994	1995	1996
	(In percent of GDP)				
Total domestic receipts	45.3	45.8	46.5	46.9	45.9
Current receipts	41.5	41.3	42.1	43.1	41.8
Taxes and fees	38.6	38.8	39.5	40.1	38.9
Indirect taxes	21.1	20.0	19.4	19.6	19.3
Domestic production	14.9	14.2	13.9	14.1	14.1
Civilian imports	6.1	5.8	5.6	5.5	5.2
Direct taxes and fees	12.9	14.1	15.3	14.8	13.9
National insurance income 1/	4.6	4.7	4.8	5.7	5.7
Transfer payments	1.5	1.4	1.6	1.7	1.7
Of which: Imputed pensions	1.2	1.2	1.4	1.5	1.5
Property income/tax	1.5	1.1	1.1	1.3	1.2
Capital receipts	3.8	4.5	4.4	3.9	4.1
Transfer payments	2.4	3.1	3.1	2.6	2.8
Depreciation	1.4	1.4	1.3	1.3	1.2
Total foreign receipts	7.8	7.0	5.4	4.9	4.9
Current receipts	7.5	6.7	5.2	4.6	4.7
Interest	1.0	0.6	0.3	0.7	0.6
Transfer payments	6.6	6.1	4.8	3.9	4.1
Intergovernmental	5.6	5.2	4.1	3.1	3.5
National and nonprofit institutions	0.9	0.9	0.8	0.8	0.7
Capital receipts	0.3	0.3	0.2	0.2	0.2
Total receipts	53.1	52.8	51.8	51.8	50.8

Source: Bank of Israel, *Annual Report 1996*.

1/ Figures from 1995 onward include revenue from the health tax.

Table A34. Israel: General Government Expenditure (National Accounts), 1992-96

	1992	1993	1994	1995	1996
	(In percent of GDP)				
Total domestic expenditure	52.6	51.0	49.7	51.3	51.0
Current expenditure	45.3	44.0	43.7	45.9	45.8
Civilian 1/	16.6	16.7	17.1	19.1	19.8
Defense	9.0	8.1	8.1	8.1	7.6
Transfer payments	11.0	11.1	11.1	11.6	12.3
Subsidies	3.1	2.6	2.3	1.9	1.5
Credit	0.3	0.3	0.2	0.1	0.1
Other	2.7	2.3	2.1	1.8	1.4
Interest	5.7	5.5	5.1	5.3	4.6
Capital expenditure	7.3	6.9	5.9	5.4	5.3
Investment	3.5	3.9	3.8	3.6	3.5
Capital grants	3.7	2.6	1.9	1.7	1.7
Repayment of compulsory loans	0.1	0.4	0.2	0.1	0.1
Total foreign (current) expenditure	4.5	5.4	4.4	3.9	3.9
Defense imports	1.9	2.7	1.9	1.3	1.8
Interest	2.1	2.1	2.1	2.0	1.8
Other	0.5	0.6	0.4	0.6	0.2
Total expenditure	57.1	56.3	54.1	55.2	54.9

Source: Bank of Israel, *Annual Report 1996*.

1/ Figures from 1995 onward include expenditure arising from the Health Law.

Table A35. Israel: Structure of General Government Finances (National Accounts), 1992-96

	1992	1993	1994	1995	1996
	(In percent of GDP)				
Receipts from the public	53.5	53.5	52.4	52.3	50.9
Central government	43.0	42.8	42.0	41.1	39.6
National Insurance Institute	4.6	4.7	4.8	5.8	5.8
National institutions	0.9	1.0	0.7	0.6	0.7
Local authorities	3.8	3.8	3.7	3.7	3.6
Public nonprofit associations	1.1	1.2	1.2	1.2	1.2
Expenditure on the public	56.8	56.2	53.7	55.5	55.0
Central government	36.4	34.8	32.6	31.7	31.1
National Insurance Institute	7.0	7.5	7.3	7.6	7.8
National institutions	1.0	0.9	0.9	0.8	0.8
Local authorities	6.6	7.1	7.0	7.3	7.0
Public nonprofit associations	5.7	6.0	5.8	8.1	8.3
Unilateral transfers to general government entities	0.0	0.0	0.0	0.0	0.0
Central government	10.3	10.5	11.3	12.2	12.7
National Insurance Institute	-3.5	-3.5	-3.4	-2.7	-2.6
National institutions	0.0	0.0	0.0	0.0	0.0
Local authorities	-2.0	-2.0	-2.4	-2.3	-2.3
Public nonprofit associations	-4.8	-5.0	-5.5	-7.2	-7.7
Overall balance	-3.2	-2.8	-1.3	-3.2	-4.0
Central government	-3.7	-2.5	-1.9	-2.7	-4.1
National Insurance Institute	1.1	0.8	0.9	0.8	0.6
National institutions	0.0	0.1	-0.2	-0.2	-0.1
Local authorities	-0.9	-1.3	-1.0	-1.3	-1.1
Public nonprofit associations	0.2	0.2	0.8	0.3	0.7

Source: Bank of Israel, *Annual Report 1996*.

Table A36. Israel: The Largest Government Companies (as of December 31, 1996)

	Total assets 1/	Total revenues 2/	Percentage direct and indirect government ownership 3/
		(In millions of U.S. dollars)	
The Israel Electric Corporation	10,390	2,210	100
Bezeq - Telecommunication Corporation	4,869	2,600	76
Israel Chemicals	3,056	1,669	49
Mekorot - Water Corporation	2,018	455	100
Israel Aircraft Industries	1,635	1,496	100
Oil Refineries	1,422	2,104	74
Israel Military Industries	672	519	100
El-Al Israel Airlines	305	380	100

Source: Government Companies Authority.

1/ Converted to U.S. dollars using the exchange rate for December 31, 1996.
2/ Converted to U.S. dollars using the average exchange rate for 1996.
3/ As of December 31, 1996. Subsequently, the government sold additional shares in Bezeq and Israel Chemicals (see next table).

Table A37. Israel: Privatization and Raising of Capital from the Public by Issuance of Shares and Convertible Securities (1995 to September 15, 1997)

	Total capital raised	Percentage sold	Percentage held by the State after sale
	(In millions of U.S. dollars)		
1995:			
Housing and Development	288.0	100.0	0.0
Israel Chemicals	231.0	25.0	48.0
Israel Shipyards	14.0	100.0	0.0
Total	533.0		
1996:			
Lapidoth Oil Prospectors	8.6	51.0	0.0
Tahal Engineers and Consultants	12.9	100.0	0.0
Israel Discount Bank	160.0	15.8	70.9
Naptha Petrochemical Corporation	16.4	44.0	0.0
Total	197.9		
1997:			
Israel Chemicals	198.0	17.0	31.5
Yozma Risk Capital	14.8	100.0	0.0
Bezeq (Telecommunications)	48.0	2.4	73.6
The Israel School of Tourism	0.3	77.9	0.0
The Israel National Oil Company	26.0	99.9	0.0
Israel Discount Bank	182.6	19.4	51.5
Bank Leumi	407.8	18.4	63.5
United Mizrahi Bank	128.7	25.0	46.0
Bank Hapoalim 2/	1,368.0	43.0	33.8
Total	2,374.2		

Source: Government Companies Authority.

1/ The conversion to U.S. dollars was done using the exchange rate for the date of sale.

2/ The "percentage sold" figure refers to the percentage sold prior to the exercise of the associated option. After the option is exercised, the State will hold 12.3 percent of the bank.

Table A38. Israel: Privatization of Banks and Raising of Capital from the Public by Issuance of Shares and Convertible Securities, 1991-97

Bank	Date	Total capital raised 1/	Percentage sold	Percentage held by the State after sale
		(In millions of U.S. dollars)		
I.D.B. Holdings	October 1991	229.7	25.0	42.0
Israel General Bank	July 1992	15.6	25.0	0.0
I.D.B. Holdings	November 1992	349.3	42.0	0.0
Union Bank	May 1993	49.6	35.0	23.0
Bank Hapoalim	May 1993	244.5	16.0	80.0
Bank Leumi	August 1993	275.4	15.0	80.0
Bank Hapoalim	November 1993	121.8	6.0	74.0
United Mizrahi Bank 2/	November 1994	110.0	51.0	46.0
Israel Discount Bank 3/	March 1996	160.0	15.8	70.9
Israel Discount Bank	April 1997	182.6	19.4	51.5
Bank Leumi	May 1997	407.8	18.4	63.5
United Mizrahi Bank	July 1997	128.7	25.0	46.0
Bank Hapoalim 4/	September 1997	1,368.0	43.0	33.8

Source: Government Companies Authority.

1/ The conversion to U.S. dollars was done using the exchange rate for the date of sale.

2/ The purchasers of the controlling interest of United Mizrahi Bank (26 percent of its capital) were granted an option to purchase a further 25 percent on the basis of the market value (100 percent) of the bank, amounting to $23 million, plus linkage to the CPI and interest at the rate of 3 percent. The proceeds due to arise upon the exercise of warrant are not included here.

3/ The immediate revenue amounts to $80 million. Another $80 million in revenue is expected upon the exercise of the purchase warrants in Israel Discount Bank.

4/ The "percentage sold" figure refers to the percentage sold prior to the exercise of the associated option. After the option is exercised, the State will hold 12.3 percent of the bank.

Table A39. Israel: Currency Basket of the Israeli Sheqel, 1992–97

	Absolute amount of currency in basket as of Dec. 31, 1996	Percentage distribution of currencies on the basis of market rates on:					
		1992 Dec. 31	1993 Dec. 31	1994 Dec. 31	1995 Dec. 31	1996 Dec. 31	1997 Sept. 30
U.S. dollar	0.6741	0.5537	0.5627	0.5381	0.5583	0.6028	0.6269
Deutschemark	0.3588	0.2387	0.2258	0.2419	0.2424	0.2070	0.1877
Pound sterling	0.0589	0.0938	0.0929	0.0939	0.0819	0.0895	0.0896
Japanese yen	6.5437	0.0570	0.0646	0.0692	0.0597	0.0505	0.0501
French franc	0.2933	0.0569	0.0540	0.0569	0.0577	0.0502	0.0458

Sources: IMF, *International Financial Statistics*; and data provided by the Bank of Israel.

Table A40. Israel: Exchange Rate Developments, 1992-97

	U.S.dollar/ sheqel	Deutsche mark/ sheqel	Pound sterling/ sheqel	Japanese yen/ sheqel	French franc/ sheqel	Currency basket
	(Index number 1986 = 100; period averages)					
1992	165.3	229.0	198.9	218.2	216.3	186.3
1993	190.4	248.2	194.8	286.9	232.0	208.8
1994	202.4	269.8	211.5	331.1	252.5	225.3
1995	202.4	304.7	217.8	361.2	280 .2	235.7
1996	214.3	307.3	228.4	329.0	289.3	243.9
1992						
I	157.4	210.1	190.4	204.8	197.6	175.4
II	163.5	218.6	201.5	209.7	207.7	182.6
III	164.3	242.1	214.0	219.4	228.7	190.5
IV	176.3	244.6	189.0	239.0	230.6	196.8
1993						
I	187.6	247.6	189.0	259.5	233.7	205.3
II	184.8	246.2	193.3	281.0	233.8	204.8
III	191.2	245.6	196.1	302.4	226.7	209.5
IV	197.4	252.9	200.8	304.3	233.6	215.6
1994						
I	200.1	250.6	203.1	310.7	235.9	217.5
II	203.0	264.1	208.4	328.3	247.1	223.8
III	203.6	281.0	215.1	342.9	262.7	229.6
IV	203.0	283.7	219.4	342.8	264.6	230.2
1995						
I	201.6	294.2	217.6	350.4	269.7	231.9
II	200.5	309.3	218.3	395.9	281.4	236.9
III	202.1	304.5	216.9	360.4	282.1	235.5
IV	205.5	311.5	218.6	338.0	288.0	238.4
1996						
I	209.3	307.7	218.7	330.5	287.3	239.9
II	217.0	307.2	225.5	337.4	290.3	245.8
III	212.6	306.4	225.4	325.9	288.3	242.1
IV	218.2	307.8	243.3	323.2	291.4	247.8
1997						
I	223.2	291.5	248.7	308.5	276.5	247.7
II	229.5	288.8	256.0	320.9	274.2	252.5
III	237.1	283.3	263.1	335.8	269.3	257.8

Sources: IMF, *International Financial Statistics*; and data provided by the Bank of Israel.

Table A41. Israel: Overall Balance of Payments, 1992–97

	1992	1993	1994	1995	1996	1997 Jan.-June
	(In millions of U.S. dollars)					
Current account balance	-236	-1,774	-2,511	-4,843	-5,348	-2,329
Trade balance	-4,846	-5,756	-5,533	-7,532	-7,595	-3,018
Exports, f.o.b.	13,392	14,638	17,087	19,133	20,641	10,876
Imports, f.o.b.	18,238	20,394	22,620	26,665	28,236	13,894
Civilian imports	16,790	18,287	21,159	25,372	26,565	13,038
Military imports	1,448	2,106	1,461	1,293	1,671	856
Civilian trade balance	-3,398	-3,649	-4,072	-6,239	-5,924	-2,162
Services balance	-2,142	-2,707	-3,937	-4,508	-5,516	-2,434
Exports	7,442	7,361	7,829	9,577	9,883	5,276
Imports	9,584	10,068	11,766	14,085	15,399	7,710
Net transfers	6,752	6,689	6,959	7,197	7,763	3,123
Capital account balance	-1,299	3,078	2,198	4,531	6,740	8,227
Long-term capital	-459	2,239	3,024	2,572	4,761	2,059
Short-term capital	-840	839	-826	1,959	1,979	6,168
Errors and omissions	-558	175	382	1,544	2,088	202
Change in reserves	1,466	-1,480	-70	-1,232	-3,479	-6,100
	(Percentage change from same period previous year)					
Memorandum items:						
Goods exports	11.3	9.3	16.7	12.0	7.9	10.3
Goods imports	7.7	11.8	10.9	17.9	5.9	-1.0
Services exports	15.6	-1.1	6.4	22.3	3.2	7.7
Services imports	10.6	5.1	16.9	19.7	9.3	7.3
GDP (in billions of dollars)	65.4	65.3	74.1	86.7	95.2	99.4

Source: Central Bureau of Statistics, *Monthly Bulletin of Statistics*.

Table A42. Israel: Balance of Payments—Services, 1992–97

	1992	1993	1994	1995	1996	1997 Jan.-June
	(In millions of U.S. dollars)					
Freight and transportation, net	-733	-1,107	-1,432	-1,718	-1,915	-862
Receipts	1,683	1,765	1,795	2,146	2,045	1,071
Payments	2,416	2,872	3,227	3,864	3,960	1,933
Travel, net	221	175	-136	-210	-362	-11
Receipts	1,895	2,227	2,459	2,938	2,942	1,391
Payments	1,674	2,052	2,595	3,148	3,304	1,402
Insurance, net	-57	-191	-198	-234	-200	-104
Receipts	-14	13	13	12	13	12
Payments	43	204	211	246	213	116
Other, net	12	-196	-421	-777	-1,281	-652
Receipts	2,516	2,222	2,469	2,712	3,092	1,772
Payments	2,504	2,418	2,890	3,489	4,373	2,424
Government, n.e.s., net	-110	-145	-154	-154	-132	-50
Receipts	53	47	50	64	86	49
Payments	163	192	204	218	218	99
Total services (excluding investment income), net	-667	-1,464	-2,341	-3,093	-3,890	-1,679
Receipts	6,133	6,274	6,786	7,872	8,178	4,295
Payments	6,800	7,738	9,127	10,965	12,068	5,974
Investment income, net	-1,061	-1,241	-1,594	-1,416	-1,626	-755
Receipts	1,473	1,088	1,043	1,705	1,705	981
Payments	2,534	2,329	2,637	3,121	3,331	1,736
Total services, net	-1,728	-2,705	-3,935	-4,509	-5,516	-2,434
Receipts	7,606	7,362	7,829	9,577	9,883	5,276
Payments	9,334	10,067	11,764	14,086	15,399	7,710

Source: Central Bureau of Statistics, *Monthly Bulletin of Statistics*.

Table A43. Israel: Export Volume and Price Indices, 1992-97

	1992	1993	1994	1995	1996	1997	
						Q1	Q2
	(Percentage change from same period previous year)						
Volume indices 1/							
Agricultural products	-2.5	1.9	11.2	14.6	15.7	9.6	-1.9
Citrus fruit	-14.2	-11.3	-0.8	37.1	-5.6	6.2	23.0
Other fruits and vegetables	-8.9	8.1	0.7	21.6	32.0	49.1	-61.1
Other	6.4	4.7	21.7	2.8	19.7	45.6	-12.1
Industrial products (excl. diamonds)	10.7	19.2	13.8	3.5	7.0	12.8	14.0
Ores and minerals	-5.1	4.9	18.6	1.5	-9.1	7.0	8.9
Food	-4.4	10.4	5.5	2.8	-3.7	-10.5	-23.1
Textiles	13.2	2.3	7.8	2.1	-5.4	-10.8	-3.1
Metals, machinery and electronics	12.8	25.8	15.7	0.6	13.4	-3.6	2.9
Chemicals	8.1	27.0	14.6	6.3	4.4	20.9	25.2
Other industrial products	17.6	4.3	10.2	14.1	4.1	-10.7	1.1
Diamonds, net	12.1	-0.2	23.3	12.2	4.0	5.3	-15.5
Total exports	10.4	12.3	15.5	6.5	7.1	10.0	10.7
Total exports, excluding diamonds	9.9	16.7	13.1	4.6	8.2	0.6	-2.5
Price indices 2/							
Agricultural products	-11.8	-2.9	-2.5	8.8	-6.6	-4.3	-9.9
Citrus fruit	-10.2	18.1	5.5	17.3	-6.0	-5.6	-21.4
Other fruits and vegetables	-11.0	-3.1	-4.7	8.3	-12.3	-5.7	-4.8
Other	-12.8	-10.1	-4.5	5.1	-3.8	15.1	-22.6
Industrial products (excl. diamonds)	1.6	-3.3	-0.6	5.5	-0.9	-2.2	-1.7
Ores and minerals	4.8	-8.0	-1.2	13.2	3.8	6.2	5.9
Food	8.5	-10.4	-0.7	7.2	2.5	-2.1	-0.2
Textiles	1.0	-4.9	1.6	4.8	2.0	4.2	4.4
Metals, machinery and electronics	2.0	-1.4	0.8	4.9	-2.1	-1.9	-0.7
Chemicals	-1.7	-5.2	-3.2	5.2	-2.3	-3.1	-1.1
Other industrial products	2.0	-0.3	-1.8	5.9	1.0	1.3	2.1
Diamonds, net	1.1	10.3	-3.0	2.7	2.5	0.0	5.8
Total exports	0.7	0.5	-1.4	4.7	-0.1	0.1	0.7
Total exports, excluding diamonds	0.6	-2.5	-0.8	5.4	-1.0	-1.1	-0.6

Sources: Central Bureau of Statistics, *Foreign Trade Statistics Quarterly*; and data provided by the Bank of Israel.

1/ Value data deflated by Fisher unit value indices.

2/ Based on data in U.S. dollars.

Table A44. Israel: Commodity Composition of Exports, 1992-97 1/ 2/

	1992	1993	1994	1995	1996	1997 Jan.-June
	(In millions of U.S. dollars)					
Agricultural products	554	548	594	741	801	564
Citrus fruits	115	121	126	203	180	124
Other fruits and vegetables	137	143	137	181	209	117
Other	302	284	330	357	411	258
Industrial products (excluding diamonds)	8,637	9,959	11,281	12,224	12,986	9,312
Ores and minerals	294	283	332	382	360	204
Food, beverages, and tobacco	540	534	559	617	608	268
Textiles, clothing and leather	908	883	968	1,036	999	474
Other light industry products	1,151	1,199	1,301	1,574	1,657	836
Chemicals	1,589	1,912	2,120	2,370	2,419	1,409
Metals, machinery and electronics	4,080	5,058	5,894	6,222	6,902	3,709
Diamonds	3,049	3,356	4,015	4,623	4,929	3,534
Other exports, n.e.s. 3/	239	220	162	216	355	226
Total exports	12,479	14,083	16,051	17,802	19,069	13,635
	(In percent of total exports)					
Agricultural products	4.4	3.9	3.7	4.2	4.2	4.1
Citrus fruits	0.9	0.9	0.8	1.1	0.9	0.9
Other fruits and vegetables	1.1	1.0	0.9	1.0	1.1	0.9
Other	2.4	2.0	2.1	2.0	2.2	1.9
Industrial products (excluding diamonds)	69.2	70.7	70.3	68.7	68.1	68.3
Ores and minerals	2.4	2.0	2.1	2.1	1.9	1.5
Food, beverages, and tobacco	4.3	3.8	3.5	3.5	3.2	2.0
Textiles, clothing and leather	7.3	6.3	6.0	5.8	5.2	3.5
Other light industry products	9.2	8.5	8.1	8.8	8.7	6.1
Chemicals	12.7	13.6	13.2	13.3	12.7	10.3
Metals, machinery and electronics	32.7	35.9	36.7	35.0	36.2	27.2
Diamonds	24.4	23.8	25.0	26.0	25.8	25.9
Other exports, n.e.s. 3/	1.9	1.6	1.0	1.2	1.9	1.7
Total exports	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Central Bureau of Statistics, *Foreign Trade Statistics Quarterly* and *Monthly Bulletin of Statistics*.

1/ Excluding exports to the Autonomy and administered areas.
2/ The valuation basis in this table differs from that used in the balance of payments.
3/ Returned exports and items not specified elsewhere.

Table A45. Israel: Destination of Exports, 1992-97

	1992	1993	1994	1995	1996	1997 1/
	(In percent of total exports)					
Exports	100.0	100.0	100.0	100.0	100.0	100.0
Europe	40.0	37.2	35.6	39.2	38.8	37.2
Of which:						
European Union	35.6	30.6	29.9	32.3	32.1	30.1
Austria	0.5	0.5	0.5	0.4	0.4	0.3
Belgium	4.9	5.3	5.2	5.3	5.4	4.9
Denmark	0.3	0.3	0.2	0.3	0.3	0.2
Finland	0.1	0.1	0.1	0.2	0.3	0.2
France	4.7	3.9	3.5	3.7	3.3	2.8
Germany	5.9	5.3	5.0	5.5	5.1	4.4
Greece	0.8	0.8	0.6	1.1	0.8	0.7
Ireland	0.2	0.2	0.2	0.2	0.4	0.7
Italy	3.5	2.9	3.0	3.0	2.7	2.8
Luxembourg	0.1	0.0	0.0	0.0	0.0	0.0
Netherlands	4.2	3.7	4.0	4.2	4.3	4.3
Portugal	0.3	0.3	0.2	0.2	0.2	0.2
Spain	1.8	1.3	1.5	1.6	1.7	1.6
Sweden	0.4	0.4	0.5	0.5	0.6	0.4
United Kingdom	7.7	5.5	5.3	6.1	6.7	6.4
EFTA countries 2/	2.0	2.0	2.1	2.0	1.7	1.8
North, Central, and South America	33.6	34.5	35.8	33.7	34.3	35.2
Of which:						
United States	30.5	31.2	32.0	30.1	30.6	31.3
Asia	15.6	16.9	19.5	20.1	20.1	19.8
Of which:						
Japan	5.2	5.2	5.9	6.9	5.9	4.8
Other countries	10.8	11.3	9.2	7.1	6.8	7.7

Source: Central Bureau of Statistics, *Monthly Bulletin of Statistics*.

1/ Based on January-August data.
2/ Iceland, Norway, and Switzerland.

Table A46. Israel: Civilian Import Volume and Price Indices, 1992-97

	1992	1993	1994	1995	1996	1997	
						Q1	Q2
	(Percentage change from same period previous year)						
Volume indices 1/							
Consumer goods	20.5	8.9	19.4	11.2	12.0	-2.2	8.3
Nondurables	15.2	20.6	24.4	9.5	14.1	12.4	-7.1
Durables	25.5	-0.8	14.6	12.9	9.8	-3.1	7.4
Input goods	11.8	13.2	9.7	11.7	4.4	1.2	6.7
Diamonds	5.9	13.5	11.1	19.9	2.3	5.8	13.9
Fuel	22.2	14.6	-2.2	9.3	-6.7	18.7	40.8
Other	14.7	15.3	11.4	9.1	5.4	7.2	-0.8
Investment goods	3.8	13.9	23.8	3.2	10.3	-5.3	-13.7
Machinery and equipment	3.9	16.8	17.1	11.4	11.2	-7.3	-13.0
Total imports, net	11.3	12.7	13.2	10.4	6.3	0.0	3.0
Total imports, excluding diamonds	12.3	12.6	13.6	8.6	7.1	4.5	-2.2
Price indices 2/							
Consumer goods	2.6	0.2	0.8	8.0	-3.7	-5.2	-4.1
Nondurables	1.1	-3.2	-0.3	8.8	-2.6	-2.5	1.1
Durables	4.0	3.5	1.9	7.1	-4.9	-6.3	-7.1
Input goods	-1.1	-4.4	2.5	9.1	0.7	-2.8	-4.1
Diamonds	7.7	1.1	4.3	-4.6	6.3	2.5	5.0
Fuel	-4.9	-11.3	-2.6	10.3	14.9	9.1	-11.3
Other	-5.5	-7.0	2.7	14.4	-1.7	-2.3	-4.2
Investment goods 3/	2.2	-1.3	0.3	5.1	-2.0	-4.2	-5.2
Machinery and equipment	2.2	-3.6	0.3	5.1	-2.0	-4.4	-5.3
Total imports, net	-0.1	-3.3	2.1	8.5	-0.6	-3.4	-4.3
Total imports, excluding diamonds 3/	-1.5	-4.1	1.7	11.2	-1.8	-2.8	-1.9

Sources: Central Bureau of Statistics, *Foreign Trade Statistics Quarterly*; and data provided by the Bank of Israel.

1/ Value data deflated by Fisher unit value indices.
2/ Based on data in U.S. dollars.
3/ Excluding ships and aircraft.

Table A47. Israel: Commodity Composition of Civilian Imports (c.i.f), 1992-97 1/

	1992	1993	1994	1995	1996	1997 Jan.-June
	(In millions of U.S. dollars)					
Consumer goods	2,320	2,533	3,047	3,657	3,942	2,566
Nondurables	1,070	1,248	1,846	1,846	2,051	1,039
Durables	1,250	1,283	1,811	1,811	1,890	919
Input goods	13,270	14,391	15,890	19,371	20,323	13,312
Diamonds	2,911	3,542	3,873	4,430	4,819	3,205
Fuel	1,713	1,742	1,658	1,999	2,141	1,514
Other	8,646	9,107	10,358	12,942	13,363	8,593
Investment goods	3,180	3,577	4,510	4,951	5,315	3,254
Machinery and equipment	2,240	2,522	3,468	3,468	3,780	1,700
Other imports, n.e.s. 2/	-232	18	-77	-74	-102	-67
Total imports, net	18,538	20,518	23,369	27,905	29,478	19,065
Total imports, excluding diamonds	15,627	16,976	19,496	23,475	24,660	15,860
	(In percent of total imports)					
Consumer goods	12.5	12.3	13.0	13.1	13.4	13.5
Nondurables	5.8	6.1	7.9	6.6	7.0	5.4
Durables	6.7	6.3	7.7	6.5	6.4	4.8
Input goods	71.6	70.1	68.0	69.4	68.9	69.8
Diamonds	15.7	17.3	16.6	15.9	16.3	16.8
Fuel	15.7	17.3	16.6	15.9	16.3	16.8
Other	46.6	44.4	44.3	46.4	45.3	45.1
Investment goods	17.2	17.4	19.3	17.7	18.0	17.1
Machinery and equipment	12.1	12.3	14.8	12.4	12.8	8.9
Other imports, n.e.s. 2/	-1.3	0.1	-0.3	-0.3	-0.3	-0.4
Total imports, net	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Central Bureau of Statistics, *Foreign Trade Statistics Quarterly* and *Monthly Bulletin of Statistics.*

1/ Excludes imports from the Autonomy and administered areas.
2/ Returned and re-exported imports, and items not specified elsewhere.

Table A48. Israel: Origin of Imports, 1992-97

	1992	1993	1994	1995	1996	1997 1/
	(In percent of total imports)					
Imports	100.0	100.0	100.0	100.0	100.0	100.0
Europe	61.2	61.0	61.7	61.7	60.2	59.5
Of which:						
European Union	52.3	51.4	52.6	52.4	51.7	50.7
Austria	0.5	0.6	0.5	0.6	0.5	0.5
Belgium	12.7	12.1	12.0	12.1	12.1	12.1
Denmark	0.7	0.7	0.6	0.6	0.5	0.5
Finland	0.5	0.5	0.5	0.8	0.7	0.9
France	4.5	4.2	4.5	4.1	3.9	3.7
Germany	11.9	10.4	10.3	9.8	9.4	9.4
Greece	0.4	0.4	0.5	0.5	0.5	0.4
Ireland	0.3	0.3	0.4	0.6	0.6	0.6
Italy	7.0	7.3	7.7	7.8	7.6	6.9
Luxembourg	0.1	0.1	0.1	0.1	0.1	0.1
Netherlands	3.3	3.4	3.3	3.4	3.2	3.4
Portugal	0.3	0.4	0.5	0.4	0.4	0.4
Spain	1.1	1.0	1.6	1.9	2.1	2.0
Sweden	1.1	1.4	1.4	1.4	1.2	1.0
United Kingdom	8.0	8.6	8.5	8.3	8.8	8.8
EFTA countries 2/	7.5	7.7	6.7	6.3	5.8	5.9
North, Central, and South America	19.0	19.4	20.3	20.2	21.5	21.1
Of which:						
United States	17.2	17.8	18.5	18.6	20.0	19.1
Asia	9.4	10.0	9.6	10.0	10.2	10.8
Of which:						
Japan	5.3	5.1	4.0	3.3	3.7	3.7
Other countries	10.4	9.7	8.3	8.1	8.1	8.6

Source: Central Bureau of Statistics, *Monthly Bulletin of Statistics*.

1/ Based on January-August data.
2/ Iceland, Norway, and Switzerland.

Table A49. Israel: Capital Account Transactions, 1992–97 1/

	1992	1993	1994	1995	1996	1997 Jan.-June
	(In millions of U.S. dollars)					
Net capital flows (excluding flows by the central monetary institutions)	-1,307	3,078	2,198	4,531	6,740	8,227
Long-term capital	-460	2,239	3,025	2,571	4,761	2,058
Government liabilities	711	2,111	2,205	893	1,685	920
Direct investment						
In Israel	504	756	626	1,974	2,442	1,429
Abroad	-651	-763	-735	-646	-743	-449
Private						
Liabilities	-98	56	626	335	1,301	107
Assets	-926	79	303	15	76	51
Short-term capital	-840	840	-825	1,960	1,978	6,170
Government						
Liabilities	-14	-2	42	28	-52	8
Assets	78	261	-27	-1,229	864	-28
Private						
Liabilities	534	262	337	1,425	192	398
Assets	-132	-292	126	673	1,387	824
Banking sector						
Liabilities	692	280	968	1,167	634	719
Assets	-1,998	331	-2,271	-104	-1,047	4,249
Foreign currency assets and liabilities of the central monetary institutions	1,466	-1,480	-70	-1,232	-3,479	-6,100
Liabilities	254	0	0	-87	-163	0
Assets	1,212	-1,480	-70	-1,145	-3,316	-6,100

Source: Central Bureau of Statistics, *Monthly Bulletin of Statistics*.

1/ Excluding errors and omissions. Negative sign indicates an increase in assets or a decrease in liabilities.

Table A50. Israel: Indicators of External Indebtedness, 1992-97

	1992	1993	1994	1995	1996	1997 June
	(In millions of U.S. dollars; end of period)					
Gross external liabilities	35,691	37,652	41,685	45,091	47,635	48,905
Gross external liabilities minus foreign assets of commercial banks	24,930	27,195	28,559	31,529	33,223	39,167
Net external liabilities 1/	16,985	17,341	18,202	20,263	20,025	20,319
	(Percentage change over the same period of the previous year)					
Gross external liabilities	3.0	5.5	10.7	8.2	5.6	7.1
Gross external liabilities minus foreign assets of commercial banks	-3.2	9.1	5.0	10.4	5.4	22.6
Net external liabilities 1/	2.5	2.1	5.0	11.3	-1.2	-2.2
	(In percent of GDP)					
Gross external liabilities	54.9	57.9	56.1	52.0	50.0	49.0
Gross external liabilities minus foreign assets of commercial banks	38.3	41.8	38.5	36.4	34.9	39.2
Net external liabilities 1/	26.1	26.7	24.5	23.4	21.0	20.3
	(In millions of U.S. dollars; end of period)					
Memorandum items:						
Foreign assets	18,706	20,311	23,483	24,828	27,610	28,586
Of which:						
Commercial banks	10,761	10,457	13,126	13,562	14,412	9,738
Bank of Israel	5,131	6,384	6,795	8,158	11,420	17,794

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics*; and data provided by the Bank of Israel.

1/ Net of foreign assets of commercial banks, Bank of Israel's reserves, holdings of other monetary institutions, and export credit.

Table A51. Israel: Indicators of Debt Service, 1992-97

	1992	1993	1994	1995	1996	1997 Jan.-June
	(In millions of U.S. dollars)					
Gross interest payments	2,322	2,136	2,364	2,903	2,987	1,560
Interest receipts	1,473	1,088	1,043	1,655	1,705	982
Net interest payments	849	1,048	1,321	1,248	1,282	578
Principal repayments 1/	1,802	1,885	2,304	2,293	2,673	1,198
Debt service 2/	4,124	4,021	4,668	5,196	5,660	2,758
Net debt service 3/	2,651	2,933	3,625	3,541	3,955	1,776
	(In percent of exports of goods and nonfactor services)					
Gross interest payments	11.1	9.7	9.5	10.1	9.8	9.7
Gross debt service	19.8	18.3	18.7	18.1	18.5	17.1
Net interest payments	4.1	4.8	5.3	4.3	4.2	3.6
Net debt service	12.7	13.3	14.5	12.3	13.0	11.0
	(In millions of U.S. dollars)					
Memorandum item:						
Exports of goods and nonfactor services	20,834	21,999	24,916	28,710	30,524	16,152

Source: Data provided by the Bank of Israel.

1/ Excludes short-term debt.
2/ Gross interest payments plus principal repayments.
3/ Net interest payments plus principal repayments.

Table A52. Israel: Assets and Liabilities in Foreign Currency, 1992-97

	1992	1993	1994	1995	1996	1997 June
	(In millions of U.S. dollars; end of period)					
Gross liabilities	35,691	37,652	41,686	45,091	47,635	48,906
Government	18,379	20,340	22,742	23,793	25,303	25,943
Nonfinancial private sector	4,965	4,747	5,082	6,046	6,784	7,007
Bank of Israel	284	284	298	238	70	38
Banks	12,063	12,281	13,564	15,014	15,478	15,918
Gross assets	18,705	20,311	23,483	24,828	27,610	28,587
Bank of Israel reserves	5,131	6,384	6,795	8,158	11,420	17,794
Other financial institutions	534	669	542	530	371	449
Exporters' credit	2,279	2,801	3,020	2,578	1,407	606
Banking system	10,761	10,457	13,126	13,562	14,412	9,738
Net liabilities 1/	16,986	17,341	18,203	20,263	20,025	20,319
Total current debt	5,734	5,814	4,312	6,141	5,140	10,896
Banking system (net)	1,562	1,822	437	1,451	1,067	6,300
Nonfinancial private sector	2,387	2,124	1,813	2,419	1,890	1,987
Direct government debt	0	0	0	9	10	0
Medium- and long-term debt (repayable within a year)	1,785	1,868	2,062	2,262	2,173	2,609
Net current debt 2/	-2,210	-4,040	-6,045	-5,125	-8,058	-7,953

Sources: Central Bureau of Statistics, *Monthly Bulletin of Statistics*; and data provided by the Bank of Israel.

1/ Gross liabilities minus gross assets.

2/ Total current debt minus Bank of Israel reserves, other financial institutions' reserves, and exporters' credit.

Table A53. Israel: Official Gold and Convertible Foreign Exchange Reserves, 1992-97

	Gold 1/	SDRs	Reserve position in the Fund	Foreign exchange 2/	Total 3/
	(In millions of U.S. dollars; end of period)				
1992	0.4	0.3	--	5,131.1	5,131.5
1993	0.4	0.5	--	6,383.7	6,384.1
1994					
I	0.4	0.7	--	6,841.0	6,841.4
II	0.4	0.4	--	6,048.3	6,048.7
III	0.4	1.3	--	5,708.8	5,709.2
IV	0.4	0.4	--	6,794.3	6,794.7
1995					
I	0.5	0.6	--	8,946.8	8,947.3
II	0.5	1.8	--	8,779.7	8,780.2
III	0.5	34.2	--	8,838.1	8,838.6
IV	0.5	33.8	--	8,157.3	8,157.8
1996					
I	0.4	33.2	--	9,696.9	9,697.3
II	0.4	33.2	--	8,886.7	8,887.1
III	0.4	33.3	--	10,229.1	10,229.5
IV	0.4	33.4	--	11,419.4	11,419.8
1997					
I	0.4	0.2	--	15,335.6	15,336.0
II	0.4	1.6	--	17,793.5	17,793.9
III	0.4	0.2	--	18,946.7	18,946.9

Sources: IMF, *International Financial Statistics*; and data provided by the Bank of Israel.

1/ National value.
2/ At the Bank of Israel.
3/ Gold plus foreign exchange.