NBER WORKING PAPER SERIES

ISRAEL'S STABILIZATION: A TWO-YEAR REVIEW

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Working Paper No. 2398

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
October 1987

Paper presented for the Conference on Inflation Stabilization: The Experience of Israel, Argentina, Brazil, Bolivia and Mexico, June 1987. We wish to express our gratitude to members of the Bank of Israel's Research Department for many useful discussions on the topics with which this paper is concerned, and particularly to Mordechai Fraenkel, Shmuel Amir, Rafi Melnik, Akiva Offenbacher and Zalman Shiffer, for many helpful comments on an earlier draft. We are also grateful to Meir Merhav for translating and editing this paper and to Yossi Margoninski for research assistance. The research reported here is part of the NBER's research program in International Studies. Any opinions expressed are those of the authors and not those of the National Bureau of Economic Research.

NBER Working Paper #2398
October 1987

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ABSTRACT

The comprehensive stabilization program that Israel launched in July 1985 has brought about a dramatic reduction in inflation at no visible unemployment cost while improving the external financial position of the country. The program's success lies in a drastic cut in the government deficit but was also due to the appropriate initial synchronization of the most important nominal variables.

In spite of the continued success of the stabilization program over the last two years, many problems remain. Excessive wage demands and a private consumption boom, in part the result of relative stability, have so far prevented the reduction of inflation to OECD rates. The stabilization process has also unearthed many structural problems of which an oversize public sector stands out in particular.

Further reduction of inflation depends on a flexible wage policy and continued budget balance. A further cut in government expenditure and abstention from debt finance are also the key to the success of the capital market and tax reforms. These and other structural reforms will determine whether the recent upsurge in economic activity can be turned into a sustained growth process.

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1. Introduction

After more than a decade of continuously escalating inflation and recurrent balance of payment crises which had since 1973 caused the virtual stagnation of economic growth, Israel launched a comprehensive stabilization program in July 1985. The new policy achieved a drastic slowdown of inflation together with an improvement in Israel's external position, without causing a significant rise in unemployment.

The program's success lies in a dramatic cut in the government deficit, but it is also due to the appropriate initial credible synchronization of the most important nominal variables. At the same time it was supported by favorable external circumstances -- improved terms of trade, depreciation of the dollar, and emergency aid granted by the U.S.

Viewed close to its second anniversary, the stabilization program can be credited with remarkable achievements, but recent developments have also brought out several problems to which Israel's policy-makers will have to address themselves.

The first of these is that inflation continued to run at 20 percent per annum, and has so far not declined to the rate prevailing in Western countries. In part, this may be a by-product of stabilization itself. In its wake came excessive wage demands on the one hand and higher private consumption on the other. Also, a sharp fall in private savings (which may be temporary) and a real appreciation of the sheqel both showed in a considerable setback to the current account in 1986 and early 1987, while the capital account continued to provide the surplus in the overall balance of payments. At the same time business

profits were at their lowest historical level and there was only a moderate increase of gross domestic product and productivity in 1986, although a significant improvement made itself visible towards the end of the year and early 1987.

In the course of stabilization a series of structural difficulties have come to the surface in several sectors. While inflation was running at a high rate, these problems were obscured by various financial and accounting devices. These problem areas, notably in the agricultural and construction sectors, have required special government intervention in the form of loan conversions and other measures. Finally, the program has not dealt with the most important long-term structural problem of Israel's economy, centering on an oversize public sector.

In order to cope with some of the long-term problems, the government has recently planned several reforms intended to reduce distortions in the capital and credit markets and in the tax system. Within this framework, some preliminary measures were adopted in April 1987.

At the present juncture a permanent reduction of inflation hinges on a more flexible wage policy and continued budget balance. The government's abstinence from further debt is also a key to the success of the capital market reform. It still remains to be seen whether the recent acceleration of economic activity will be sufficiently export-oriented and investment-inducing to turn the economy to a self-sustaining growth path. Once started, more rapid growth and more fundamental structural reforms could then reinforce each other.

The following sections review various aspects of the stabilization program. Section 2 describes the background of its adoption in July 1985 and the supplementary policy measures taken in 1986 and in early 1987. Section 3 discusses developments in the real economy in 1986,

with special emphasis on the untoward trend of wages and private consumption. Section 4 deals with monetary developments and with dilemmas relating to the objectives of monetary policy and to its management in the process of disinflation. Section 5 discusses synchronization, and reviews the development of the various nominal variables in relation to the exchange rate, and discusses the policy choice between a crawl and an exchange rate peg. Some real micro-effects of disinflation are discussed in Section 6 and the last section briefly addresses itself to the renewal of long-term growth.

2. The Stabilization Program -- Background, Implementation and Complementary Policy Measures

Until the adoption of the stabilization program in July 1985, the Israeli economy went through more than a decade of recurrent balance of payments crises, each of which escalated inflation to a higher plateau as the government tried to solve the crisis by resorting to price shock-inducing policy measures (big devaluations and sharp increases in prices of subsidized goods and services). Underlying these developments were continuous high budget deficits, mounting public debt, and an accommodating monetary policy. Not every balance of payments crisis was caused by an increase in the government deficit, but no countercyclical policy was conducted with regard to the balance of payments which might have prevented the deterioration of the foreign payments position to the point of crisis.[1] This process severely impaired economic growth: for more than a decade GDP and productivity virtually stagnated.

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[1] For the analysis of the inflationary process in Israel, see Bruno and Fischer, 1986; Liviatan and Piterman, 1986; Liviatan, 1986, 1987.

In the two years preceding the stabilization program, and following a policy of slowing devaluation (in 1982-83), the Israeli economy ran into a severe financial crisis. At the end of 1983 the government resorted to a price shock: a large nominal devaluation, accompanied by raising controlled prices of goods and services so as to reduce outlays on subsidies. This, together with the decrease in wealth due to the partial collapse of bank shares, brought about a large increase in saving and a considerable improvement in the external current account, but proved inadequate for arresting the financial deterioration. First, the 'bank share arrangement' of October 1983 -- in which the government, in order to avoid their total collapse, guaranteed the value of these shares at a level considerably above their real value -- greatly increased the domestic debt and caused apprehension with regard to the government's ability to meet its obligations. Second, the rate of inflation jumped to 15 percent a month -- a rate at which the existing indexation mechanisms could no longer function adequately. Third, the tax system broke down, particularly with regard to non-wage income; the breakdown was partly due to the fact that the banks ceased to pay income tax as their profits turned negative, and partly to the tax arrears caused by the acceleration of inflation. The decrease in tax revenue further undermined the public's confidence in the government's ability to meet its payments on the public debt. This caused speculative purchases of foreign currency to increase in 1984 despite the improvement in the external current account. Attempts to put a halt to capital outflow by devaluations and price shocks caused price inflation to rise to more than 20 percent a month in September-October 1984.

Between November 1984 and July 1985, when the stabilization program was adopted, several tripartite agreements (so-called 'package deals')

were concluded between the government, the trade unions, and the employers' organizations. The agreements imposed price freezes and stipulated agreed wage increases. The exchange rate was not frozen, and the sheqel continued to be devalued rapidly. In the transition from one package deal to the next prices were adjusted, subsidies were cut, and the 1985-86 budget adopted during this period included a substantial reduction in the government's deficit.

The package deals slowed inflation temporarily and resulted in a real devaluation, in a rise of the relative price of the subsidized goods, and a substantial improvement in the current account (see Figure 3 and Appendix Table 1). In this sense they formed a background and provided some lessons for the subsequent adoption of the stabilization program. However, towards mid-1985 the continuing acceleration of inflation and the renewal of speculative acquisitions of foreign currency made it evident that the package deals were inadequate to bring about a sustainable stabilization of the economy. A more drastic and comprehensive program was therefore called for.[2]

The stabilization program launched in July 1985 had the dual objective of an abrupt reduction of inflation, and a simultaneous significant improvement in the balance of payments. This two-pronged attack on *both* inflation *and* the balance of payments problem -- coming after more than a decade of trying to attack one of these objectives at the expense of the other -- was also intended to lay the ground for a structural change in the economy and for the eventual renewal of growth.

The program's design was the combination of a drastic cut in the deficit with the synchronized fixing of several nominal anchors (the exchange rate, wages and bank credit).

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[2] For a discussion of the package deals, see Liviatan, 1986, 1987.

The cut in the deficit was primarily designed to stabilize the balance of payments and facilitate a credible pegging of the exchange rate (after an initial devaluation). The anchoring of prices to several nominal variables had the purpose of ensuring that inflation (and expectations) would be brought down rapidly without throwing too much weight on a single anchor, which might have led to excessive real costs. For example, if bank credit is set as the only nominal anchor, the cost in unemployment and growth may become politically intolerable. Similarly, if the exchange rate is set as a single anchor, the loss of competitiveness and the deterioration in the balance of payments would eventually bring about the end of the program.

The time-span foreseen for the implementation of the program as a whole was originally set at one year, of which the first three months were declared as an economic emergency period. The principal measures of the program were as follows:[3]

The Budget: For the real part of the program, the original objective was to put a halt to any further increase of the public debt, both domestic and foreign. This would have implied cutting the government deficit by $2-2.5 billion, or 10 percent of the GDP, from its level in the 1984-85 budget (or 5 percent of GDP as compared to the planned 1985-86 budget).

The deficit reduction actually incorporated in the stabilization program was lower, as a result of a compromise on the intended cut in public spending, and was put at 6 percent of the GDP by comparison with the 1984-85 budget. The deficit was to be reduced primarily by cutting

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[3] For a detailed description of the measures, see Bruno, 1986a. See also Blejer and Liviatan, 1987, Dornbusch and Fischer, 1986, Dornbusch and Simonsen, 1987, and Helpman and Leiderman, 1987 for a comparison of different stabilization programs, including that of Israel.

subsidies and raising taxes. As will be seen below, the cut of the deficit eventually turned out to be deeper, both in the 1985-86 budget and that planned for 1986-87. By the end of fiscal year 1986 the government had indeed not increased its domestic and foreign debt over the pre-program level.

Devaluation and the Freezing of the Exchange Rate: With the launching of the stabilization program on July 2, the sheqel was devalued by 25 percent (including some minor adjustments a few days earlier) and its exchange rate against the US$ was stabilized at IS1,500 or NIS1.5.[4] At the same time, effective exchange rates for imports and exports were partially unified.

Multiple Nominal Anchors: When the program was launched, the government declared its intention to freeze all aggregates denominated in local currency; the freeze on the exchange rate was made conditional on maintaining an appropriate level of nominal wages, which was still to be negotiated with the Histadrut (the General Federation of Labor) and the employers' organizations. (These negotiations were concluded only two weeks later, on July 15 -- see below). The Bank of Israel undertook to restrict bank credit, by raising the reserve requirements and the real interest rates on the discount-window loan to the commercial banks. In addition, the prices of most goods and services were frozen and subjected to administrative control.

The Capital Market: With regard to the capital market, the principle was adopted that long-term savings were to be safeguarded while the liquidity of indexed assets was to be reduced. The measures taken in-

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[4] The New Sheqel, which dropped three zeros from the old sheqel (NIS=$1,000), was introduced only in August 1985; the final replacement of the old currency by the new took place in January 1986. This was no more than a belated change of the numeraire.

cluded a ban on converting sheqels into residents' foreign-currency demand deposits. Existing deposits of this type, which since 1978 had provided an indexed money substitute, became a one-way street: they could be converted into sheqels, but their acquisition for periods of less than a year was prohibited. Another decision provided for gradually making government bonds tradable in order to create a basis for a more effective management of monetary policy in the future.

Wage Policy: The tripartite wage agreement between the government, the Histadrut and the employers' organizations was signed, as said earlier, two weeks after the official launching of the stabilization program came at the end of some strikes and demonstrations. The agreement provided for a temporary suspension (until October 1) of the existing cost-of-living allowance agreement, which stipulated an 80 percent compensation for price increases. From October 1, the threshold for payment of the cost-of-living allowance was set at 4 percent of the cumulative price increases in the preceding period,[5] (or after three months, if less than 4 percent) instead of 12 percent under the previous agreement. An initial compensation of 14 percent was paid with July wages for the 28 percent price rise that month; in addition, it was agreed in advance that in December, January and February wage increases would be paid of 4. 4 and 3.5 percent, respectively.

There was some concern about the implications of the subsequent increase in indexation and the nominal consecutive monthly adjustment beginning in December. However, this was the insurance price that had to

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[5] The cumulative price rise in October and November 1985 in fact exceeded 4 percent, as a result of seasonal factors, and payment of the COL allowance was renewed on December 1. In the new wage agreements signed in April 1986 by the Histadrut and the employers' organizations, the threshold was raised to a cumulative price rise of 7 percent.

be paid in the bargain with a partner (the Histadrut) that was facing a sharp immediate drop in real wages with no guarantee that the government, given its poor previous track record, could deliver on promised price stability.

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Even in its first few months, the program achieved considerable success.[6] Inflation, which had run at an average monthly rate of 15 percent before the program, fell to 3-4 percent a month in the first three months and then declined to about 1.5 percent a month -- a rate which has continued until recently. (see Figure 1).

The main improvement in the balance of payments showed in the country's liquidity. The favorable turn in the terms of trade (the fall in prices of oil and other raw materials), and the U.S. emergency aid of $1.5 billion payable over two years, supported the amelioration of the balance of payments position, but it is noteworthy that during this period the country's foreign currency reserves increased cumulatively by an amount approximately equal to the U.S. emergency grant. The main contribution which this special aid thus made was in providing a safety cushion for the stabilization of the exchange rate. There is also no doubt that the confidence which the public accorded the program (as well as high domestic interest rates -- see Section 4), played a role in the repatriation of considerable amounts of foreign currency which had earlier leaked abroad.

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[6] For the implementation of the various components of the program and its results in the first six months, see Bruno, 1986a.

The substantial and continuous contraction of the domestic budget deficit is in the background of these developments. The deficit decreased from 12-15 percent of GDP in the decade before the program to no more than 2-3 percent of GDP. As can be seen from Figure 2, the dramatic decrease in the deficit was mainly due to the increase in taxes, but also to some reduction of expenditures. These results are partly due to the disinflation process itself (see Section 6 below).

Finally, we also wish to emphasize the minimal (and only temporary) rise in unemployment. Economic activity nevertheless rose above the pre-program level only by the second half of 1986. These developments, and those of relative prices (primarily real wages, the real exchange rate, and real interest) will be discussed in greater detail in the following sections. For the moment, it remains to mention only a series of supplementary corrective and supportive measures taken during the last two years. These may be regarded as part of the program's continued implementation.

We have already mentioned that the 1986-87 budget which became operative from April 1986 reflected the continuation of the fiscal restraint that preceded it. A highly restrictive fiscal policy permitted a degree of easing up on monetary restraint. However, in the wake of successive cuts of the free market interest rate (from 880 and 560 percent p.a. in July and August 1985 respectively, to 53 percent p.a. in April 1986), bank credit expanded rapidly. Further cuts in the interest rate were therefore halted, and the level of real interest remained high. In the second half of 1986 there was a substantial rise in demand, mainly for private consumption, which in turn led to a still more rapid expansion of credit. In order to counter these trends, the prime rate was raised again, by 3 percent p.a. in October 1986 and by 12 percent p.a. in

February 1987.The interest rate was lowered gradually from February until July 1987. There has been a large gap between the marginal domestic and the foreign interest rates, which has been maintained by restrictions on capital imports. The gap was reduced lately, in July 1987, by the imposition of a 3 percent tax on capital imports.

Until August 1986 the policy was to keep the exchange rate stable against the U.S. dollar; in August, this was substituted by pegging the sheqel to a five-currency basket, with the main foreign currencies weighted according to their share in Israel's foreign trade. During the period of high inflation that preceded the program, the U.S. dollar had been widely accepted as a stable yardstick; the continued peg of the sheqel to the dollar therefore reinforced the perception that the stabilization program was successful. The European currencies, however, continued in this period to appreciate against the dollar, with the result that from July 1985 until August 1986 the sheqel effectively depreciated against the currency basket at a monthly rate of about one percent. This partially compensated for the excessive wage rise in the business sector in early 1986 (see below, and Appendix Table 1), which had impaired the competitiveness of exports. However, the continuous depreciation at the same time pushed up import prices. This may at least in part help to explain why inflation failed to drop further during 1986 -- a point to be taken up again in Section 5.

Wage costs in the business sector continued to remain high throughout 1986. Employers were partially compensated for this by cuts in wage-taxes and National Insurance contributions. A corrective devaluation of 10 percent against the currency basket in January 1987 further helped to restore the level of profitability of exports to its average 1986 level. The January devaluation was accompanied by a fresh tripartite

agreement between the government, the Histadrut and the employers' organizations, which provided for a partial waiver of the cost-of-living allowance.

Finally, it should be mentioned that the detailed price control system imposed with the start of the program, was relaxed considerably. Since March 1986 price controls have remained in force for 40 percent of all goods and services (as against 25 percent in normal times, and 90 percent at the beginning of the program). It seems that price controls were at no stage in the program's implementation effective in the sense of repressed inflation; their main role was to create a favorable atmosphere for the program and to enlist the support and agreement of the social partners in the overall process of stabilizing expectations.

A follow-up economic program was adopted by the government in early 1987, when the 1987-88 budget was drafted. This program, directed at continuing stabilization and revival of growth, comprises several partial reforms affecting the capital and credit markets and the tax system. These will be reviewed at the end of the present paper.

3. Real Wage Overshooting and the Private Savings Squeeze of 1986

The measures taken with the implementation of the program brought about a squeeze in demand and a considerable expansion in supply. This outcome was very important for the success of the program since it supported the rapid disinflation and enabled the price freeze to function immediately without pressures (see Blejer and Liviatan, 1987). Nevertheless, this downward pressure on domestic prices did not last long. Already at the end of 1985 -- during the second quarter of the program -- demand and supply started to return to their former levels, and then overshot in 1986.

Several events immediately spring to the eye when reviewing the economy' performance in 1986: a) a substantial rise of real wages,[7] much in excess of the increments foreseen in the wage agreement; b) a fall in real interest rates; and c) a real appreciation of the currency. These developments are clearly revealed in Figure 3, which also shows the sharp rise in private consumption. As can be seen from Table 2 below, the increase in private consumption outweighed the decline in other components of domestic demand (public consumption and investment) and the rise in exports. Despite this expansion of demand, there was only a slight rise in real GDP -- mainly towards the end of the year. The import surplus grew significantly, although its absolute level is still low by comparison with 1982 or 1983 (see Fig. 3).

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[7] Labor costs—wages deflated by producer prices—increased even more sharply.

These developments are obviously interrelated, but the question remains whether some of them can be regarded as leading the others, or whether they have another cause. The explanation presented here looks at both supply side factors and those on the demand side. The excessive rise of gross wages in early 1986 resulted in diminished profitability and curbed GDP growth. At the same time, the massive increase of net wage earnings (including transfer payments), combined with the increase in wealth (see below), with the decline in interest rates and the expansion of credit (see Section 4) resulted in a huge increase in demand for private consumption goods and services. The upswing of private consumption supported the real appreciation of the currency and the increase in the import surplus, and was consistent, *ex post* , with the real wage increases at the beginning of the year.

The first question that arises is therefore what caused this high wage rise. It seems to have its explanation in a combination of factors. First, there seems to have been a widespread feeling that the state of the economy had improved, particularly with regard to the balance of payments, so that continued austerity was no longer justified. This may have reinforced wage demands which came on top of the wage increases agreed with the Histadrut (see Section 2). This interpretation finds support in the wage increases in industries which remained depressed in 1986 (construction and agriculture); in these sectors, wages had fallen sharply in previous years but rose in 1986 despite the continuing fall in employment.

Second, firms and workers apparently did not expect price stability to last; in early 1986 firms therefore agreed to sign expansionary wage contracts. Both firms and workers, in other words, expected devaluation

and a renewal of inflation, and therefore set nominal wage increases at excessively high levels.

Finally, increases in various wage components which had been agreed before the stabilization program were postponed until the first opportune moment. Moreover, the cost-of-living compensation for fringe benefits was not included in the cost-of-living allowance agreement, and fringe benefits were therefore not nominally fixed. This, together with the higher wage demands mentioned above, led to full compensation for the abrupt price rise at the start of the program and fringe benefits increased considerably in real terms.

The wage increases found support in an expansionary monetary policy, manifested in cuts of interest rates and an expansion of bank credit. Since prices were at the same time frozen, firms could not promptly shift wage increases on to higher prices. The 'comfortable' liquidity situation, however, enabled them to finance the wage hike and to wait until the devaluation which was firmly expected to come.

Even though the government might initially have had no intention to devalue, it could reasonably be assumed -- on the basis of more than a decade of experience in this regard -- that the government would not for long be able to resist the pressure of exporters and of potential unemployment for devaluation. There was therefore little risk in yielding to wage demands. Nor should it be overlooked that the program never committed itself to keep the exchange rate absolutely stable under all circumstances. In fact, official policy always made the stability of the exchange rate conditional upon wage stability. The stance of official policy itself was therefore not rigidly anti-inflationary.

The currency was in effect devalued only much later -- in January 1987, but the relative appreciation of the European currencies during 1986 meant that the sheqel gradually depreciated against the currency basket (until August 1986, when the sheqel was pegged to the basket instead of to the dollar). This depreciation, together with tax reductions for employers, partially compensated for the erosion of export profitability due to the large wage increases. (For a further discussion, see Section 5).

The explanation that the excessive rise in business sector wages was due to labor pressure and errors in expectations may have been valid at a point in time, the beginning of the year, but not for the whole year, during which employers had the opportunity to adjust their wage costs, for example by slowing the wage drift. The employment statistics lend support to this argument: they show that in the first half of 1986 the unemployment rate rose in tandem with the wage increase. In the second half of the year, by contrast, real wages rose while the unemployment rate declined (see Figure 3). The data on wages by sectors (Table 1) show that the exceptional wage hikes were concentrated in sectors in which price rises were high and where employment increased. Moreover, in sectors producing a large proportion of tradables, such as manufacturing industry, wages rose at the rate that was in fact planned for 1986. As against this, in sectors having a lower proportion of tradables -- various services, for example -- wages rose steeply. The only exceptions are construction and agriculture, both of which are depressed sectors. As said before, the wage increases in these two sectors reflect the demands of workers whose wages had in earlier years been eroded much more sharply than in the rest of the economy. These two sectors account for less than 10 percent of total employment, so

that they did not lead wage developments in 1986. Nevertheless, the wage increases in these two sectors may indicate that in depressed industries money wages are inflexible downwards, particularly when the general state of the economy is improving and therefore changes in relative wages have to take place through a rise of money wages in sectors with rising activity and demand for labor.

To conclude: the wage increases of early 1986 seem to have been autonomous, but the maintenance of a high level of real wages throughout 1986 seems to be a combination of a pull of aggregate demand for labor and downward inflexibility of wages in depressed sectors. This raises the question which factors caused the increase in aggregate demand in the course of the year. For an explanation we must look at what led the substantial expansion of private consumption.

First of all, the wage rise made itself felt in the increase in consumption. Taking into account a built-in curb in taxes and an increase in government transfer payments, the increase in real disposable income of wage earners is estimated at 11 percent per capita, while private consumption rose by 12 percent. Wage income (including wages imputed to the self-employed) accounts for some 80 percent of total disposable income, and no doubt has an even larger share in the increase of private consumption, particularly in the short run.

Secondly, the fall in the real interest rate certainly had a direct effect in raising private consumption mainly by bolstering the acquisition of durables (which the statistics record as private consumption). However, current consumption was apparently also affected by the greater availability of consumers' credit. This will be taken up again in Section 6.

Thirdly, the rise of private consumption may in fact be a symptom of the very success of the stabilization program. It seems that the improvement in the economy's financial position -- overcoming of the financial difficulties in the balance of payments, rehabilitation of the tax system, and putting a halt to inflation -- brought about an increase in the public's perceived wealth, and hence a rise in private consumption.

Finally, it may be observed that the increase in private consumption may have been boosted by the continued price freeze (including on imported goods) and the gradual relaxation of price controls in the course of 1986, which fanned expectations of price rises.[8]

The very large increase in private consumption leads to the question of how this affected GDP and demand for labor, but before going into this matter something should be said about the other components of aggregate demand and about possible changes in the composition of demand as between imports and domestic output.

As profitability declined in line with the rise in wage costs, and as GDP started to grow only at the end of 1986, no revival came in sight of investment in equipment and structures, nor was there, as population

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[8] An additional argument relying on Deaton, 1977 (see comments in Chapter II of the Bank of Israel's annual report for 1986) refers to the individual's lack of discrimination at times of change in the inflation rate, between changes in relative prices and changes in the general price level. When inflation accelerates, this causes the rate of savings to be higher than normal; and conversely—when inflation decelerates, to lower rates of saving. In the reality of Israel's economy the test of this hypothesis is exceedingly difficult because in years of accelerated inflation, such as 1980 and 1984, when the savings rate rose, there is an explanation for the phenomenon in the changes in disposable income and private wealth. If the savings rate rises with continuing stability, this may lend support to the validity of the argument.

growth ceased, any increase in residential construction. At the same time, there was a substantial increase in stocks of imported final products and raw materials which were being replenished as interest rates fell. Civilian public consumption contracted between 1984 and 1986 by one percent of GDP and defence consumption by 3 percent of GDP. The cut in defence expenditure was mainly achieved by the reduction of procurement from defence-related industries, which shifted increasingly to producing for export. Therefore, a substantial part of the 15 percent rise in exports of manufactures is accounted for by industries normally producing for the defence ministry (exports of industrial products, other than those of the highly defence-oriented industries of electric and electronic equipment and transport goods, increased in these two years by a mere 5 percent). Total use of resources rose by 7 percent over 1985 and 1984, with most of the increase due to the rise in private consumption.

Private consumption generally has a higher component of domestic product than exports or investment in equipment and machinery. In 1986 the composition of demand nevertheless tilted towards imports, as a result of the massive increase in purchases of durable consumer goods and of the substantial increase in stocks mentioned earlier. When the real increase in GDP, imports and other uses is estimated without these two components, we still obtain a higher rise of imports than of the GDP, although its increase amounts to only 5 percent. The increase in the acquisition of consumer durables and of stocks therefore explain the lion's share of the rise in imports of goods and services by comparison with their level in 1985 or even 1984. By comparison with 1984, imports increased by 11 percent while the business sector product rose by 8 percent. The change in 1986 as compared with 1985 is remarkable --

imports rose by 15 percent while the business sector product rise for 1986 amounted to only 4 percent.

The upshot of the foregoing analysis is that when purchases of durables and increases in stocks are excluded, demand did not expand significantly and exhibited only a moderate preference for imports. Moreover, there was a decline in stocks of domestic products (see Appendix Table 2), which apparently reflects an unplanned liquidation of stocks. This may help to explain the pressures on the domestic price level which led to an appreciation of the currency in the second half of the year, and is consistent with the revival of economic activity towards the end of the year.

This, however, does not yet explain the discrepancy between the expansion of resource uses and the sluggish increase of the GDP in 1986, unless we turn to factors that affected aggregate supply. The sharp fall in inflation, which raises productivity, and the improvement in the terms of trade augmented aggregate supply in 1986 even if the fall in oil prices was only partially passed on to firms and households, as the government effectively increased the indirect taxation of fuel by reducing its price by less than the fall in its import price. As against this, there were factors that curbed aggregate supply. First of all, and perhaps the most important factor on the supply side, were the wage increases mentioned above, which reflect the downward inflexibility of wages in sectors confronted with declining demand, and still higher real wage rises in sectors where demand expanded. Second, there are institutional and occupational barriers to labor mobility that prevent a shift of labor from declining industries to those in which demand expanded. This too has a contractionary effect on the aggregate supply

schedule or causes it to be steeper than it would otherwise be.[9] Finally, aggregate supply decreased as indirect taxes were raised sharply, mainly by the cut in subsidies but also as a result of the disinflation process itself, which eliminated the gain from tax arrears.

To sum up this discussion we present Figure 4, which combines the hypothetical shifts of the aggregate demand and supply curves during the period under review. The figure shows the position of the economy in the period 1983-86, where one axis measures the business sector product and the other measures the domestic price level relative to prices of tradable goods.[10] We have further plotted aggregate demand curves, deriving their hypothetical position from data on the economy's resource use.

Points A_{83}, A_{84}, and A_{85} show an increase of business sector product together with a real devaluation, while the transition from A_{85} to A_{86} shows a very modest rise in business sector product together with a real appreciation. The diagram's interpretation of these developments is that the shift between 1983 and 1985 is due to a decrease in demand and to a substantial expansion of aggregate supply coming from the erosion of real wages in 1984 and 1985 and the decrease in prices of imported raw materials and energy in 1985. The transition from 1985 to

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[9] Formally, the derivation of the upward sloping commodity supply schedule (Fig. 4) in this case consists of profit maximization by firms subject to both a real wage and a minimum labor input constraint with only raw materials being a truly variable factor.

[10] The index of wholesale prices of industrial products for domestic uses (excluding food, mining and quarrying), divided by the exchange rate of the sheqel against the currency basket and the wholesale price index abroad. For the use of this diagram for the analysis of economic developments from 1965 to 1982, see Bruno, 1986b.

1986 represents the combination of supply contraction together with a demand expansion.[11] This interpretation is also consistent with the improvement in the import surplus from 1983 to 1985 and with its worsening from 1985 to 1986.

By looking at developments during 1985 and 1986 one may further articulate this interpretation of events. More detailed data indicate that a large increase in aggregate supply was achieved in the second half of 1985, but GDP remained low because demand had contracted dramatically. These developments were associated with the initial stage of the stabilization program. In the first half of 1986 both aggregate supply and demand returned close to the level of the first half of 1985 -- before the stabilization program. As stated before, the rise in real wages in the first half of 1986 was offset on the supply side by improved terms of trade and the gain from disinflation. In the second half of 1986 aggregate supply declined further (real wages continued to rise), but the prominent change was the substantial increase in aggregate demand and caused a rise in GDP, a decline in unemployment, a real appreciation and a rising import surplus. In both periods there was a real appreciation of the currency, but according to the argument presented here, its source differed as between the first and the second half of the year -- stemming from wage increases in the first half, and from the upsurge of domestic demand in the second.

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[11] However, as can be seen in the diagram, the aggregate supply curve in 1986 lies to the right of the 1983 curve, in spite of the higher real wages in 1986. This is due to the terms of trade improvement and perhaps also to the sharp decrease in inflation which raises productivity (see Section 6).

The change in the import surplus may be considered by examining the respective changes in imports and exports, but for our purposes it is also useful to review it from the perspective of the investment-savings balance, particularly because of the important role played in this period by public savings. Table 3 shows that in 1985 the increase in public savings more than made up for the fall in private savings, but the latter fell in 1986 so drastically as to affect the current account adversely despite the continued decline in the domestic deficit.

However, as shown in columns 4 and 5 of Table 3, the import surplus was still at a much lower level than that of 1983 and was similar to that of 1984. The country's other foreign currency receipts make it possible to sustain it at this level, but the present trend is of a rise in the import surplus, which has continued even after the January 1987 devaluation. However, most of the recent increase in imports is accounted for by intermediate production inputs, together with the beginnings of higher imports of capital goods. This may reflect an incipient upswing of economic activity and an expansion of capacity.

This increase in the import surplus has nevertheless not recreated the country's foreign payments difficulties, due to the increase in the foreign currency reserves and the stability of the exchange rate which resulted from the public's confidence in the success of the program, and also from the gap between domestic interest rates and the expected returns on foreign currency. These factors, in addition to the special U.S. grants-in-aid, led to capital inflows. The improvement in the country's external liquidity can be seen in Fig. 5, and represents the financial facet of the real appreciation discussed above and to which we shall return again in the following sections.

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If it is concluded that a rise in wages and in private consumption and a real appreciation of the currency are partly the endogenous result of successful stabilization programs, then the corollary is that they contain a built-in mechanism which partially offsets the success of the program.

This has several reasons. First, such programs are devised in the wake of a period of crisis; even if the real exchange rate appreciation reflects a change in the composition of resource uses -- for example, from tradable to nontradable goods -- the authorities hesitate to take the risk of a significant fall of the real exchange rate.Such a fall may impair the balance of payments position, so that the authorities are inclined to carry out nominal devaluations in order to correct the path of the real exchange rate. These devaluations, on the other hand, upset the price stability that has been achieved.

Second, if the authorities take a firm stance on the nominal side and, regarding the balance of payments as still solid, allow the real appreciation of the currency, the real exchange rate will generally overreact. Possible external shocks to the economy will then require an abrupt climb-down from a tall ladder -- which may have disastrous results. Developments in Chile in the early 1980's are an outstanding example of such a situation.

Even in the absence of external shocks an overreaction of the exchange rate makes it necessary to return to a more reasonable exchange rate. Only if prices are flexible downwards is it possible to achieve the real devaluation required for this purpose. When prices are inflexible

downwards, such a process will entail high unemployment and loss of product unless the authorities carry out nominal devaluations which, in turn, have the inflationary effect noted above.

Finally, the increase in private consumption can be curbed by monetary restraint -- a major component of policy which operates through effects on both wealth and liquidity. However, when there are strong pressures for cutting interest rates, and policy has the aim of promoting the renewal of economic growth, a restrictive monetary policy is difficult to maintain for a protracted period.

Stabilization programs are therefore a very problematic policy instrument. They require that fiscal restraint and an incomes policy be upheld for a long time, within the framework of recurrent 'package deals.' It is obviously difficult to persuade the trade unions to waive wage demands when the economic situation looks favorable, but the failure to achieve wage restraint imposes the need for periodic nominal adjustments of the exchange rate -- with the consequence that the economy will be condemned to an inflation rate higher than in the Western countries.

4. Stabilization and the Problem of Monetary Control

Among the outstanding events on the money and capital markets was the rapid rise, since the adoption of the stabilization program, in the real balances of sheqel-denominated assets at the expense of indexed assets. Bank credit to the public also expanded rapidly, especially from mid-1986, and average real interest rates fell substantially compared with their level in 1985. Nonetheless, interest on nondirected credit in local currency remained at a relatively high level (in addition to this category of credit there is bank credit in foreign currency, the volume of which is restricted by ceilings, and directed credit for exports; interest rates on these types of credit are close to international rates).

As can be seen from Table 4, until the end of 1986 M_1 and M_2 have increased in real terms about 2.5 times, while a broader aggregate, M_4, which is composed of M_2 plus residents' foreign-currency deposits and negotiable bonds held by the public, has increased only by 3 percent.[12] This portfolio change of course reflects the decline in inflationary expectations. The adjustment process has been fairly slow,[13] and is apparently not yet concluded. As time goes on, the public is also becoming more disposed to hold sheqel assets for longer terms. Thus, the share of local-currency deposits for more than a month, which in June

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[12] The rapid expansion of M_4 in the first half of 1987 is related to the linkage differentials of foreign currency deposits after the devaluation of January 1987 and to the large capital inflow in this period. We refer to this phenomenon in the next section.

[13] As was actually expected from econometric estimations; see Bank of Israel, Economic Review, 1985.

1986 had accounted for 10 percent of total sheqel assets, had by March 1987 increased to 26 percent.

Behind the real expansion of monetary aggregates mentioned above there is an even larger nominal expansion since inflation, as said before, was not brought down completely. This, together with the fall in real interest rates, shows that monetary policy in 1986 has been expansionary. However, for a better understanding of that policy, consideration must be given to the targets assigned in the program to the Bank of Israel, the policy instruments, and the fact that in 1986 the marginal interest rate remained very high by international standards (see Table 5).

A program that succeeds in stabilizing price inflation cannot possibly keep the quantity of money unchanged, since lower inflation generates a higher demand for money. The authorities in Israel decided to accommodate this increase, even though this could be interpreted as an expansionary policy (see Fischer, 1984). It was, however, possible to restrain the expansion of credit, because disinflation as such does not significantly affect its real interest rate (see Fischer and Fraenkel, 1983, and Fraenkel, Piterman and Sokoler, 1984). It was assumed that individuals would therefore obtain the quantity of money they demand by converting foreign currency assets or indexed assets which they held as near-money before inflation slowed down, and not by an expansion of bank credit.

In the program, the role of the central bank was to permit the accommodation of bank credit to the price shock of July 1985 less ten percentage points and to prevent any further nominal expansion in the subsequent period. This charged the Bank of Israel with a difficult task, for several reasons. First, because fiscal and incomes policy aimed

chiefly at a reduction of private disposable income. The public tends to offset this policy by borrowing, especially if the policy is perceived as temporary. Second, the steep decline in the expected return on foreign currency was anticipated to lead to higher capital inflows, which would offset the policy to a considerable extent. Third, a sharp improvement of bank liquidity was expected as indexed bonds and residents' foreign-currency demand deposits (on which the reserve requirement was 100 percent) were converted into sheqel deposits with lower reserve requirements.

In order to prevent credit expansion in spite of these forces, the Bank of Israel raised the reserve requirements on sheqel deposits and maintained an extraordinarily high interest rate on its discount window loans. This was reflected in the real interest rates on overdraft facilities, which reached more than 320 percent p.a. in August 1985, following the implementation of the program, and an average of 168 percent p.a. in the whole six-month period following the program (see Table 5).

The nominal (and real) interest rate was gradually lowered during the second half of 1985 and until March 1986, even though credit expanded in excess of the target. The actual fall in interest rates was therefore due to heavy political pressure by the government and the various sectors in the economy.There was also the feeling, in the Bank of Israel itself, that such a high real interest rate was damaging the economy, and was paradoxically leading to an *increase* in the credit balance rather than to a decrease as firms had to finance the enormous interest payments.

As the Bank of Israel abandoned the original target, it began to set its policy by taking into account the performance of the economy: the inflation rate, the expansion of demand, the external current and capi-

tal accounts, etc. Nevertheless, it continued its efforts to achieve some restraint in the expansion of credit, and to this effect halted the process of declining interest rates in March 1986. In any event, in the second half of 1986 a boom in demand and a deterioration in the private sector's current account, together with a rapid increase in credit, caused the Bank to raise the prime rate by 3 percent p.a. (see Section 2) even though its real level was still very high.

In retrospect, two years later, it seems that the choice of the volume of bank credit as the target of monetary policy was inappropriate. First of all, in the context of a fixed exchange rate regime, more attention has to be paid to the *total* domestic sources of monetary expansion -- credit to the government and to the public from the Bank of Israel and the commercial banks, despite the restriction of bank credit to the public. This means that nominal targets based on some definition of *net domestic credit* rather than bank credit to the public alone would seem to be more suitable.

Second, if bank credit is nevertheless set as the nominal target of monetary policy and therefore the central bank wants to allow accommodation to the rising demand for money without any expansion of credit, it must supply money by increasing the monetary base and at the same time raise the reserve ratio so as to prevent any credit expansion. This would imply very high reserve requirements. If, on the other hand, the central bank is reluctant to increase the reserve requirements, it must permit some growth in credit. The higher demand for money, in other words, must be accommodated partly by growth of the monetary base and partly by credit expansion.

As can be seen from Table 6, the actual accommodation in the second half of 1985, with M_2 growing by 17.7 percent of GDP, was due mainly to

the expansion of the money base by 10 percent[14] of GDP, while the expansion of bank credit contributed in this period 8 percent of GDP, despite the sharp increase in reserve requirements.

In contrast, during 1986 the increase in local-currency assets was mainly fed by the expansion of bank credit. Credit expansion in this period was due to the Bank's policy of trying to reduce the money base by bond sales and simultaneously lowering reserve requirements. However, the Bank of Israel was very concerned with the rise in credit, and in the second quarter of 1986 the decline in interest rates was cut off. It seems, therefore, that the lack of regard for this point may have led to interest rates higher than were necessary at this stage of the program's implementation.

5. Exchange Rate Policy and the Synchronization of Nominal Anchors

One of the most important components of the stabilization program was the establishment of a set of several nominal anchors, with the intent of stabilizing prices without throwing all the weight on a single anchor. These anchors were: the exchange rate, wages, bank credit and the price freeze imposed on a wide range of goods and services.

These nominal anchors can only function properly provided they are set at a sustainable real level at the outset of the program, or, if this is not done, the stabilization program itself must contain such real

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[14] This large increase in the money base, compared with its expansion in 1981-1984, was mainly due to a decrease in sales of foreign currency to the private sector and to a decline in net domestic debt, both of which offset the reduction of the government deficit to a considerable extent.

changes in these variables as will allow them to reach a reasonable level.

The program was initiated by a general hike of prices before they were frozen, a sharp rise in the exchange rate, an erosion of real wages, and a low level of credit due to unprecedentedly high real interest rates. Since the nominal exchange rate was frozen while it was clear that some prices would still rise at the outset of the program, the real exchange rate was planned to be eroded in the first few months. In addition, the wage agreement concluded with the Histadrut provided for a real erosion for some months, and for wage increments to be paid in several instalments until the first quarter of 1986. The real rate of interest was also cut gradually and more or less stabilized from the first quarter of 1986. It was therefore natural that following an erosion at the outset of the program, the real expansion of credit would parallel the fall in interest rates (for more details, see Section 4 above).

These real changes, which had to follow, by necessity, from the exceptional initial level of the nominal anchors, must be taken into account in evaluating the performance. The nominal changes in wages, import prices and bank credit relative to the consumer price index are shown in Figure 6, assuming a certain initial real level for each of these variables (see notes to the diagram).

The intention of the authorities was to fix nominal wages and nominal bank credit, after their initial adjustment, to support the fixed exchange rate regime. As can be seen in Fig. 6, all the nominal variables actually pushed prices up. The fact that wages and bank credit exceeded their planned nominal path, has already been discussed in previous sections, but it is interesting to note that import prices were also

clearly on an upward trend during 1986, despite the absence of inflation abroad and the adoption of a fixed exchange rate regime, and they were an additional factor pushing prices up, but more slowly than wages and credit.

This leads to the question what drove up import prices and whether inflation would have fallen more rapidly if import prices had remained stable. For a year after the adoption of the stabilization program the sheqel remained pegged to the U.S. dollar. This peg, at a time when the dollar depreciated rapidly against the European currencies, effectively caused the sheqel to depreciate against the currency basket which reflects the composition of Israel's foreign trade better than the dollar. Thus, the exchange rate for the export basket[15] (excluding diamonds) depreciated by 15 percent between the third quarter of 1985 and the last quarter of 1986. It seems therefore that the continuous price rise until the third quarter of 1986 was pushed by the depreciation of the sheqel against the relevant currency baskets, in addition to wages and credit.

In August 1986 the sheqel was pegged to a 5-currency basket instead of the U.S. dollar.[16] If instead of pegging the exchange rate against the dollar it would have been fixed to the currency basket (at its level in the third quarter of 1985), and assuming that the resulting lower depreciation would have been passed on fully to the CPI, then inflation

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15 The exchange rate for the import basket rose more rapidly, but if the price fall of raw materials is taken into account, the depreciation of the import basket is very similar to that of the export basket. We have therefore taken the latter as an indicator of the sheqel's depreciation.

16 The basket is made up of the following five currencies (percentage weights in brackets): the U.S. dollar (60), the DM (20), the £ (10), the Ffr. (5) and the Yen (5).

in 1986 would have run at only 13 percent per annum (instead of the actual rate of 20 percent). However, in this case the dollar exchange rate and export prices would have fallen nominally. Moreover, for a slower depreciation to be passed on as a lower rate of inflation, wages and the domestic prices of the relevant industries would have to fall. Given the downward inflexibility of money wages, inflation would have fallen by less, real wages would have risen by more, and the real exchange rate would have fallen by more. This would have cut more sharply into the profitability of exports, with the derived implications for GDP, employment and the import surplus.

It would therefore seem that, taking account of the changes in the cross rates of foreign currencies and international relative prices, the dollar-peg operated in favor of the economy because it made it less necessary to reduce prices and wages in some sectors, thereby easing pressures that might have adversely affected the stabilization program. Higher inflation was of course the price that was paid for the easing of these pressures.

The contraction of public consumption, the subsidy cuts and the very process of disinflation call for a shift of production factors between industries, and for changes in wages and relative prices among them. With prices and wages being inflexible downwards, such structural changes tend to be inflationary, so that a rigid anti-inflationary policy may have a very high cost of unemployment and loss of product.

Does it follow that a crawling peg would to be more appropriate to stabilization programs than a fixed exchange rate? In the circumstances of the Israeli economy, a fixed exchange rate and a price freeze make it easier to reach an accord with the workers, without which the rapid stabilization that has been achieved would not have been possible.

Viewed in this light, it is possible that the creeping depreciation accidentally forced upon Israel as a result of the changes in foreign cross rates has made it possible for the economy to benefit from the best of two worlds: on the one hand, the freeze of the exchange rate bought it stability, while the effective depreciation until August 1986 facilitated the gradual adjustment of relative prices.

The one-time corrective 10-percent devaluation of January 1987 was accompanied by a fresh agreement between the employers and workers, in which the latter agreed to waive half of the 5.4 percent cost-of-living allowance due to them in March 1987 as a result of the devaluation. For the other half, employers were compensated by a reduction of their National Insurance contributions by the same 2.7 percent. In the first quarter of 1987 prices -- particularly those reflected in the CPI -- actually rose less than had been expected: the CPI rose at a monthly average rate of 1.5 percent and 1.3 percent in the first and second quarter of 1987, respectively, as against 2.3 percent in the last quarter of 1986. The wholesale index of industrial output rose faster and reflected the price increases expected to result from the devaluation: after a slowdown of wholesale price rises to one percent a month in the second half of 1986 (which may be attributed to the switch to a currency basket), the rise in this index accelerated to 2.3 percent in the first quarter of 1987 and decreased to 1 percent in the second quarter of 1987. This is equivalent to a cumulative 5 percent rise following a 10 percent devaluation. At the time of writing it is not yet clear what the price indexes will show in the rest of the year. It is hoped that wage agreements, due to be signed soon, will be restrained and will make it possible to hold on to a stable exchange

rate. Inflation may in that case taper off to below the average rate of 1986.

The devaluation was very successful in increasing export profitability, but it upset the equilibrium in the assets market: during the months following the devaluation, there was a capital inflow of about $1 billion. This capital inflow, which began as a result of the sharp decline in the cost of foreign currency credit after the devaluation, when it became certain that another devaluation was not to be expected in the near future, might have caused monetary expansion, an additional increase in demand, pressure on domestic prices and a rapid real appreciation. The policy of absorbing money on the one hand prevented a rapid choking off of capital imports, but contributed, on the other hand, to restraining demand and moderating price increases following the devaluation. Price increases were, as mentioned earlier, lower, and spread over a longer period, than had been expected. The moderate price rises immediately following the devaluation were highly valuable in reinforcing the public's expectations that price stability would be maintained.

6. Miscellaneous Dividends and Costs of Rapid Disinflation

Inflation is a nominal phenomenon, but it has far-reaching impacts on the real economy: it determines the real return on money, thereby affecting the payments system, the forms in which assets are held, and consumption patterns.

Some of these effects have been dealt with above. The present section will review some salient events that occurred since the stabilization program was put into effect and which we have not yet discussed. These are in part related to the rapid deceleration of inflation, and in part to the particular manner in which the program was implemented. The specific effects of each of these factors are difficult to quantify.

A. Government Revenue and Expenditure: One important effect of the stabilization process was its impact on real government revenue and expenditure. As long as inflation ran at a high rate, revenues and expenditures could be timed so as to effect substantial real changes. With a monthly inflation of 15 percent it is evidently possible to increase real expenditure by 15 percent in excess of the volume planned in the budget, by concentrating outlays in the beginning of the month. Equally, by timing tax payments to the end of the month, their real amount can be reduced by 15 percent. A mere change in the timing of payments might therefore double the government's deficit. When inflation ran at this rate, these possibilities were in time taken into account and the budget was in many ways adjusted to inflation. However, its nominal component still left considerable opportunities for maneuver (the disbursement of allocations to government ministries a month in advance was one example).

As long as inflation runs at a steady rate, even if that rate is high, the increase in real expenditure and the decrease in real revenue is of a constant size. The great changes occur when there is a sharp acceleration or deceleration of inflation.

Therefore, the cuts in public spending carried out in the framework of the stabilization program were two-fold: first, there was a planned contraction of expenditures, and second, the advantages of timing outlays to the beginning of the month were eliminated. This resulted in larger-than-planned expenditure cuts.

The substantial increase in real government revenue as a result of disinflation appears in the literature (the Tanzi effect). The Israeli experience confirms this phenomenon even under conditions of a partially indexed tax system. The program, in addition to the changes it brought about on the expenditure side, also comprised measures to rehabilitate the tax system, which came under serious stress in 1984. These measures, combined with the real effects of disinflation itself, caused the overall tax level to overshoot its target (see Table 7).

This effect of disinflation on government expenditure and tax revenue helped to reduce the deficit and bolstered stability. In certain sectors, however, this led to financial crises, particularly in budget-dependent organizations and enterprises such as the universities, the Histadrut sick fund, hospitals, and others. In the period of high inflation these entities had managed, by a financial management adjusted to these conditions, to maintain a given level of real activity. The slowdown of inflation deprived them of the potential financial profits, and caused them to run into much more severe financial difficulties than those implied by the budget cuts as such.

B. The Business Sector: The disinflation process also affected the functioning of firms. Under high inflation, financial operations dominated their activities. With nominal interest rates at 20 percent a month, errors in timing are very costly for business firms, so that considerable resources are allocated to financial operations, to an improved management of debt collection and the timing of payments for goods and services. With disinflation, real activity again took up a more important place. Industries in which real activity was depressed, such as the construction industry, had been able to survive under high inflation by financial management appropriate to such conditions, but with disinflation this option disappeared.

Moreover, the conventional accounting rules made it possible to show profits even when there were real losses. Financial statements that seemed to show profits made it possible for the banks to continue extending credit to these firms. Disinflation exposed their real situation. Thus, only the slowdown of inflation revealed that Solel Boneh, Israel's biggest construction firm had been making real losses for many years. Although the crisis in the construction industry was no doubt partly worsened by the unprecedented rise in real interest rates at the start of the stabilization program, it seems that the slowdown of inflation itself played a considerable role.

In agriculture, in particular, a severe crisis affected its two most important organizational branches, the kibbutzim (the collective settlement movement) and the moshavim (the cooperative settlements). Their financial crisis was caused by a combination of bad financial investments made during the period of high inflation, by over-investment in real assets serving consumption in the time when its financing was subsidized, and high interest in the early stages of the stabilization

program. Bad financial investments were a particularly aggravating cause in the difficulties of the kibbutz movement. However, since the kibbutzim have come to be based increasingly on manufacturing industry, and since their movement has built-in mechanisms of mutual help, they have been able to mount a comprehensive recovery program. The government and the banks have cooperated in this mainly by debt consolidation. The moshav movement, by contrast, remains in deep crisis, mainly because it has no mutual assistance system similar to that of the kibbutzim, and it is doubtful whether they will be able to extricate themselves from their difficulties without massive government assistance.

A final observation is that the effects of the shift from financial to real activity as inflation comes down will make its effects felt primarily in the banking system, by the reduction in foreign currency and securities transactions.

The banking system has indeed ended 1986 with very small profits, mainly because of a sharp increase in the provision for bad debts that were partly due to the extremely high interest rates at the beginning of the program. There were, against this, a number of factors which increased bank profits. First among these was the switch of the public from residents' foreign currency deposits -- on which the banks' margin is negligible -- to local-currency deposits in which the margin is higher. Second, the financial margins in sheqel operations were exceptionally high in the early phases of the stabilization program, when the central bank conducted a highly restrictive monetary policy. This factor, however, played an important role in the short run. In the future, the liberalization of the capital market is likely to reduce the banks' financial margins, so that with low inflation and less

financial activity in the economy the banks will have to further shrink their size and scope of activities and to release resources for productive activities.

The cutback in the size of the banking system already started with the bank shares crash in 1983, but the process was slowed down in 1985 and renewed contraction took place in 1986 (see Table 8). Although it is not clear how much of the 1986 contraction is due to the slowdown of inflation as such, it probably had some part in it.

C. Consumer Credit: In the first quarter of 1986 a spurt of increased consumer credit made its appearance in the chainstore networks. These credit campaigns caused concern to the authorities because they were regarded as encouraging private consumption and putting pressures on the price level and the balance of payments.

One explanation for such an expansion of credit when inflation comes down is that under high inflation, when it is not worth while to hold money or even short-term financial instruments which have a negative real yield, consumers tend to keep a relatively large stock of consumer goods. When the inflation rate falls, the optimal level of stocks also declines; the holding of stocks is shifted to the distributors who, however, pay high real interest rates. These then make efforts to induce the consumers to return to holding larger stocks, by launching campaigns of discount sales and by extending credit for longer term.

The extension of credit for a longer term can also be viewed from a different aspect. The chainstores used to give their customers credit for a week or two (by the use of credit cards) even before the slowdown of inflation. Before the stabilization program the cost of credit for two weeks was some 10 percent, and this cost was of course reflected in the price level. At the end of the first quarter of 1986, 10 percent

were the cost of credit for two and a half months. For the chainstores it was therefore optimal to lengthen the term of credit, and it is reasonable to assume that their suppliers also extended the term for which they granted credit.

Such an extension of the term of credit means a one-time rise in credit balances, and this may in part explain the rapid increase of credit during 1986 even though the real interest rate was still very high. The gradual fall of nominal interest rates from very high levels postponed this effect until early 1986, and thereby acted as a stabilizing factor.

7. From Stabilization to Growth?

The stabilization program -- together with favorable external factors -- has been remarkably successful in its two main objectives, of putting a halt to inflation and improving the country's external position. However, the goal of reducing inflation to present world levels has not yet been achieved, and economic policy can not yet be conducted without a constant close watch over possible new balance of payments difficulties. We have also seen that the stabilization process has brought to the surface a number of serious structural problems which call for solutions. But over and above these issues there hangs a much more important question mark over the next stage. This has to do with the prolonged stagnation that has afflicted the economy in consequence of the crises of the 1970's. The question is whether the conditions have already been created for a renewal of rapid growth, under continued relative stability.

As stated above, economic activity has picked up and unemployment has come down at the end of 1986 and in early 1987. Data on investments are not yet available at the time of writing, but imports of capital goods have recently started to rise again.

These changes may herald a certain change in the economy's growth trend -- a change that was expected as a result of disinflation, the contraction of public spending, the fall in energy prices, the decline in real interest rates, and the reduced need for public borrowing.

A stagnant economy in which capacities are underutilized can increase its product for a short time as demand rises even without additional investment, if the balance of payments position permits such an expansion of output. In general, however, the process of capital formation must be renewed for real and sustained growth to be revived. The net stock of capital in Israel's business sector has almost ceased to grow as investment fell off rapidly in recent years. A solidly-based revival of the capital formation process (as distinct from one artificially nourished by the injection of public funds) depends on two principal variables: one, the real return to investment for the economy as a whole and for the individual producer, and the other -- the real cost of investment finance on the capital market. We shall briefly discuss these two factors.

Data for the return on new investments are not available. The only overall indicator at hand to indicate what difficulties lie in the path of renewing investment is the average gross rate of return on the capital stock of the business sector, as estimated from the functional distribution of GDP between wage income and income from capital. Fig. 7 provides a historical series of this statistic and Fig. 8, which is almost its mirror image, shows the series of returns to capital. The dia-

grams bring out clearly what happened to Israel's economy since the end of the prosperity period of 1968-75. The share of wages in domestic income has risen to 75-80 percent of the total, and in 1986 even to 85 percent -- reflecting the rise in wage costs in excess of the increase in productivity. This development had the consequence that the gross return to capital in 1986 fell to its lowest level since the 1966 recession.[17]

In reality, however, the situation as regards profitability was even worse in 1985-86. For the individual producer it is the net after-tax return that counts, and in this respect the success of the stabilization program in raising the tax revenue from the business sector at the same time implied a deterioration in after-tax profitability. A partial indicator for this is provided by the data on the drastic change in the distribution of tax revenue from wages and taxes on unearned income:

	1980	1984	1985	1986
Share of income tax from wage income	44.8	53.3	43.5	37.4

This leads to the question by what mechanisms these trends may be corrected. The halting of inflation and the modifications in the functioning of the business sector mentioned above may also facilitate a rise in productivity. There are indications that in manufacturing industry, for example, output per man-hour began to rise rapidly in the second half of 1986. The crucial question is what will happen to wage costs

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[17] It should, however, be observed that this is the average return on the capital stock which does not necessarily represent the return to new investments. The revival of the stock market and of new share issues in the first half of 1987 may indicate that the expected rates of return are higher.

when growth is renewed. This brings us back to the structure of the labor market, the ability of the trade unions to dispense with automatic general wage escalator mechanisms, and their readiness to let the labor market determine more flexible adjustments of wages in accordance with the conditions in different industries. Direct and indirect taxes on wages are another central component of wage costs.

Israel has one of the highest overall rates of taxation in the world (see Table 7). It is almost twice as high as during the period of rapid growth in the 1960s. A major part of the rise in the gross tax rates is the consequence of the considerable increase in transfer payments, subsidies and a wide range of various tax exemptions. This means that the rate of net taxation is much lower than the gross tax rates. It calls for a tax reform that will on the one hand reduce the gross tax rates in order to increase the motivation to work and invest, and on the other -- to expand the tax base and reduce transfers so as not to lower the net rate of taxation too much and to enable the government to finance its other expenditures.

The marginal individual income tax rate was reduced in April 1987 from 60 to 50 percent, and corporation taxes were reduced at the same time. The planned reductions of tax exemptions have not yet been negotiated; these are essential because an income tax cut as the exclusive measure of the tax reform will increase the deficit -- which may destabilize the economy again. In the long run, tax cuts within the framework of a tax reform depend on a continuous reduction of the share of public expenditure in GDP. Politically this is a very thorny issue.

As regards the financing of new investment, Israel's capital market has always been characterized by a high degree of government intervention, as a result of the large financing requirements and because of

the desire to allocate the remaining savings to preferred purposes. The recent substantial decline in the need to finance the deficit on the one hand, and on the other, the lesser administrative intervention, will enable the private sector to allocate savings more efficiently.[18]

The méasures adopted in a partial reform of the capital market from April 1987 go in this direction: a) the share of investment in government bonds obligatory as cover for long-term deposits (saving schemes, provident and pension funds) has been reduced; b) the tax discrimination in favor of interest on government bonds as against private securities has been abolished; and c) the requirement of government approval for private capital issues has been eliminated and such issues are now only subject to approval by the supervisory authorities of the Stock Exchange. Issues of bonds by banks, however, are still restricted in order to prevent them from using their monopolistic power on the capital market. The restrictions on capital movements with the rest of the world have also remained in force.

The real yield of private capital issues, it may be noted, has fallen substantially towards the end of 1986 and in the beginning of 1987 -- from 10-11 percent to 7-8 percent per annum. For the long run this is

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[18] For a survey of government intervention in the capital market and outlines for a reform, see Blum and Piterman, 1987.

still a higher than desirable interest rate, but it may indicate an improvement in the financing possibilities of private investment. As with the need to reduce the rate of taxation, future developments in the private capital market depend on budget balance. If the recent favorable budgetary trends can be maintained, it may become possible to reduce the ratio of domestic debt to GDP (which at present stands at 1.4), and thus also the cost of recycling the debt. Continued stability and the further strengthening of the country's foreign payments position may also make it possible to raise external funds for investment at reasonable interest rates. Rising productivity and a policy of restraint and flexibility of wages may increase the business sector's profitability.

The reforms of the tax system and the capital market are still in their early stages of implementation, and so are the structural changes required in order to return to rapid growth. Only time will tell if the third goal of the recovery program, that of reviving economic growth, will indeed be achieved in significant measure.

Table 1. WAGES, EMPLOYMENT AND THE CONSUMER PRICE INDEX, 1986

(Percent)

	Wage rise in excess of public sector wages[a]	Increase in number of employed persons	Average annual change in CPI component of the value of the currency basket
Business sector, total	4.3	2.1	13.0
Agriculture, forestry and fishing	4.8	-1.3	50.2
Industry (manufacturing and mining)	2.2	4.2	6.1
Electricity and water	-3.1	-	-11.8
Construction	7.8	-6.5	-1.3
Transport, storage and communication	4.3	0.5	6.4
Financing and business services	6.1	0.4	
Commerce, restaurants and hotels	6.5	3.8	36.0
Personal and other services	12.7		

[a] The 8 percent rise in public sector wages was approximately the real wage increase planned for 1986 within the framework of the stabilization program.

Source: (1) Bank of Israel, Annual Report 1986, Table IV-14.

(2) Bank of Israel, Annual Report 1986, Table IV-10.

(3) Bank of Israel, Annual Report 1986, Table V-2.

Table 2. RESOURCES AND USES[a], 1973-1986

	Value at current prices in *NIS bill.*	Real change, percent					
		Average 1973-85	1983	1984	1985	1986	1984-86
Resources							
Gross domestic product	41.0	3.2	2.7	1.8	2.8	2.2	5.1
Civilian imports	21.4	4.0	11.1	-3.6	-3.9	15.1	10.6
Total resources	**62.4**	**3.4**	**5.8**	**-0.3**	**0.3**	**6.8**	**7.1**
Uses							
Private consumption	26.1	4.3	8.0	-7.3	-0.4	14.0	13.5
Public consumption, excl.direct defence imports	11.2	2.5	1.7	1.0	-0.8	-4.8	-5.6
Gross domestic investment	8.0	-1.6	12.0	-7.5	-13.6	8.1	-6.6
excl.changes in stocks	7.2	-1.0	14.0	-11.7	-9.9	-5.5	-14.9
Domestic use of resources, excl.direct defence imports	45.4	2.5	7.2	-5.3	-3.2	7.8	4.4
Exports at local prices	17.0	6.0	2.1	13.9	8.6	4.7	13.7
Total use of resources, excl.direct defence imports	**62.4**	**3.4**	**5.8**	**-0.3**	**0.3**	**6.8**	**7.1**
Gross domestic product of the business sector at market prices[b]	**28.4**	**2.8**	**3.1**	**1.8**	**3.8**	**3.7**	**7.6**

[a] Excluding direct defence imports

[b] Gross domestic product excluding product of public services and private non-profit organizations, and excluding housing services.

Source: Bank of Israel, Annual Report 1986, Table II-1.

Table 3. THE IMPORT SURPLUS BY COMPONENTS, 1983-1986

(Percent of GDP, annual averages, at constant prices)

	Change over previous year			Cumulative change	
	1984	1985	1986	1983-1986 (1)+(2)+(3)	1984-1986 (2)+(3)
	(1)	(2)	(3)	(4)	(5)
Decline in investment	2.3	3.7	-1.2	4.8	2.5
Increase in savings	6.1	3.0	-4.8	4.3	-1.8
of which: Private savings	16.3	-6.1	-12.3	-2.1	-18.4
Public savings[a]	-10.2	9.1	7.5	6.4	16.6
of which: Increase in net taxes	(-8.2)	(7.8)	(3.6)	(-3.2)	(11.4)
Decline in the import surplus[b]	**8.4**	**6.7**	**-6.0**	**9.1**	**0.7**
of which: Exports (increase)	5.0	2.7	1.2	8.9	3.9
Imports (decrease)	3.4	4.0	-7.2	0.2	-3.2

[a] Domestic surplus *less* net expenditures abroad not including defence imports.

[b] Excluding direct defence imports.

Source: Central Bureau of Statistics, National Accounts, 1983-1986.

Table 4. REAL BALANCES OF MONETARY AGGREGATES AND BANK CREDIT TO THE PUBLIC, 1985-86

(NIS billion)

		M1	M2	M4	Total bank credit to the public
Before the stabilization program					
1985	June	510	1,682	8,307	5,962
			Indexes		
		100	100	100	100
After the stabilization program					
1985	December	133	181	96	93
1986	June	195	192	99	101
	December	245	260	103	112
1987	June	247	312	121	130

M1 - Cash and demand deposits

M2 - M1 plus local-currency time deposits and CDs.

M4 - M2 plus residents' foreign-currency deposits, and negotiable indexed bonds.

Source: Bank of Israel, Annual Report 1986, Chapter VIII, The Money and Capital Markets.

Table 5. REAL ANNUAL COST OF BANK CREDIT TO THE PUBLIC, 1984-86

	1984	1985	1986	1985 2nd half	1986 1st half	1986 2nd half
Overdraft facilities	67.0	100.4	31.1	168.3	37.2	25.2
Indexed local-currency credit	21.2	16.8	11.6	88.3	11.6	11.7
Nondirected foreign-currency credit (subject to ceilings)	47.3	13.7	9.4	18.8	14.9	4.2
Other foreign-currency credit	27.6	-6.5	-11.6	-5.2	-8.8	-14.2

Source: Bank of Israel, Annual Report 1986, Table VIII-10.

Table 6. THE GOVERNMENT DEFICIT, ITS SOURCES OF FINANCE, BANK CREDIT TO THE PUBLIC AND UNINDEXED FINANCIAL ASSETS OF THE PUBLIC, 1981-86

(percent of GDP)

	1981	1982	1983	1984	1985	1986	1985 2nd half	1986 1st half	1986 2nd half
1. Government deficit	11.6	10.0	6.0	12.1	9.0	2.6	5.7	2.9	2.3
Financing of the deficit									
2.Increase in net domestic debt	8.1	6.2	-1.0	0.8	-1.2	-0.4	-6.1	2.6	-3.4
3. Sales of foreign currency to private sector	1.9	2.6	6.3	8.6	4.8	2.5	2.2	2.4	2.6
4. Change in money base, net	1.6	1.2	0.7	2.7	5.4	0.5	9.6	-2.1	3.1
5. Expansion due to banking activity (mainly bank credit) (6)-(4) = 5	2.7	5.3	5.0	5.7	8.3	7.5	8.1	6.2	8.7
6. Change in M2	4.3	6.5	5.7	8.4	13.7	8.0	17.7	4.1	11.8

Source: Bank of Israel, Annual Report 1986, Table VIII-6.

Table 7. GROSS TAXES AND TRANSFER PAYMENTS BY THE PUBLIC, 1980-86
(percent of GDP)

1980		45.2
1981		44.3
1982		48.0
1983		48.5
1984		40.0
1985	first half	46.5
	second half	50.5
1986		52.3

Source: Bank of Israel, *Annual Report 1986,* Table V-2.

Table 8. EMPLOYMENT AND NUMBER OF BRANCH OFFICES OF THE BANKING INSTITUTIONS, 1984-86

(Percent change over previous year)

	Number of branch offices	Number of employees in the five large banks
1984	-4.3	-9.8•
1985	-1.1	-5.3
1986	-2.3	-6.3

• Change from September 1983 to December 1984.

Source: Bank of Israel, Examiner of Banks, *Annual Banking Statistics, 1982-86,* Table A-I.

Appendix Table 1. Main Economic Indicators, 1980-87

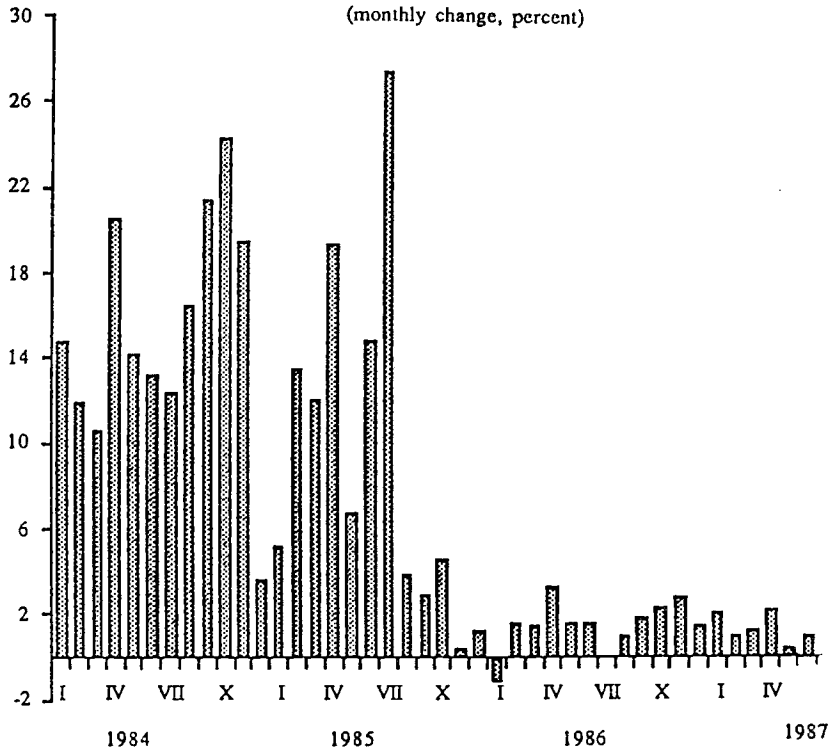
	Mean 1980-1984	1984 (during year)	1985	1986					1987	
			Jan.-July	Aug.-Sept.	Oct.-Dec.	Jan.-March	April-June	July-Sept.	Oct.-Dec.	Jan.-March	April-June
A. Prices, exchange rates and wages (monthly percentage change rates)											
1. Consumer prices	8.7	15.2	14.0	3.5	2.1	0.6	2.1	1.0	2.2	1.5	1.3
2. Wholesale prices	9.1	15.2	12.4	1.8	2.4	1.2	1.7	0.9	1.0	2.4	1.1
3. $ Exchange rate	8.8	15.9	13.6	0.2	-0.1	0.0	0.0	0.0	0.0	2.8[g]	-0.3
4. 5-currency basket exch. rate	7.5	15.3	15.3	0.7	2.0	1.5	0.5	0.0[f]	0.0	3.8[g]	-0.1
5. Nominal wage	9.0	16.5	11.0	0.3	4.5	6.4	4.3	-1.7	3.0	0.3	-
B. Money and credit (monthly percentage rates)											
1. Total bank credit	8.6	16.1	13.0	4.8	1.7	2.9	2.4	3.7	3.3	4.6	3.1
2. Quasi-money (M_3)[e]	10.7	15.9	13.0	3.5	1.9	2.3	-1.0	3.2	3.3	4.3	1.5
3. Means of payment (M_1)	8.0	13.4	11.8	16.2	6.7	15.7	0.9	7.0	4.2	2.4	0.5
4. Interest rate (end-of-period level)		16.1	21.0	14.1	7.2	4.0	3.6	3.5	4.0	4.9	4.1
C. Relative price levels (1980=100)											
Real exchange rate (new basket)[a]	94[b]	92	103[c]	110	105	103	98	96	93	98	95
Real wage (gross)	108[b]	116	116[c]	95	95	108	113	114	117	115	
Real wage (after tax)	109[b]	114	116[c]	99	103	117	120	121	124	123	
D. Budget deficit (%GDP)	10.2[b]	15.0	12.0[c]	5[d]	4	3	1	3	0	0	1.7
E. Unemployment rate (%)	4.9[b]	5.9	6.0[c]	7.8[d]	6.6	7.2	7.9	6.8	6.6	5.7	
F. Balance of payments basic balance (uncorrected) (b.$)	-0.2[b]	-0.3	-0.7[c]	0.6[d]	1.2	-0.1	0.0	0.3	1.3		

a. Relative wholesale prices of major trading partners (new basket of 5).
b. Mean, 1980-83.
c. Mean, Jan.-June 1985.
d. Mean, July-Sept. 1985.
e. Money and liquid assets, incudes foreign-currency demand deposits.
f. Data for Aug.-Sept. On August 1, 1986 a new basket was adopted. (The figure for July was 2.0.)
g. In Jan. the N.I.S. was devalued by 11 percent relative to the 5 currency basket.

Appendix Table 2. Import Component and Changes in Stocks, 1985-86

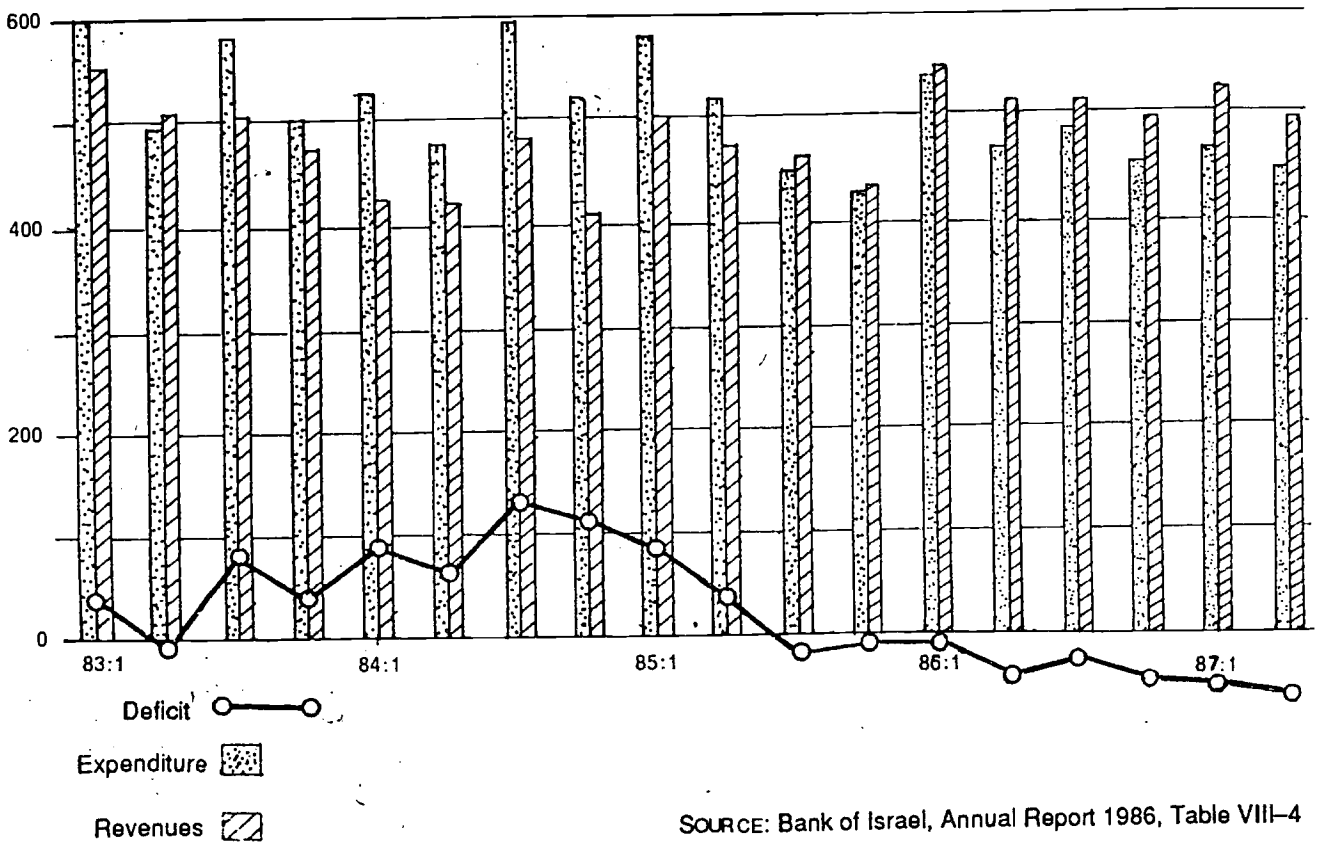
	Change, 1986 over 1985 at 1986 prices
1. Total use of resources, excl. direct defence imports and changes in stocks	2,586
2. Actual direct imports	967
3. Total demand for domestic product [(1)-(2) = (3)]	1,619
4. Imports of intermediate goods at 1985 weights in input-output table	586
5. Total demand for GDP [(3)-(4)=(5)]	1,033
6. Actual GDP	782
7. Change in domestic stocks [(6)-(5) = (7)]	-251
8. Total change in stocks	994
9. Change in stocks of imported intermediate goods [(8)-(7) = (9)]	1,245
10. Total imports of intermediate goods, incl. services [(4) + (9) = (10)]	1,831
11. Total imports of goods and services	2,798

Fig. 1: Consumer Price Index
(monthly change, percent)



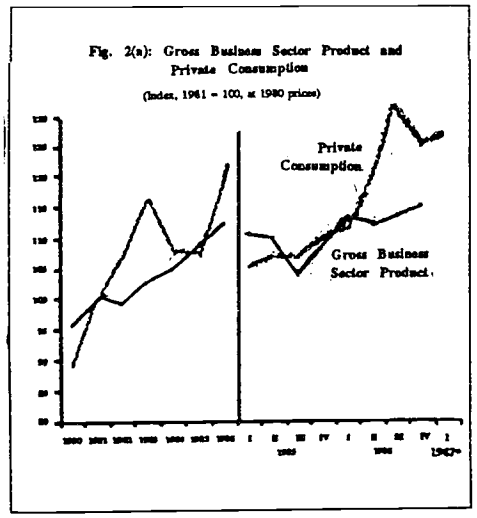
Source: Bank of Israel, Annual Report 1986, Ch. III

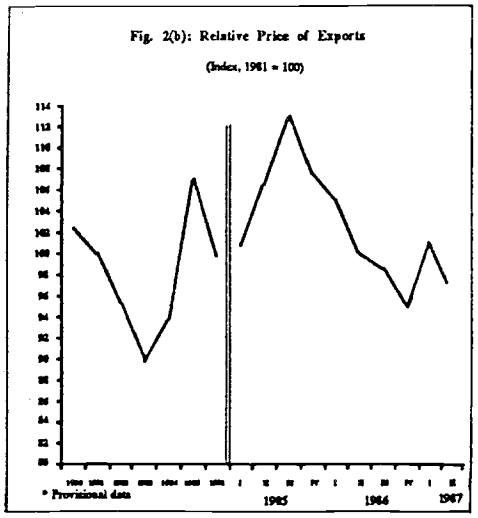
Fig. 2: Real Expenditure, Revenues, and Deficit
of the Public Sector, 1983:I to 1987:II
(millions of NIS: at 1984 prices)

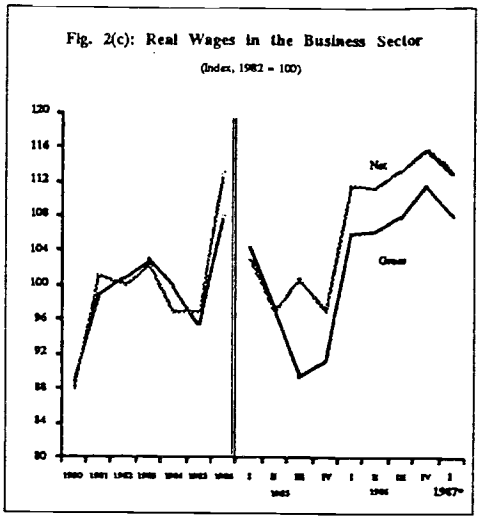


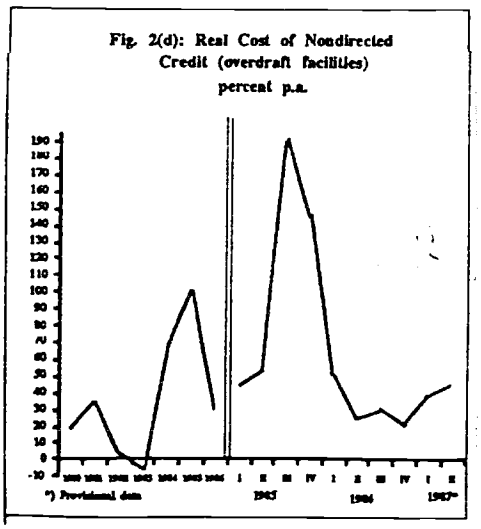
SOURCE: Bank of Israel, Annual Report 1986, Table VIII–4

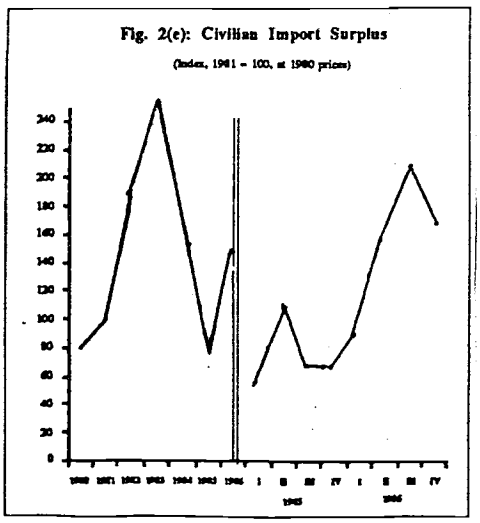
Fig. 3: Changes in Main Macro-economic Indicators, 1980–87

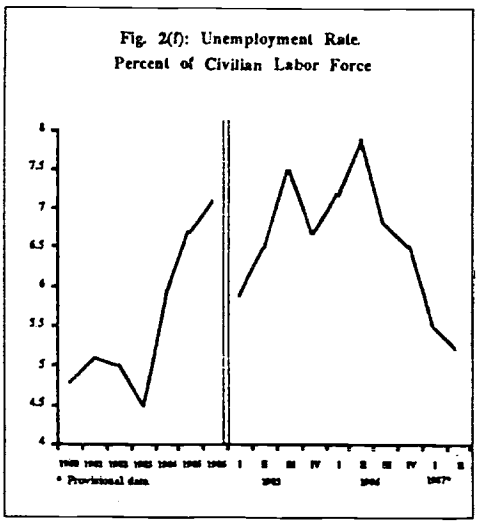






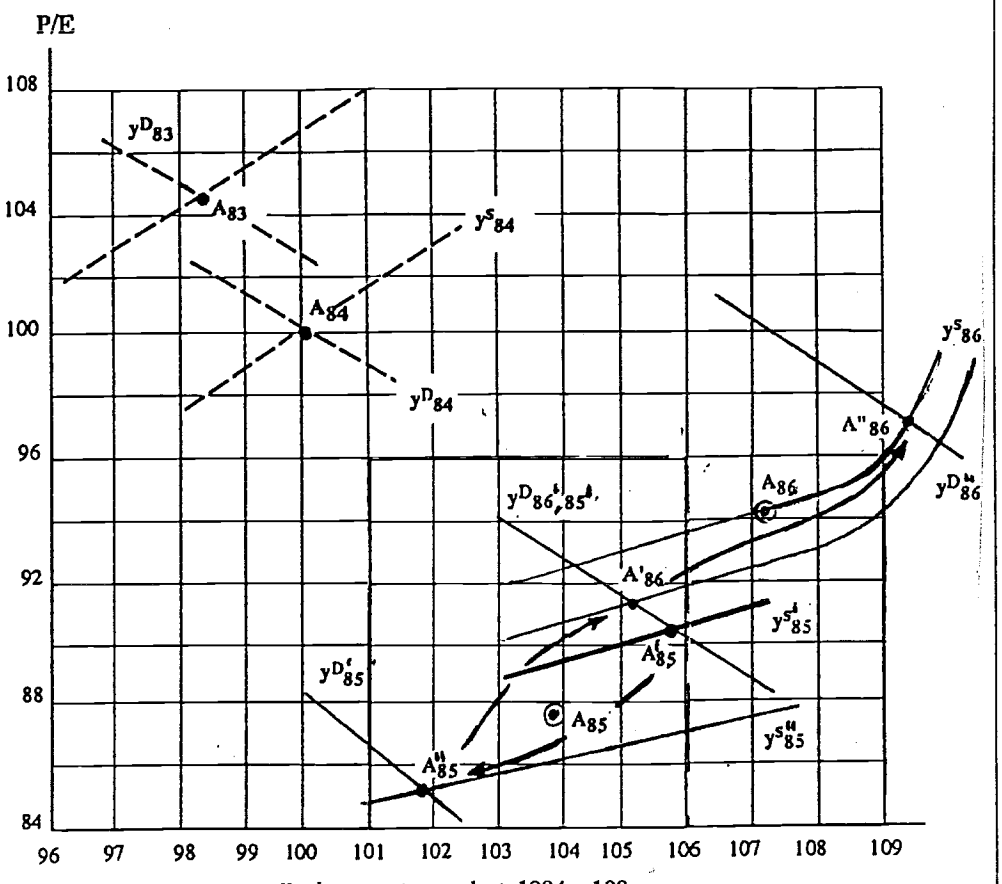






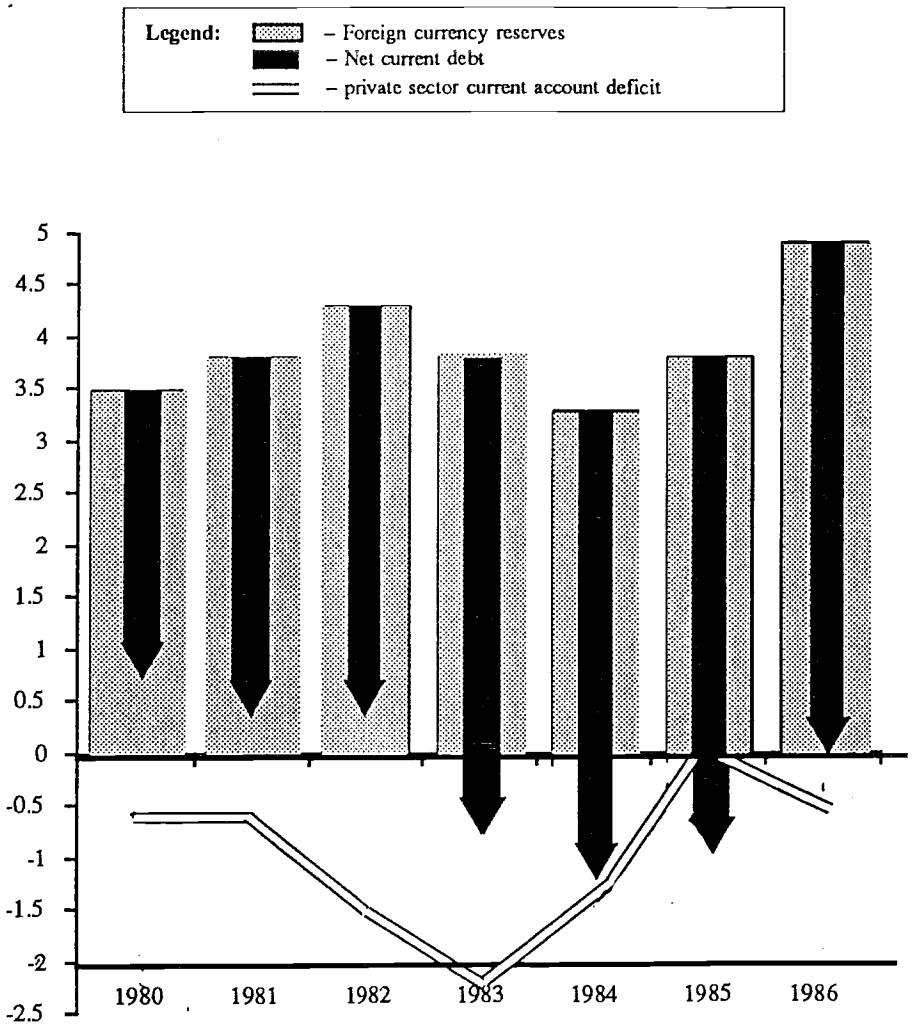
Source: Bank of Israel, Annual Report 1986, Chapters II, IV, VII and VIII.

Fig. 4: Business Sector Product and Relative Domestic Prices,* 1983–86



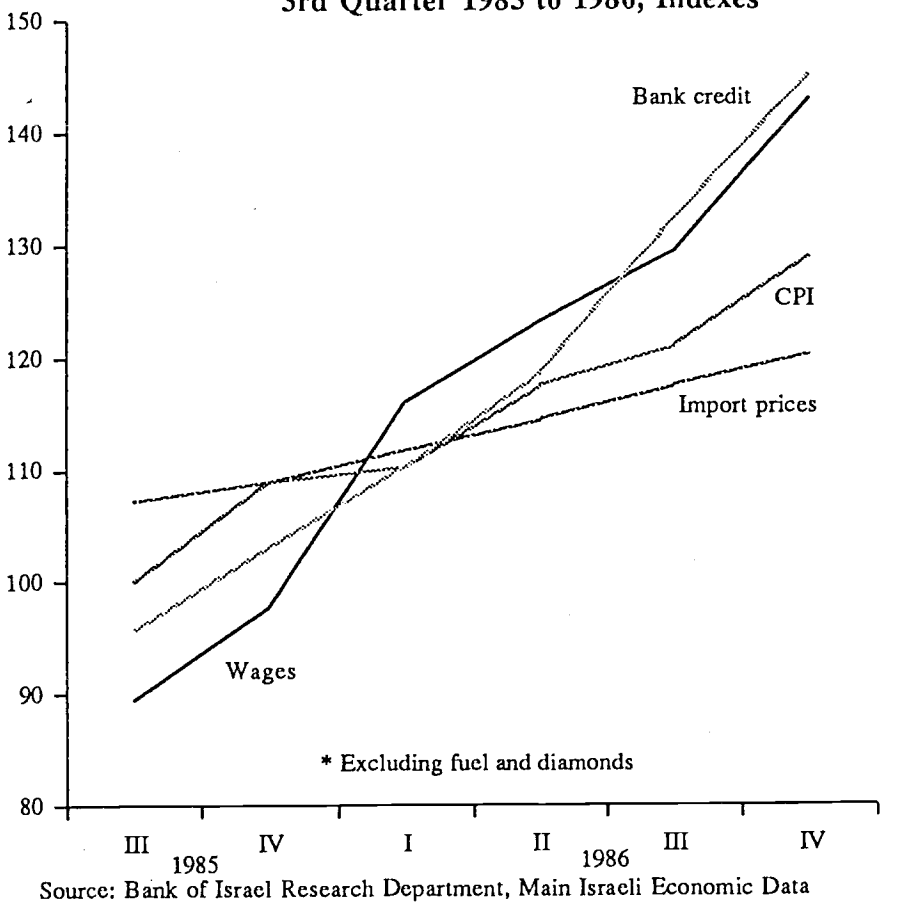
* Domestic prices relative to export prices at currency basket exchange rate

Fig. 5: Foreign Currency Reserves, Net Current Debt and Private Sector Current Account Deficit, 1980–86, US$ billion



Source: Bank of Israel Annual Report 1986, Ch. VII

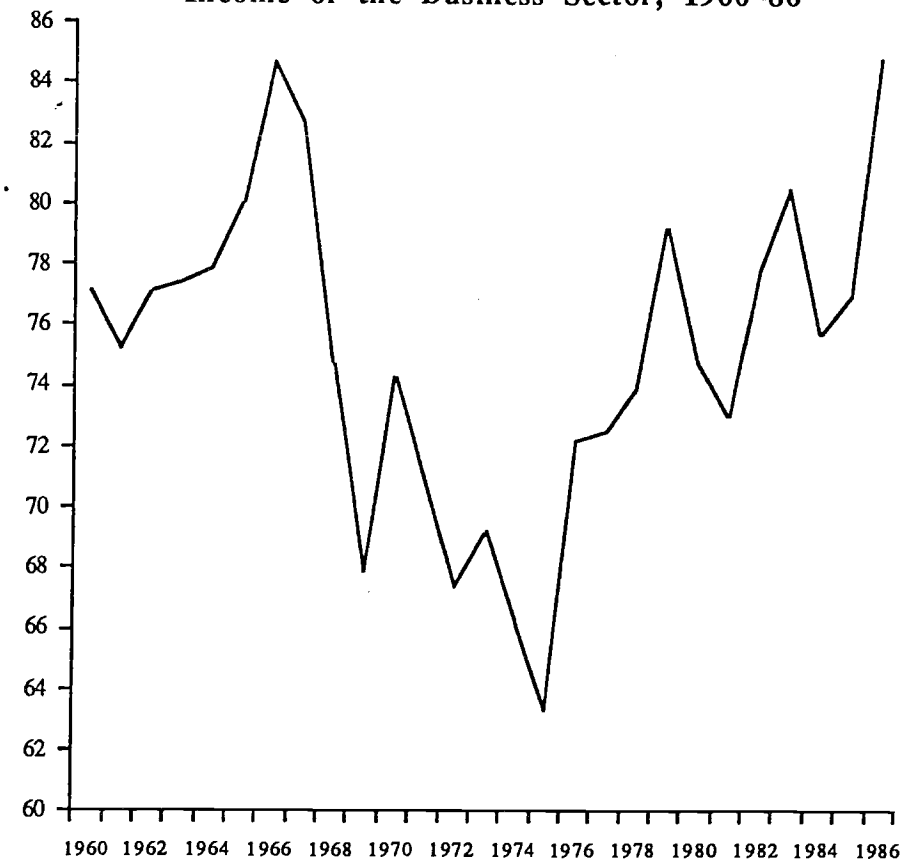
Fig. 6: Wages, Import Prices,* CPI and Bank Credit, 3rd Quarter 1985 to 1986, Indexes



Source: Bank of Israel Research Department, Main Israeli Economic Data

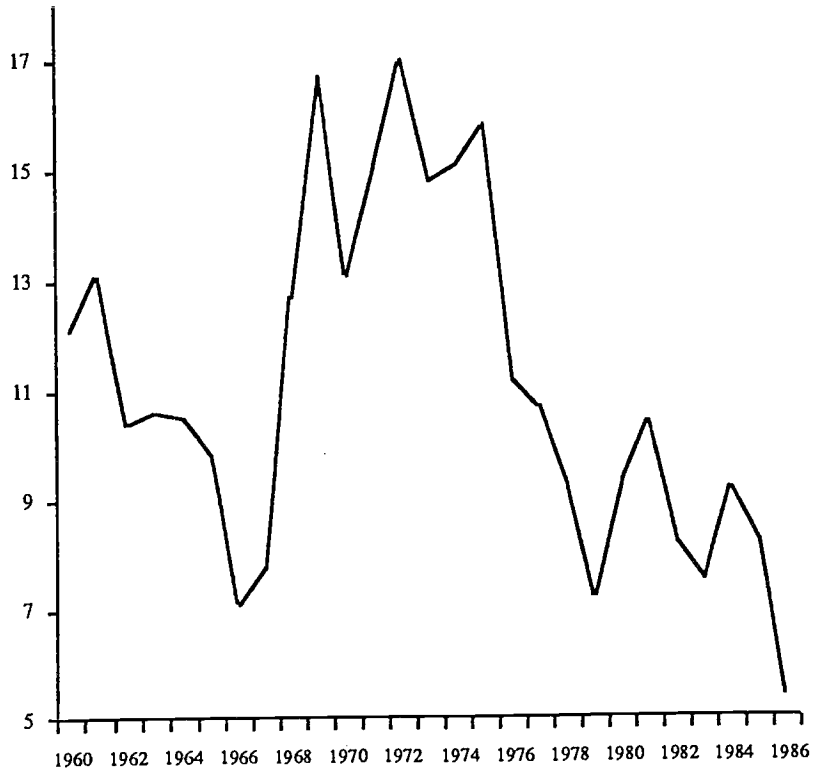
Note: The base level for the nominal variables was chosen on the following assumptions: a) that the program was designed to bring real wages in the first quarter of 1986 back to their level in the first half of 1985; b) that the adjustment of prices to the July 1985 devaluation had been concluded by the third quarter of 1985; and c) that the adjustment of the real interest rate came to its conclusion in the first quarter of 1986, as did the adjustment of the real credit balances.

Fig. 7: Gross Returns to Labor, Percent of Total Domestic Income of the Business Sector, 1960–86



Source: Calculations by Yaacov Lavi, Bank of Israel Research Department

Fig. 8: Gross Before-Tax Returns per Unit of Capital in Business Sector, 1960–86, percent



Source: Calculations by Yaacov Lavi, Bank of Israel Research Department

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