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Globalization and World Financial Turmoil

A Test for Israel's Economic Policy

by

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²This article is based on a lecture given at the Second Budapest Workshop of the EACES, held on the 3rd and 4th September, 1999, at the Department of Comparative Economics at Budapest University. The article draws heavily on a forthcoming joint research with Professor Jacob A. Frenkel, Governor of the Bank of Israel from 1991 till early 2000. Thanks to Mimi Cohen and Erez Kapitolnik from the Bank of Israel for their excellent help. Of course the author bears sole responsibility for any possible mistakes. The views expressed here are not necessarily those of the Bank of Israel.

Introduction

The World financial turmoil, that beset emerging economies during much of 1997 and culminated after the Russian crisis in the second half of 1998, presents an interesting test case for economic policy in an open economy. Israel's policy response was radical, and - with the benefit of hindsight - successful in maintaining and reinforcing stability, when the odds of many emerging economies, such as Israel, were clearly at risk. Indeed several emerging markets suffered a severe setback in output, a deep and sometimes contagious fall in the value of stocks and a sharp depreciation in their exchange rates, when the world financial crisis evolved. National policy mistakes were punished by rapid capital flight, spearheaded by foreign investors and accompanied by a loss of these countries' international creditworthiness.

The first section sets the background for open economies at the end of the 1990s: a precipitation of globalization in financial markets, led by the rapid advance in information technology. The integration of world capital markets has brought about a rapid change in the rules of the game for national economies that seek to increase their share of financial and direct investment in the international financial market.

The second section focuses on Israel's economic developments preceding the World financial crisis. This section emphasizes the importance of timeliness of policy actions. Economic fundamentals can be changed by economic policy, but only in a slowly breeding process, whereas financial crises by their very nature can hit economies sharply, instantly and typically unprepared. If the economies, which suffered from the crisis, had expected it, the crisis would probably never have developed in the first place.

The third section describes the shock of world financial turmoil on the Israeli foreign exchange market and its immediate impact on the inflationary process on the background of Israel's exchange rate regime. The section ends by a discussion of the policy reaction and some short and long term economic consequences.

In the last section lessons for economic policy are drawn from Israel's experience during world financial turmoil.

1. Globalization and Sovereign Credit Rating

The functioning of world financial markets in a globalized environment have been fundamentally changed over the 1990s. Two forces have brought about this change: (1) a gradual liberalization of foreign exchange controls and deregulation of domestic financial markets, (2) the technological breakthrough in the information industry and its increasing application in the financial services industry.

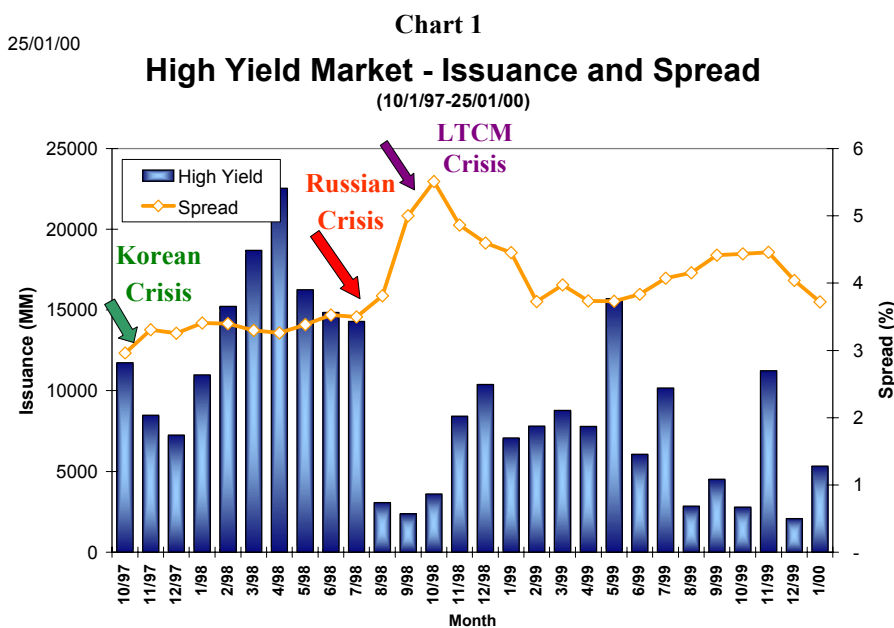
These processes have sharply reduced frictions for capital flows among capital markets all over the world. A frictionless world involves potential economic gains, but at the same time potential risks: Global, as distinct from national capital markets, are not well organized. There are no powerful supranational institutions to ascertain efficient law enforcement. Lenders facing a defaulting borrower cannot easily seize his assets. Markets provided a powerful answer to these deficiencies. They react in due time to information on changes in sovereign default risk. Markets substitute for the lack of legal sanctions, by using a combination of the price of the service and the quantity supplied. The increment above the price on the alternative riskless investment (say, US government bonds³) of a comparable maturity. The premium affects the cost of financing investment of the business sector and of their government seeking to cover budget deficits. A more stringent means of limiting the demand for funds is a quantity limit. The difference between the risk premium and a "country limit" is often only semantic. In times of financial turmoil, the size of bond issuance reacts swiftly to changing risk conditions. The market reaction of limiting the defaulting borrower's future access to the international capital market, has been interpreted theoretically as a market substitute for legal difficulties and disproportionate costs of ensuring the fulfillment of property rights in cases of default on international financial investments or loans.⁴

The process of globalization has added significant vulnerability for firms and governments, which are rated as "low investment or speculative grade" issuers of debt. The US "High yield market" attracts many borrowers from all over the

³The yield of US or UK government bills, bonds and notes is considered a reasonable benchmark of a "safe investment" and the sovereign risk premium is typically defined as a surplus on such a safe financial investment.

⁴See Eaton and Gersovitz (1981).

world, many of them from emerging markets. The world financial turmoil is best captured in the development of the risk premium (the "spread") and the drying up of the supply, immediately after the Russian government's default in August 1998. These indicators of crisis reacted more or less instantly. The related collapse of the (large) US based Long Term Capital Management Fund - a few weeks later - added to the shrinking availability of funds for such high yield investment. As the chart shows the impact has been prolonged and carried over into the year 2000. Since then issuance has not reached the high levels that characterized the period before the Russian crisis.



SOURCE: CREDIT SUISSE - FIRST BOSTON

At first, particularly in the first weeks after the eruption of the crisis, there was a precipitated and unqualified outflow of investment funds from Emerging Markets towards less risky Western financial markets.

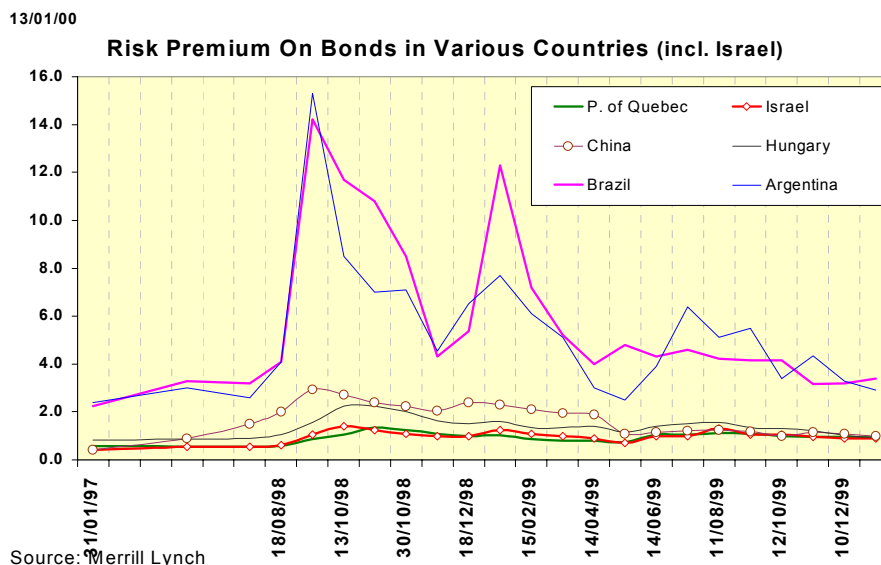
However, with the passage of time international investors realized that there are important differences in the economic fundamentals not only between emerging and developed economies but also within the group of "emerging markets".

Yield spreads for certain countries, such as Argentina, which maintains a currency board, and Brazil widened by 15 percentage points immediately after the eruption of the Russian crisis. The impact effect - in the second half of August - was similar for example for Argentina and Brazil, whose degrees of vulnerability certainly differ from each other, indicating an unqualified rush out of Emerging

market bonds, disregarding any difference in quality between the countries' fundamentals. However, selectivity surfaced shortly thereafter with the risk premium for Argentina, falling to about half that of Brazil.

Israel's sovereign risk spread increased only modestly in the wake of turmoil, compared to some other emerging markets, for which spreads were measured during this incidence (eg. China and Hungary). Israel's premium reacted similarly to such well-behaved advanced economies as, for example, the Canadian province of Quebec. This is a good indicator for the relatively mild effect that world financial turmoil had on Israel. Its risk premium peaked with a delay of several weeks, growing from about 0.4 percent before the crisis to 1.4 percent in October 1998, and falling back to 0.9 percent in early 2000. The present article demonstrates that this result was achieved by Israel's sound economic policy reaction.

Chart 2



Exchange rates and stock prices reflected swift signals of the crisis. This vulnerability appeared mainly - and vehemently - in countries with exchange rate regimes, that maintain demanding exchange rate commitments of direct official intervention.

As can be seen in the following two charts, the Israeli exchange rate developed in line with exchange rates of emerging markets, that succeeded in avoiding a crisis. Israel's equity index (in real terms) weathered the World financial crisis

successfully. The index even caught up later on with the stock price index in developed economies.

Chart 3

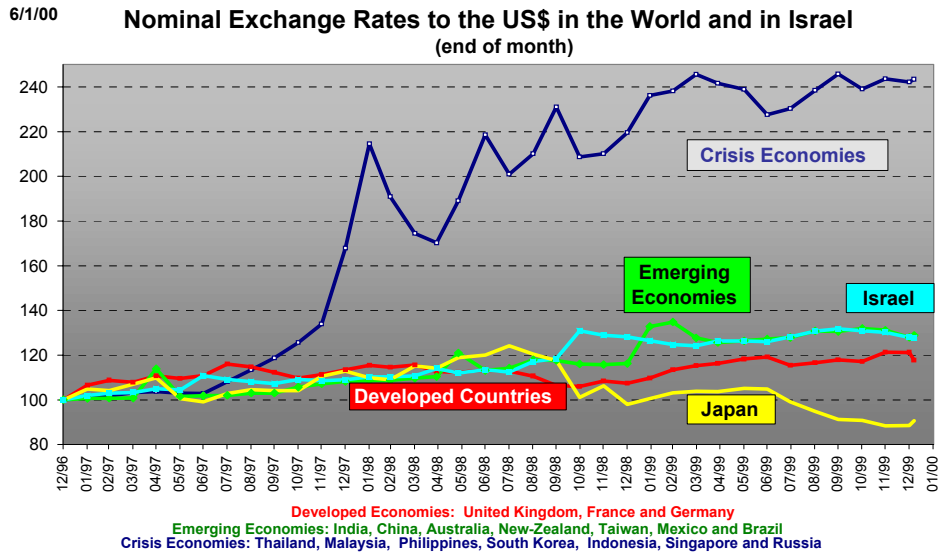
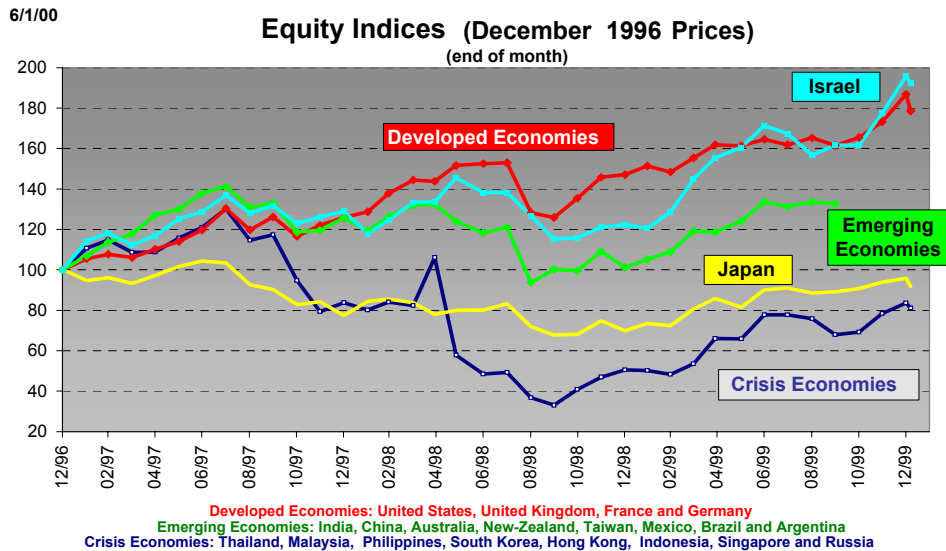


Chart 4



The sensitivity of foreign investors to economic fundamentals in emerging markets has created a market demand for sovereign risk evaluation of emerging economies. Firms, specializing in sovereign risk evaluation such as Standard & Poors, Moody's and Fitch IBCA, provide such risk evaluations. Emerging economies that wish to borrow and attract foreign investment funds, have an

incentive to convince the new “jury” of economic performance (i.e. the rating agencies) of the soundness of their macroeconomic fundamentals compared to those of other countries, competing for investment funds.

The winners will be those that demonstrate a better economic performance than their competitors. They will enjoy lower risk premia (spreads), higher credit ratings and more foreign investment.

National economies with a perceived weakness in their economic fundamentals are penalized and investors' confidence gets hampered. Advances in information technology have strongly reduced the reaction lag. In the age of instant flow of electronic information, important information gets spread simultaneously throughout world financial centers.

In such a rating-sensitive global environment, a country's economic performance becomes the major tool for an emerging economy to compete for the share of foreign investment with other countries. An economy will thus be considered more attractive, the more disciplined its economic policy is and the more stable its economic situation. As a rule, economic policies aimed at strengthening market efficiency are rewarded with a better rating, and a larger and cheaper supply of international funds.

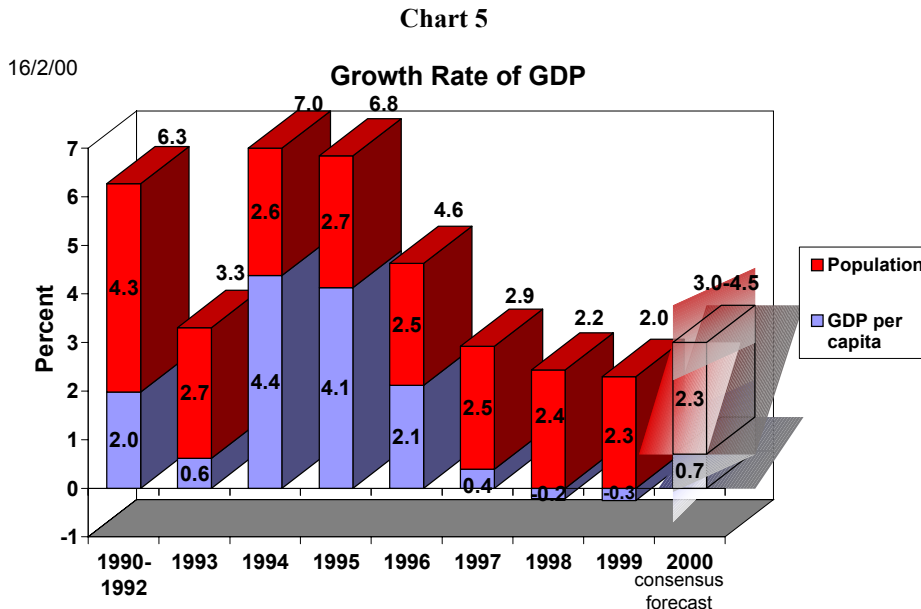
2. Growth and Sustainability - the Case of Israel

In the 1990s geopolitical events took place, that left a deep and positive mark on the Israeli economy. The collapse of the Soviet Union in the late 1980s caused a major influx of new immigrants to Israel. The crumbling of the Soviet Union as a superpower and the Gulf war also bore deep geopolitical changes in the Middle East, which eventually paved the way for the Madrid conference for peace between Israel and its Arab neighbors in late 1991. The peace process was further accelerated with the signing of the Oslo-agreement between Israel and the PLO in 1993.

Economically, the mutual and official political recognition mitigated the effectiveness of the long standing direct and indirect Arab boycott⁵ on Israeli exports.

Another important source of growth in the Israeli economy in the 1990s was the implementation of various economic policy reforms. Focusing on reforms became possible only after the successful implementation of the stabilization plan in mid 1985⁶.

The reforms carried out after the stabilization program included a profound process of tariff reduction, capital account liberalization, privatization and deregulation of financial markets. All these reforms were carried out gradually over several years. The privatization has been somewhat hesitant and still needs to be completed.



⁵The direct boycott forbids any business contacts with Israeli firms. The indirect boycott threatens international firms, maintaining business with Israeli firms, with sanctions concerning trade with Arab countries, as described in Gottlieb (1993).

⁶One of the most central steps of the stabilization plan was to reduce the public sector deficit. It declined from an average annual deficit of 14.5% percent of GDP in Israel's so called "lost decade" (1974 to 1984) to a surplus in 1985 and an average deficit of only 1% of GDP in the second half of the 1980s. Inflation, helped by a freeze of the exchange rate to the Dollar, dropped from near hyperinflation to a little less than 20 percent in the late 1980s.

The three forces - immigration, the peace process and major economic reform efforts - constitute the major underlying causes for Israel's rapid economic growth in the first half of the 1990s. The economy grew rapidly, particularly in the years 1992 to 1995 with exports growing at more than 11 percent and much faster than world trade (6.8 percent), investment at 7.4 and GDP per capita at 3 percent (annual averages). In 1994 and 1995 GDP reached as much as 7 percent and grew by more than 4 percent per capita. Exports expanded much faster than world trade, investment continued to grow rapidly, despite its sharp acceleration (it rose by 68 percent in the previous two years) during the height of the immigration wave. Monetary conditions at the outset of that period were strongly expansionary and in the years 1992 and 1993 monetary policy was gradually and hesitantly tightened: From January 1991 until the end of 1992 the average real expected interest rate was about zero.⁷ Since then the average real interest rate rose slightly to 1.7 percent between January 1993 to November 1994.

Alas, that rapid pace was unsustainable. During 1994 the first signs of overheating appeared - inflationary expectations doubled within less than a year from about 7 percent to almost 15 percent by the end of the year and inflation rose from about 10 to 15 percent (see Frenkel, 1997). The Bank of Israel began to tighten monetary policy already in October 1993, raising the interest rate from its low point of 9 percent in several steps to 17 percent in December 1994, in an attempt to subdue inflationary pressures. From April 1994 till the end of that year, monetary tightening was particularly sharp. The effective rate was raised by 7.4 percentage points, to an effective rate of 18.5 percent at the end of the year. Over that period the expected real interest rate grew from 3.1 percent in April to 5 percent in December.

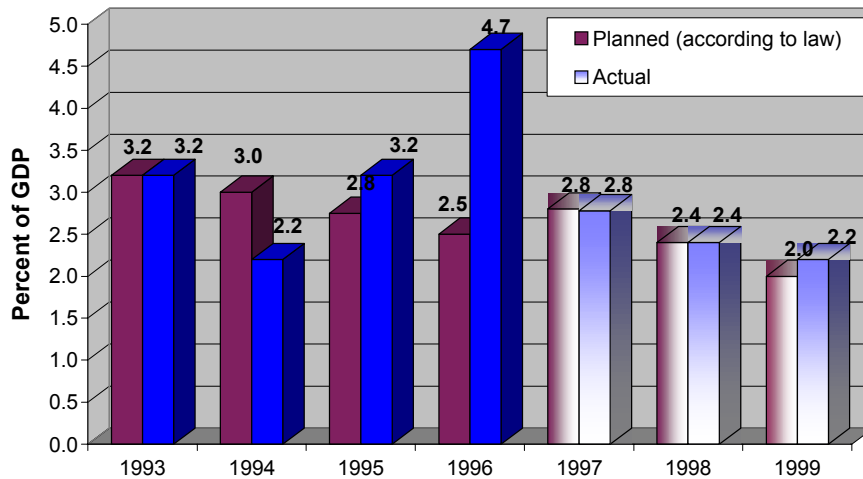
However, fiscal policy became strongly expansionary. Though the fiscal deficit of 1994 was well within the target according to the "law of the diminishing domestic deficit" (see discussion below), the good performance was due to a transitory surge in tax revenues (from taxes on real estate sales). The government used the

⁷As explained below, monetary policy underwent important strategic changes during the 1990s. From a policy with an exchange rate anchor and an almost unnoticed inflation target in 1992, the exchange rate was gradually made more flexible and the inflation target gained gradually in importance. Since about 1994 the Bank of Israel's base rate became the major tool for fighting inflation. See also the Bank of Israel Inflation reports and Gottlieb and Ribon (1997).

temporary revenues in order to finance an excessive real wage increase of about 20 percent within three years (1994 to 1996) in the public sector. These constituted an inherently permanent expenditure increase. The deterioration in the government deficit was thus only a matter of time. Already in 1995 the government's domestic deficit deviated, for the first time, from the path prescribed by the law.

Chart 6

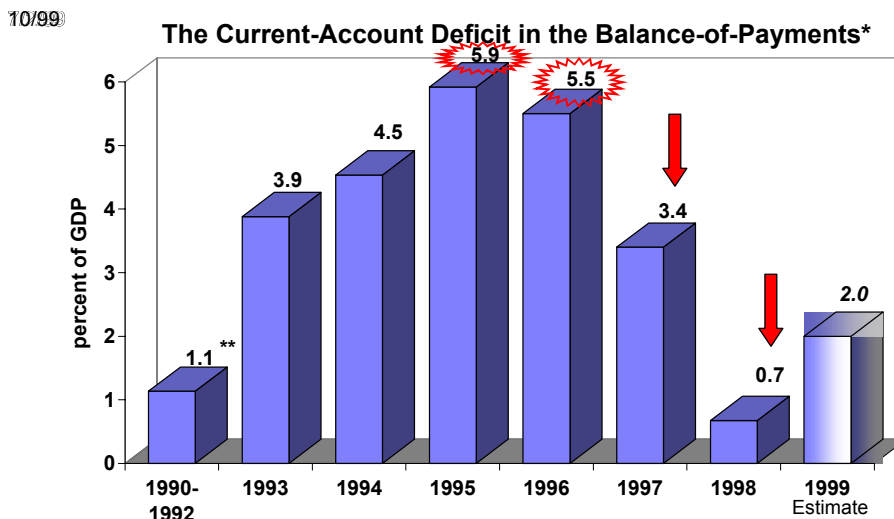
Planned and Actual Budget Deficit*



*Excluding government credit; 1993-1996 domestic deficit, 1997-9 total deficit

In the same year the current account deficit in the balance of payments exceeded 5 percent of GDP, a level that has often been referred to as a "red line" for adequacy of a country's external accounts (chart 7).

Chart 7



* The updated definition, July 1999

** Annual Average

Unemployment had dropped relatively sharply, from more than 10 percent in the early 1990s⁸ to less than 7 percent in 1995. Economic activity was expanding beyond capacity. In the euphoric atmosphere of the Oslo peace agreement, the tight policy intended to cool down the overheated economy was disapproved by many. When it had become clear that the fiscal stance was getting out of control, the Central Bank urged the government to take corrective action in the budget policy for 1996. However in the political turmoil around the assassination of late Prime Minister Rabin, the upcoming elections and a general unwillingness to take the necessary steps, no such action was chosen. The budget deficit climbed further and exceeded the law's prescription by even more, reaching as much as 4.7 percent of GDP in the inflation-adjusted deficit, and an even higher deficit by internationally comparable definitions⁹. By mid 1996 the then newly elected government decided to postpone the budget cut to the year 1997 (see chart 6).

⁸The sharp rise in unemployment in the first two years of the 1990s was mainly due to the large influx of immigrants following the delayed slowdown in the economy in the late 1980s in response to the stabilization plan.

⁹Israel's definition of the government deficit departs from the internationally accepted definition by excluding the adjustment for inflation in interest payments.

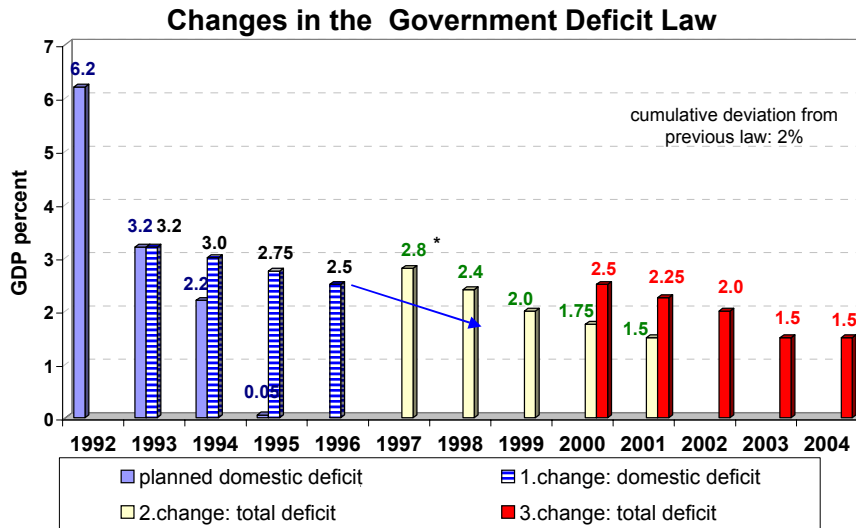
A. On the Utility of the Budget Deficit Law

The Israeli law of the diminishing budget deficit was conceived during 1991 as a response to worries that the large government expenditure, needed for absorbing the immigration wave. It was feared that the immigration wave might cause a renewal of huge public sector deficits, as had been typical for the 1970s and first half of the 1980s - a period of prolonged economic crisis. The law was intended to convey to the markets that the deficits in 1992 to 1994 (the first three years of the law) were planned to be temporary and that equilibrium would be restored until 1995. The idea was to keep the definition of the law as simple as possible, excluding only one item (government loans). That was the reason for disregarding the cyclical adjustment in tax revenues and cyclically sensitive expenditure items (such as unemployment benefits) in the law. Simplicity was also the reason why it was decided to include only the Central Government, thus excluding, for example, budget deficits of the local authorities. Furthermore, there was no prescription for automatic government action in case of a violation of the law.

It was argued against the law that it is biased towards expanding expenditures, since for example transitorily high revenues (such as in 1994) can be spent without violating the law, whereas violations of the law will simply be disregarded (such as in 1995). Furthermore it has been argued that the parameters of the law were changed too often, thereby weakening its public clout. As a matter of fact the law was changed three times over the years 1993 to 1999, as can be seen from chart 8.

Chart 8

8/8/99



From a zero deficit target for 1995, set in 1992 when the law was first applied, the government's ambition to reach budget balance, successively weakened.

The **first change** of the law was to adapt a more lenient path, requiring the deficit to diminish by at least a quarter percent of GDP per year.

The **second** change not only involved the targeted numbers, but also definitions: From 1997 onwards the definition was widened to include also the foreign exchange component of the government account - in addition to the domestic deficit. In principle, this was a sound decision from a macroeconomic point of view, but the timing was somewhat self-serving, since the envisaged (but previously unexpected) technical foreign currency surplus¹⁰ allowed the government a higher than previously targeted domestic deficit. In 1997 and 1998 the government managed to keep the deficit within the limits of the law.

The **third change** of the law was done for the year 2000 budget. The law was relaxed to allow for a total deficit of 2.5 percent instead of the original 1.75 percent of GDP. With the benefit of hindsight it seems that this was an

¹⁰A more stringent consolidation of the Central Bank's profits into the Government accounts should include also the domestic "cost" of monetary policy. That would make sense if the Central Bank was given full monetary autonomy. This would optimally include the Bank's autonomy to intervene in the foreign exchange market. At present (March 2000) the Bank is forced to intervene whenever the exchange rate hits the boundaries of the exchange rate band, thus forcing it to buy foreign exchange at the strong end of the band.

unnecessary change, since 1999 turned out to be very close to the preset target of 2 percent and the forecast for 2000 seems also to be well in line with the previous target range. This relaxation of the law was considerable, since it implied a cumulative divergence of some 2 percent of GDP (about 2 billion NIS or 0.5 billion US-\$).

Formally it is tempting to call the law a failure, since it was relaxed whenever it was considered hard to achieve. However, the experience with the law should be viewed in a "political economy" context: Albeit soft, the law has repeatedly proved an extremely useful tool in the public discussion on fiscal policy. It supplied the Bank of Israel, who, on top of its monetary responsibility, is also the government's economic adviser - with a powerful quantitative grip on this crucial fiscal policy tool. The law gave the Central Bank a quantitative point of orientation, basing its demand for fiscal restraint on a previous strategic government decision, thus rendering the criticism of the budget deviation more legitimate and thus more effective. Indeed, in a longer term perspective the average public sector deficit (which includes the local government deficit among other items) fell from more than 4 percent of GDP in the 4 years preceding the law to about 2.5 percent in the 8 years since the law has been in place.

From the macroeconomic perspective¹¹ the budget discipline has improved, much due to the existence of the law.

B. Credit Ratings and Economic Policy - the Case of Israel

Israel's credit rating has undergone large swings. The rating as captured in the "Institutional Investor"-index¹² (II-index) began to drop rapidly in the early 1980s with the deterioration of Israel's economy in those days. Despite the profound improvements in Israel's economic policy and performance in the years 1986 to 1993 the rating according to this index more or less stagnated. S&P started to rate Israel at BBB-, only slightly above the unpleasant "Speculative-Grade Ratings".

¹¹Regarding the expenditure composition the consolidation of the budget remained unsatisfactory.

¹²This index is constructed by the periodical "Institutional Investor" from a bi-annual survey of some 100 leading international banks. They are asked to rate countries' creditworthiness on a scale from 0 to 100, 0 representing those with the greatest chance of default. The responses are then weighted, giving a higher weight the larger the loan portfolio and the more sophisticated the monitoring system of the respondent.

Israel's experience during the late 1980s and early 1990s provides a good example for the well known fact that a good reputation can be easily damaged but is much harder to build up again. From its low point in 1985 it took about seven years to convince rating agencies to improve the rating to the level achieved in early 1996 of "strong payment capacity"¹³ within the "investment grade"-rating in the late 1990s.¹⁴

Ratings by all three rating agencies improved by a quantum change with the advancement in the peace process (Chart 9). Interestingly, the improvement of Israel's creditworthiness continued in the period 1996 to 1998, despite the stalemate in the peace process. This indicates that the importance of improved economic fundamentals in the determination of Israel's creditworthiness has been growing in recent years. Statements by major credit rating agencies validate this impression.¹⁵

The inflation rate has long been recognized as an important determinant of a country's creditworthiness. Maybe because it represents an overall indicator for the quality of economic policy management. Chart 10 emphasizes the negative correlation between credit rating and inflation for Israel. Such a relationship between inflation and creditworthiness has been found in many studies on country risk.¹⁶

¹³See Cantor and Packer (1996a)

¹⁴S&P and Moody's typically publish ratings for emerging economies when a country intends to issue bonds internationally.

¹⁵Excerpts from Standard & Poor's Credit Rating for Israel (November 4, 1998):

Israel's ratings are supported by a diversified and well-developed economy..., by substantial progress in structural reforms, particularly bank privatization and capital account liberalization, the government's strengthened commitment to fiscal consolidation and price stability, tight monetary policy, ..., a robust international liquidity position and declining public sector external indebtedness, ...advancements in the peace process, which remain susceptible to setbacks, are critical for long term economic prosperity in Israel and the region, ...strong diplomatic and financial support from the U.S.

¹⁶See for example Cantor and Packer (1996) for a recent study, McFadden et al. (1986), and Ben-Bassat and Gottlieb (1992). Creditworthiness is affected by several variables; among them the level of the economy's development (proxied by the GDP p.c.), the external debt and foreign exchange reserves (ratios), fiscal variables, default history, political variables and more.

Chart 9

Israel's international credit-rating according to major rating agencies and the creditworthiness-survey of the "Institutional Investor"

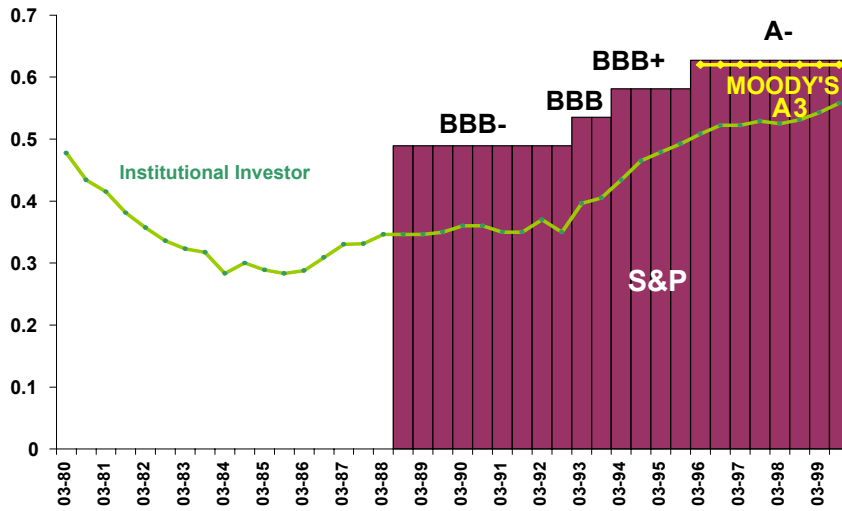
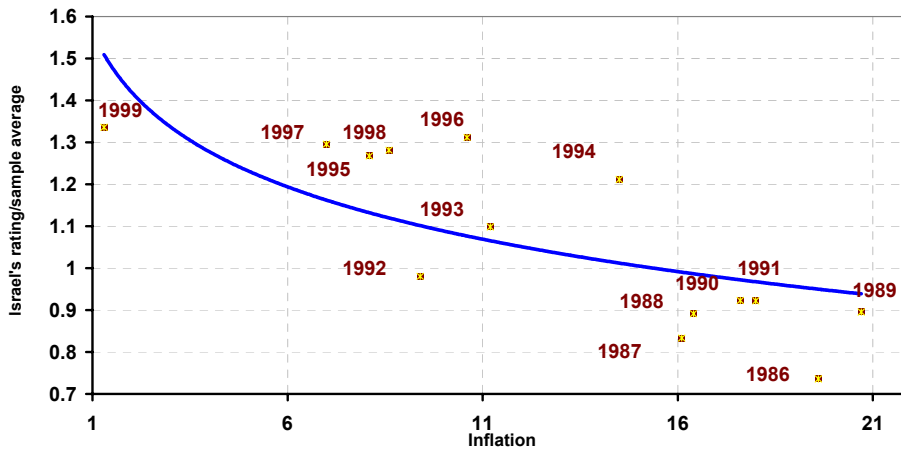


Chart 10

01/00

International Credit Rating and Inflation, the Case of Israel - 1986 to 1999



Source: Institutional Investor, semi-annual survey. Increase = improvement relative to sample (about 100 countries)

3. Israel's Policy Response to World Financial Crisis¹⁷

The Russian crisis and the collapse of the Long Term Capital Management Fund hit the Israeli economy by surprise. It is well known that the turmoil created a general outflow of investment funds from Emerging Markets towards less risky Western financial markets - particularly in the first weeks after the eruption of the crisis. This severely reduced the access of Emerging Economies to World financial markets. Israeli financial assets, which are also included in various Emerging markets Portfolio Investment indices, were also automatically reduced at the height of World financial turmoil¹⁸.

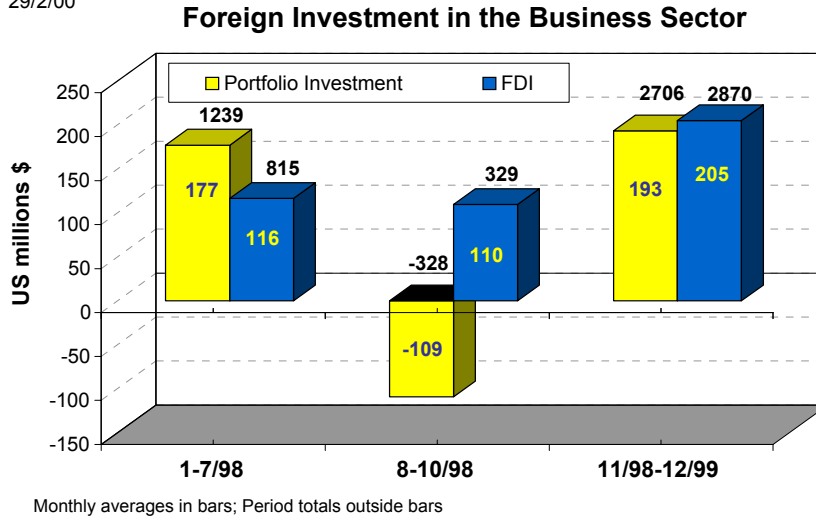
The rush out of "emerging market investments" was distinctly felt in Israel's foreign exchange market in early October. As can be seen in chart 11, this effect manifested itself in the Israeli context by a sharp turnaround in portfolio investment.

¹⁷As described extensively in Corsetti et al. The South East Asian financial crisis of 1997/8 was to a large extent due to unsound banking practices in many of the crisis countries. Israel's banking system has improved and is generally sound since the major banking crisis of 1983.

¹⁸Such funds are called Investable composite indices. Merrill Lynch, for example, included Israeli stocks in its IFC index in November 1997 with 2.4 percent. These include a variety of prominent Israeli businesses in all sectors of the economy. In times of financial turmoil, fund managers receive orders to reduce investors' exposure. The worldwide sale of funds triggers an automatic demand for foreign exchange in the national markets of the index countries.

Chart 11

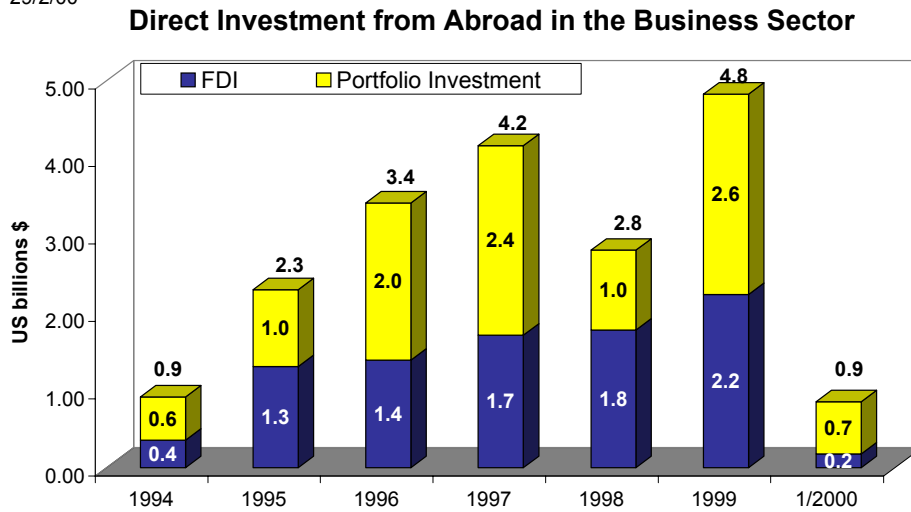
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However foreign direct investment (FDI) to Israel remained high also during the months of world financial crisis. They even surged in 1999, hinting at the long run fundamental strength of the Israeli economy, as perceived by foreign investors. This general outflow of investment funds from emerging markets triggered the sharp depreciation of the 'New Israeli Sheqel' (NIS) exchange rate to the US-Dollar in early October 1998. This depreciation was considerably reinforced by the business sector's attempt to reduce foreign exchange exposure, which had been accumulated over time, when exchange rate variability had been artificially reduced by the exchange rate mechanism. The depreciation reached about 10 percent within a few days.

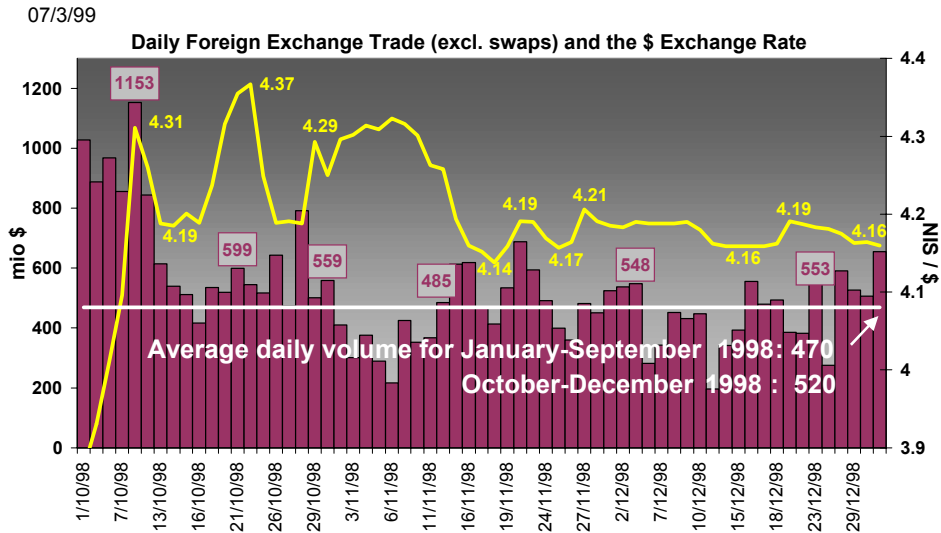
Chart 12

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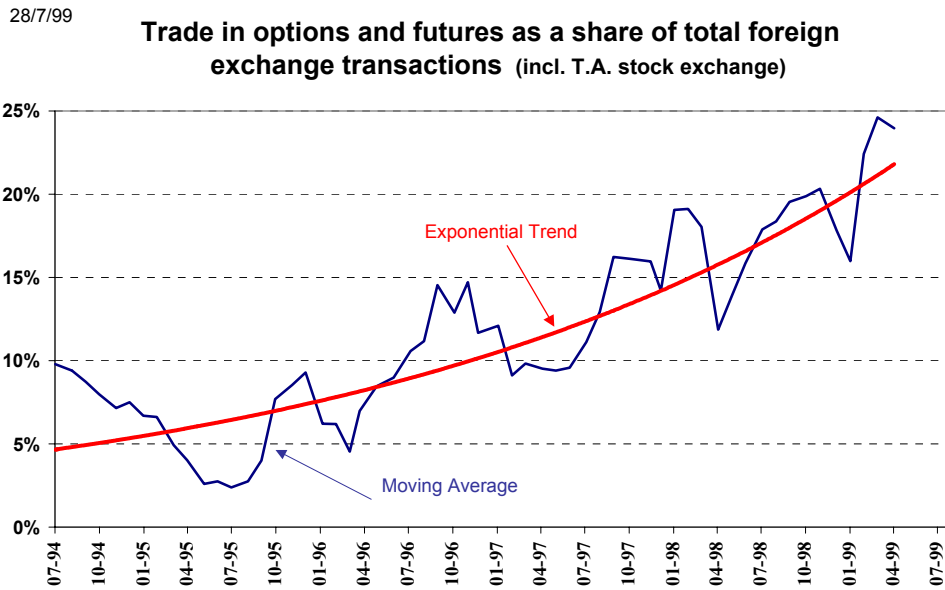
During the turbulence in the foreign exchange market the Central Bank decided not to carry out direct intervention in the foreign exchange market. This decision rapidly became the focus of a heated public debate. A widely accepted view in favor of direct intervention in foreign exchange markets during financial turmoil is the desire to uphold an orderly exchange market. The Bank reacted by non-intervention based on its assessment that in spite of the large and volatile changes in the exchange rate, the market conditions have been orderly. The volume of transactions was large, spreads were not unreasonably large, and price quotations could be obtained continuously. In reality, the trading volume was found to be the highest ever recorded for Israel at the time (about 6 billion US-dollars within a week).

Chart 13



Obviously it would have been a mistake for the Central Bank to promise an unlimited supply of foreign exchange in a market, open to world financial markets. Instead, the market cleared and some of the depreciation proved to be temporary. An important consequence of the decision not to intervene directly in the foreign exchange market has been the reduction of moral hazard. Indeed following the episode, a certain reduction in the business sector's foreign exchange exposure could be observed. Market participants have become increasingly convinced of the inherent risks pertaining in foreign exchange markets in periods of increased international exchange rate volatility. This learning process eventually enhanced the demand for risk insurance, thus providing the necessary incentive for financial mediators to supply market instruments for insuring against excessive exchange rate risk (chart 14).

Chart 14



A. The Exchange Rate Regime and Global Integration¹⁹

The flexibility of the foreign exchange regime is one of the most important preconditions for a successful stabilization policy in the era of globalization and financial vulnerability.

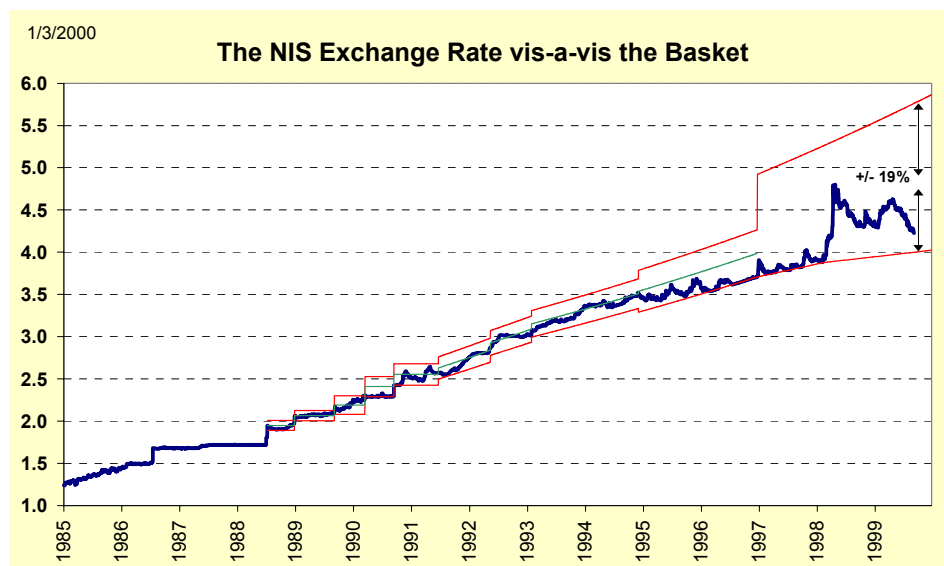
The Israeli experience provides a good example of a gradual exit policy from a rigid exchange rate regime, geared at stabilizing near hyperinflation in the mid 1980's, towards a highly flexible one, fitting a globally integrated capital market with price stability at the beginning of the 21st century.

During the years of world financial crisis, 1997 and 1998, Israel has adhered to its long run strategy of foreign exchange liberalization - in contrast to other countries, that have cut back on their commitment to liberalization (e.g. Malaysia). In Israel this strategy has remained in place since the late 1980s after successful stabilization. Moreover during 1997 and particularly in May 1998 Israel moved on to dismantle further remaining constraints on the free flow of capital. There was much public argument about the desirability of continuing the

¹⁹For a detailed account of the political economy aspects of stabilization, the exchange rate system and competitiveness see for example Frenkel (1997).

process of capital account liberalization. The Bank of Israel consistently favored its continuation, simultaneously pushing for more flexibility in the foreign exchange market.²⁰

Chart 15



Over the years Israel's foreign exchange regime has come a long way. In October 1977, on the background of an utterly unstable economy, the exchange rate was allowed to float freely and the capital account was radically liberalized. Due to total failure, the reform was abruptly cancelled and succeeded by tight capital controls. It took another 8 years of a prolonged and severe economic crisis, which culminated in a severe balance of payments crisis and a stock market crash in 1983/4 and nearly 500 percent inflation by mid 1985. At that stage it was decided in the context of the aforementioned comprehensive stabilization plan to freeze the exchange rate at first to the US-dollar and later to a currency basket. However, though radically reduced, inflation was still running much faster than in most of Israel's trading partner countries. In late 1989 it was decided to allow for a deviation of +/- 3 percent of the exchange rate. Later the band was widened to +/- 5 percent. The decision was mainly meant to allow for a "managed depreciation" rather than to add flexibility to the determination of the exchange rate.

²⁰For a detailed account of Israel's liberalization process see Gottlieb and Blejer (2000).

By end 1991 it was decided to change the system from a horizontal band to a “crawling band”. The slope of the band reflected the difference between Israel’s still high (some 18 percent) inflation and the low inflation of major trading partners. Israel’s anti-inflation policy shifted gradually to a strategy of slowly diminishing inflation targets. Consequently the band’s slope was also gradually reduced. When, during 1994, inflation and inflation expectations had sharply risen from 10 and 7 percent respectively to some 15 percent, Israel’s interest rate policy became gradually focused on the inflation target, which gained increasing public acceptance. In the years 1995 and 1996 inflation was gradually reduced to 7 to 10 percent.

In early 1995 both due to an aggressive anti-inflationary interest policy and also due to the surging foreign direct real and portfolio investment, Israel experienced large capital imports. As a result the exchange rate moved towards the lower (strong) boundary of the band. This movement was further enhanced by the Central Bank’s strategic decision to cease all intervention **within** the foreign exchange band. When, by late 1996, the exchange rate hit the lower limit of the band, expensive sterilization had to be carried out in order to keep monetary policy consistent with the inflation target. Obviously, during this period exchange rate volatility was artificially reduced to nil. This situation created a peculiar type of **moral hazard**. The private sector got increasingly used to disregard potential exchange rate risk, focusing solely on the high interest rate differential and partly speculating against the lower band limit, expecting it to be changed. In this period there was an intense argument between the Central Bank and the Finance Ministry about the desired degree of flexibility of the exchange rate system. The Bank favored exchange rate flexibility aimed at adapting to the increasingly integrated Israeli into the global capital market causing large and volatile capital flows to and from Israel. The Ministry, supported by several highly placed industrialists, preferred a managed nominal exchange rate depreciation.

In mid 1997 a compromise was reached between the Central Bank and the government, in the course of which the Finance Minister resigned from office. It was deemed that the added exchange rate flexibility would help to achieve the inflation target in that year, which indeed was comfortably achieved. The slope of the band's lower limit was reduced from 6 percent to 4 percent and the upper limit was shifted to allow for a total bandwidth of about 30 percent, but growing over

time, due to the different slopes of the upper (weak) and lower limits of the band. Interestingly, there was much opposition at the time to the reduction of the slope of the lower (strong) boundary by 2 percentage points, while there was hardly any dispute about the 15 percent increase of the upper (weak) boundary. In the eyes of the contestants of exchange rate flexibility, the complacency with this change was motivated by the sole concern about the potential damage of nominal appreciation on export profitability. After a further reduction of the lower limit to 2 percent in August 1998, the width has reached nearly 40 percent in early 2000.

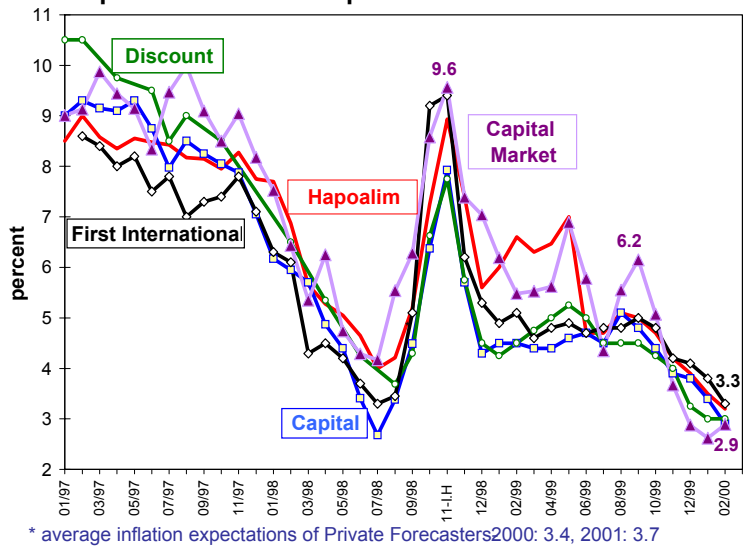
B. World Financial Turmoil and the Inflation Shock

When world financial turmoil affected the Israeli foreign exchange market in early October 1998 (together with the sharp depreciation of the Yen and other currencies), the depreciation immediately affected inflationary expectations, as measured from the difference between yields on nominal and indexed government bonds of the same maturity. Inflation forecasts of the business sector also surged immediately.

29/2/00

Chart 16

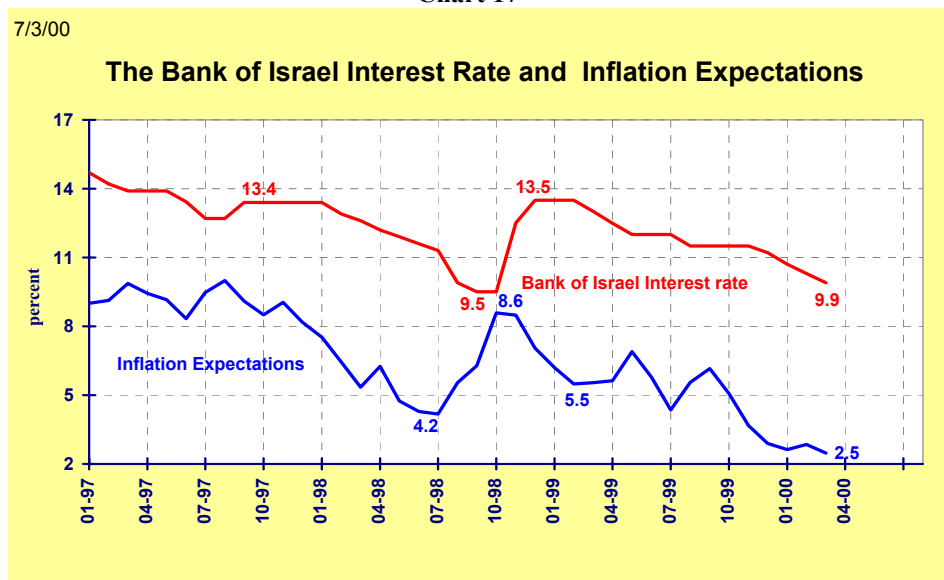
Inflation Expectations of the Capital Market and of Private Forecasters



The Bank of Israel reacted by a swift increase in the base interest rate of 4 percentage points. Inflationary expectations responded quickly and fell to about 4 to 6 percent, and continued to fluctuate around the lower level of until about

October 1999. Thereafter there was a further significant drop in annual inflationary expectations to about 2 to 4 percent. In 1999 inflation eventually reached the lowest rate since 1950 (excluding the year 1967), namely 1.3 percent. The government's inflation target for the years 2000 and 2001 has been set at 3 to 4 percent. Private sector forecasts are at the lower end of the target range. This improvement towards long run price stability allowed the Bank of Israel to reduce interest rates gradually (in eight instances since the turmoil) by a cumulative 3.6 percentage points. This prudent reduction amounts to 90 percent of the initial increase, so far without endangering the achievement of price stability or disrupting the financial markets.

Chart 17



The interest rate policy, which was aimed at fighting the inflationary consequences of the initial depreciation, calmed the markets.

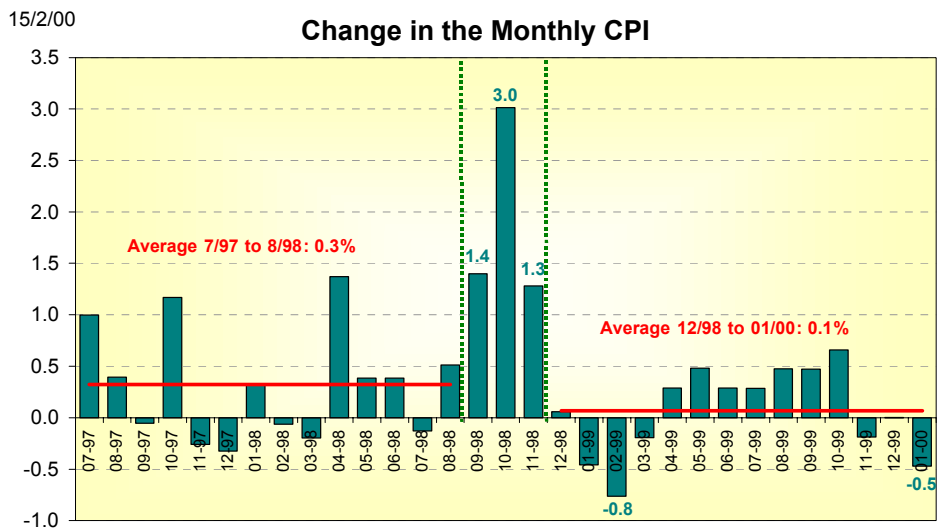
The ultimate result of the episode in the foreign exchange market described above was that credibility in the monetary policy was further strengthened²¹.

Judging from the latest developments in the consumer price index it is clear that Israeli monetary policy contributed importantly to containing inflationary pressures.

²¹This is a well known result in the Mundell-Fleming framework of monetary policy under flexible exchange rates.

The main purpose of the swift and large rise in the interest rate was to preempt the formation of an inflationary momentum in a period of international financial turmoil and heightened exchange rate uncertainty. Therefore the interest rate instrument was used in a forward-looking manner, focusing in particular on its linkage with inflationary expectations and inflation forecasts, rather than trying to counteract the exchange rate depreciation directly. The foreign exchange market was intentionally left to find its market equilibrium.

Chart 18



C. Market Forces, Official Devaluation and the Real Exchange Rate

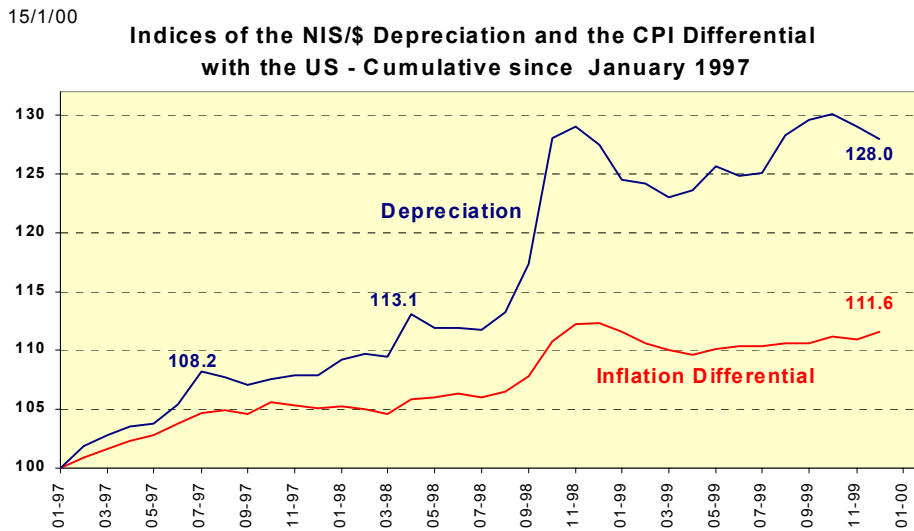
Proponents in favor of direct intervention in the foreign exchange market have often argued that in an open economy with "export-led growth", such as in Israel, the exchange rate cannot be left to market forces, particularly when market forces cause the exchange rate to appreciate. They argued that nominal appreciation eventually leads to a real appreciation and causes losses to the export industry. The Israeli example provides evidence on the fallacy of this argument. The **real** exchange rate has actually depreciated strongly. The initial nominal depreciation by 10 percent, induced by market forces in reaction to the world financial turmoil,

eventually brought about an even larger **real** depreciation²² - about 16 percent. The qualitative result remains valid even when the starting point is set at the beginning of 1996, which happens to coincide with the Bank of Israel's decision to float the exchange rate within the band (14 percent).

Judging from the sizable real depreciation since the sharp nominal depreciation in October 1999, we may thus conclude that the success in lowering inflation did not come at the expense of export profitability and growth but - on the contrary - helped to boost exports and growth. Of course in the longer run, the reduced inflation tends to boost investment and improve allocative efficiency due to price stability. GDP growth is expected to accelerate in the year 2000 (see chart 5). Furthermore the reduced "pass-through" effect of exchange rate depreciation to inflation in a floating rate environment pays off. The inflation-target framework becomes more credible. Consequently, market participants expect the Central Bank to use the instruments of monetary policy to meet the targets and to correct deviations from the desired path. This credible commitment has also served to shorten significantly the transmission lag between monetary policy actions and consequences.

²²There are different ways to define the real exchange rate: The calculation chosen here is the cumulative difference between the nominal rate of depreciation to the US-dollar, adjusted for the inflation differential between Israel and the USA. This definition has the advantage of treating services as tradeables. The often used measure of "tradeables" versus "non-tradeables" in the home economy is particularly problematic, since globalization has fundamentally changed the degree of tradeability of services, which in the past used to be considered "non-tradeables".

Chart 19



4. Conclusions

What can we learn from Israel's experience in the late 1990s?

Lesson #1: Macroeconomic stability must be maintained continually

Globalization is an irreversible process. The attempt to close the economy artificially from that process is doomed to failure. The question for economic policy is therefore, how the economy can prepare efficiently to the challenges posed by globalization. Globalization reduces frictions of international capital movements. This tends to amplify shocks both positively (rewards) and negatively (penalties). The major challenge is therefore to secure international investors' confidence in the domestic economy. That requires the domestic policy makers' knowledge of the rules governing the conduct of international investment funds. The focus on international investors' behavior derives not only from the size of the current international investment but mainly from the potential future investment and from the access to the domestic and international borrowing market. Furthermore, domestic investors' behavior (and consumers, who behave according their expected permanent income) is similar to investor behavior anywhere. Globalization therefore greatly intensifies the necessity for economic policy makers to adhere to international standards of sound economic policy making.

International rating agencies' sovereign risk ratings have thus greatly gained in importance in recent years. Their country reports have become an indispensable monitoring device for international private investors. Consequently, economic policy makers need to orient themselves according to the criteria, which govern the rating industry. Economic decisions by policy makers and market participants in general must be geared at absorbing external shocks.

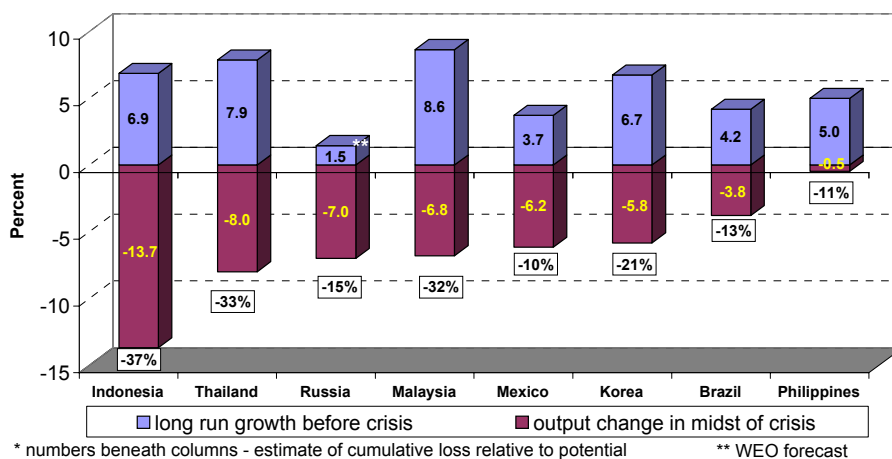
The best way for economic policy makers to assure this capability is to pursue a macroeconomic policy aimed at stability. This is a fundamental precondition for shielding the economy from "contagion". The strategy of insulation (reversal of the liberalization process), as has been suggested at some stages by a number of economists²³, actually intensifies financial vulnerability from globalization because they leave the private sector unprepared to deal with risks arising from external shocks. The private sector remains artificially shielded from objective risks, inherent in the integration of the domestic economy into the world economy. This situation eventually becomes unsustainable. Businesses are thus induced to take risks, which they are not aware of at the time of their decision. Eventually risks might materialize at an unpredictable timing and at a high cost to the economy as a whole. The major goal of macroeconomic policy must therefore be to minimize vulnerability from global shocks. As the following chart reveals, this lesson was learnt the hard way by several emerging economies, which were hit by crises in the 1990s.

²³See for example P. Krugman (1998), Bhagwati (1998) and D. Rodrik (1997).

Chart 20

8/8/99

Output Loss due to Financial Crisis*
(annual percent change)



Of course, each country's output loss had its own idiosyncrasy, which probably explains some of the variance in the depth of their output losses. These losses varied between a total "loss" of 37 percent of GDP and 11 percent in the least severe case. The highest yearly loss (in midst of the crisis) varied between 21 percent and 6 percent.

In that comparison Israel has clearly made a better choice than the countries in the sample. A comparable rough calculation for Israel yields only a loss of 2 to 3 percent (the difference between potential output growth of, say, 4 to 5 percent and the lowest growth rate (in 1999) of 2 percent. The comparable cumulative "loss" for Israel was in the vicinity of 6 percent, well below the "loss" of the best case (Philippines). This rough calculation suggests that a disciplined macroeconomic policy pays off also from the point of view of potential GDP loss minimization.

Foreign direct investment into Israel has continued unhampered throughout world financial turmoil. Even foreign financial investment recovered quickly after the shock. Total foreign investment in Israel's business sector surged in 1999 to 4.8 billion US-dollars and in January 2000 alone foreign investment already reached nearly one billion US-dollars.

Despite these facts many have argued that the simultaneous application of tight monetary and fiscal policy in the course of 1994 to mid 1996 has been detrimental to the economy's welfare, adding unnecessarily to the slowdown in growth rates in

1997 to 1999 and to the rise in the rate of unemployment during 1997 to 1999. Domestic critics of Israel's macroeconomic policy observed that the inflation target throughout much of 1998 and again in 1999 had been undershot. They argued in favor of an "optimal policy mix" which - according to that view should have led to a more rapid relaxation of fiscal and monetary policy in view of output growing below potential²⁴.

When the Central Bank chose to dampen the economy in the years 1994 to 1996, that policy choice was highly unpopular. Politically it would have been very easy to abandon or "postpone" the continuation towards long run stability. The advantage of the "policy of permanent struggle for stability" became clear, when, during world financial turmoil, the economy's macroeconomic fundamentals were stable. The trouble with world financial turmoil is that it is inherently unpredictable and once it hits an unprepared economy, stability takes too much time and effort to be achieved. Furthermore, in such a situation the policy effort has to be much more ambitious, if it has to be achieved in midst of a domestic crisis. The policy of a "permanent struggle for stability" thus becomes the preferred strategy, whenever domestic economic fundamentals get out of line. Obviously this weakness is typical for emerging economies which are characterized by a basic credibility problem of government policy.

A **highly credible** government may indeed use a policy mix, using one tool (say monetary policy) temporarily in an expansionary fashion and the other (say fiscal policy) in the opposite direction, with a focus on the overall effect of the policy.²⁵ However, the problem in an emerging economy with eroded policy credibility is that a policy mix with a combination of offsetting policies sends a mixed signal to the public. The public will tend to give a larger, myopic weight to the expansionary part of the policy, which will hamper policy credibility even more. The fact that inflation expectations in Israel during the years 1994 to mid 1997 were consistently higher than actual inflation indicates that market participants

²⁴While there exists no authoritative number for sustainable potential growth, the growth rate in the years 1997 to 1999 has probably been below "potential". When the growth rate is adjusted for the natural slowdown, the exhaustion due to slowing immigration and the stalemate in the peace process from 1996 to 1998, the exaggerated per capita growth of more than 4 percent in 1995 and 1996 would have been slowed down anyway. The policy induced slowdown accounts thus only for a fraction of the observed growth decline.

²⁵This is why an interest reduction during world financial turmoil in stable economies such as the US and UK was justly met with complacency there.

still perceive a latent danger for future inflationary excesses. In such a case a premature relaxation of monetary policy might therefore require an even more restrictive monetary policy in the future, to counteract the inevitable loss of confidence in monetary policy that would occur.

This episode should serve as a lesson for emerging economies with limited policy credibility: A crisis is very costly. Even with a low probability, the expected cost is high, due to the high penalty inflicted by globalization. Stabilization is a time consuming process. Therefore it is irresponsible to react excessively to the current observed output gap. In Israel it took the authorities about two and a half years to recognize the need for restrictive fiscal policy and implement it.

Lesson #2: Enhance the Flexibility of the Exchange Rate Regime

Or - How to find a suitable exit policy.

Flexibility is a sine qua non for foreign exchange markets. Any rigidity (fixed exchange rate rule) will hit markets in areas, which are less fit to absorb external shocks. The shocks will eventually need to be absorbed. Labor markets, which inherently lack flexibility (due to the preponderance of long term wage contracts and trade union power) are less suitable for that task. This does not mean that labor markets are not affected by external shocks - they are - but increased flexibility in the foreign exchange markets lets the business sector adjust more easily in the other markets because the foreign exchange market can provide risk insurance more easily than other markets. Israel's gradual and automatic widening of the exchange rate band towards full flexibility has proved an optimal exit policy from the Central Bank's official commitment to intervene and has strengthened its policy credibility, and therefore allowed a lower interest rate than would otherwise have been necessary.

Lesson #3: A nominal appreciation can be consistent with a real depreciation

The Israeli experience is a good example for the dichotomy between nominal and real exchange rates. In the decades of rapid inflation more often than not policy induced nominal devaluation went hand in hand with inflation, reaping any gain for exports in the form of real depreciation. The incident in October 1998 and the

immediate policy reaction brought about a different pattern. On the background of a sound macroeconomic policy (and at the low part of the business cycle) the market-initiated depreciation allowed for a powerful real depreciation which proved to be permanent, continuing at least until the present (March 2000). This improvement in export profitability was one of the major driving forces of the rapid growth in exports in 1999 (about 9 - 10 percent in real terms). This emphasizes the fact that what matters for export profitability is the real, not the nominal exchange rate. Nominal depreciations need not be inflationary if they are driven by market forces and accompanied by sound fiscal and monetary policy.

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