Part III
External Financial Stability

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Israel's financial stability (FS) improved in external and forex activity in 2004 due to the more amenable financial environment in which the market operated and to a certain improvement in financial standing. An FS analysis is based on index monitoring and on an analysis of internal and external events and processes in Israel that have a potential effect on FS.

The financial conditions under which the market operated in 2004 were more amenable than those of 2003: the indices show that the underlying conditions for global financial stability as well as that of Israel had improved. This was further bolstered primarily by global and domestic growth. A potential challenge to stability from the narrowed interest gap did not materialize. The external financial climate was responsive as a result of international investors' evident readiness to invest and the low cost of capital and debt financing. The economy operated in a climate of lower yields and risks than formerly and this contributed to economic activity. Trading on the NIS-forex market remained buoyant and heterogeneous in character. A further contribution to this stability resulted from reinforced credibility of monetary and fiscal policy. In 2004, no signs were discerned of any potential challenge to fiscal stability. Changes in the stability indices were minor compared to the previous year and changes during the year were more moderate than in 2002 and 2003.

An analysis of Israel's external and internal resistance that derives from its balances and their components[1] demonstrates the financial robustness of the economy in 2004 but a counter-development was also noted. On the one hand, Israel recorded a significant improvement in foreign currency activity as the business sector was no longer exposed to changes in the exchange rate. Furthermore, on the side of external liabilities, Israel was more resistant to a relative reduction in the extent of these obligations and an improvement in the

[1] The analysis approach in the Financial Stability Section does not reflect the considerable contribution to financial stability that emanates from the distribution of the investments. Thus, non-residents that invest in the economy participate in the risk of investing in the economy and overseas investments by Israel residents reduce the investment risk of Israeli residents by investing in assets that are unconnected with the economy.

short-term liquidity ratios. The continued upward trend of the net external debt assets improves Israel's standing in the eyes of foreign investors but exposes it to the risks of overseas investments. On the other hand, a deterioration was recorded in the economy on the liabilities and gross assets side because of their increase and a less favorable composition on the assets side. Furthermore, households hold a significant surplus of assets in forex and have a marked exposure to an increase in the value of the NIS. Non-residents short NIS position increased after it had closed during the year.

A number of developments in 2004 had a significant impact on FS. After the last quarter of 2003 and during the first quarter of the year under review, considerable activity was discerned on the part of households to adjust their asset portfolios to changes in the relative external yields. This activity was inhibited by market forces. FS is sensitive to the households' activities because of potential of "herd" behavior patterns. Significant activity of non-residents was observed in two periods: in the months of April to June 2004 and September to December 2004. In the former period, an outward movement on the part of non-resident investors was noted. This corresponded to the capital outflow from emerging economies and a reduction in their short-term speculative positions. In the latter period, an increase in the in-flow of capital from non-residents was discerned against the backdrop of similar trends in other global economies. The heterogenic character of non-residents' activities in shares and derivatives was constant for most of the year but lessened in these two periods. The increased heterogeneity and spread of their activity will contribute to more robust FS. FS is sensitive to non-residents' behavior because of their financial strength and their behavior that is, at times, influenced by global trends.

Global financial trends had an impact this year on the Israeli economy. The global volatility of financial assets lessened and credit gaps were reduced. Similar phenomena were noted also in Israel. The standard deviation inherent in options (the implied standard deviation) of the NIS-dollar exchange rate fell to a historically low level, but this was appreciably lower than the standard deviation inherent in other currencies; the exchange rate of the dollar-NIS was impacted by the weakening global trend of the dollar; the extent of the forex conversions recorded this year in Israel remained below record levels. However as a general rule, the increase in the extent of forex trading in recent years and its moderation this year are consistent similar trends in global money markets. A number of long-term processes were also noted this year that reinforce Israel's FS: reduced involvement of the public sector in economic and financial activity, increased activity of non-residents in the economy, the development of the NIS-forex market including the increased trading volume in recent years.

Nevertheless, at the end of the period, Israel faced a lack of global balances externally and a low interest environment internally. The lack of global balances that derives mainly from difficulties in the US economy, contributed to financial stability denoted by Israel's interest reduction process but it embodies a potential for diverse exogenous crises in the absence of controlled and gradual regulation of the equilibration. The low level of interest in Israel was, from the aspect of the financial environment, unknown and increased Israel's vulnerability to crises. However the improvement in the financial strength of the economy in recent years and its characteristically low risk level do not necessitate maintaining a higher interest level than is required by considerations of monetary policy.

1. INTRODUCTION

This section focuses on financial stability that is directly linked to Israel's external financial ability and the stability of the NIS-forex market.

The degree of financial stability denotes the ability of the financial system –markets and intermediaries and main players – to conduct financial mediation efficiently and uninterruptedly and to withstand financial and other crises. Financial stability is usually said to exist when the probability of a financial crisis, i.e. a substantive dysfunction in financial markets, is low. Examples of crises are those in the fields of credit allocation, pricing of financial assets or in a collapse of the payments and clearing system.[2] Liberalization of forex and the world integration of the economy due to globalization have indeed made a considerable contribution to the Israeli economy, but, at the same time, increased exposure to new financial risks. The economy's vulnerability to risks is affected by a number of characteristics: it is a small economy, open in the effective and financial fields with a technological tendency: it is an emerging economy at the height of reforms of the financial markets and because of a lack of geo-political stability compared to other countries. Hence the particular importance of financial stability in that is directly linked to Israel's external financial activity and the stability of the NIS-forex market on which this section focuses. The purpose of the analysis is the identification of processes that challenge financial ability – processes that may well lead to a financial crisis in the NIS-forex market.

The analysis[3] is conducted within the following framework:

- In Section 2, the 2004 financial environment is analyzed on the basis of indices in several areas that are likely to affect Israel's long-term financial resistance: in the field of Israel's effective activity internally and externally, predominant global financial developments, Israel's risk and yields ratios and developments in the NIS-forex

[2] This definition resembles that chosen by the Bank of England. See Financial Stability Review, Bank of England, June 1999.

[3] The methodology of the analysis presented in this section was formulated in the Foreign Exchange Department of the Bank of Israel and is partially based on the paper "Financial Stability: Concepts, Analysis and Function of the Authorities" by Y. Haim, N. Shinar, B. Shreiber, Foreign Currency Topics, 5/03 (December 2003), Appendix 1 that expands on the analysis approach.

market structure. In addition, selected indices were examined that potentially testify to an acceleration of immediate exceptional financial processes.

- Section 3 employs financial resistance indices that derive from the forex assets to liabilities ratio and from the exposure of the various sectors to changes in the exchange rate.
- Section 4 describes conspicuous internal and external financial events in 2004 as well as long-term events and their implications for financial stability.
- Section 5 presents a short review of the main threats to FS in the coming period.
- In Appendix 1, an extensive presentation is made of the analytical approach to the state of financial stability that is implemented in the Section.
- A table of widely-used indices in financial stability monitoring is presented in Appendix 2. The indices table is constructed on the principles of the analysis approach presented in Appendix 1. The table presents the FS situation on a quarterly basis for 2004, the trends of the various indices and the extent of their volatility.

2. DEVELOPMENTS IN THE FINANCIAL ENVIRONMENT IN 2004

Analysis of the indices demonstrates that the financial environment in which Israel operated in 2004 was more supportive of financial stability than the environment that had prevailed in 2003: effective activity expanded, a potential challenge to stability that derives from the reduction of the interest gap did not materialize and the external financing environment was amenable. As an example, international investors maintained an evident degree of readiness to invest and capital and debt financing costs were low. Foreign exchange rate risks were at a low level and trading on the NIS-forex market was heavy and heterogeneous.

a. The underlying conditions

The global financial markets are characterized by considerable liquidity, relatively low interest and yields that together push international investors towards a yield-seeking policy albeit with a high risk level.

The improvement in internal and external background conditions in 2004 supported financial stability despite the fear of the global lack of balance.

Output continued to expand at a fast rate and global trading increased. Global financial markets were characterized by considerable liquidity while interest and yields remained relatively low. The combination of these factors urged a policy of "look to the yield" on international investors, despite a higher level of investment risk. The flow of capital to emerging markets also increased this year beyond the levels noted before the series of financial crises in emerging economies recorded in south-east Asia at the end of the nineties. The increased demand for investments together with a significant improvement in performance of emerging economies and corporate performance accompanied reduced volatility in the markets and a decreased risk premium required on investments. This was demonstrated by the "risk aversion" of the low level of international investors, by the reduction of credit gaps in emerging economies and comparatively low volatility in the prices of the various financial

assets. The multiplication of investment sources as well as lower shares and debt risk prices produced an external financing environment that was conducive to Israel. Market stability was on occasion disturbed because of changing estimations of the state of the American economy and policy. During the year, the American dollar was devalued. Volatility increased among the main currencies but dropped at the end of the year.[4]

Growth increased in Israel and the current account surplus grew, the Government budget deficit was reduced and the share of the public debt in the GNP stabilized. The last two factors contributed to a reinforcement of the credibility of fiscal policy.

The profitability and the financial signals of Israeli firms remained relatively high. A group of separate indices[5] that focuses on the business sector shows a significant improvement in financial stability in 2004. This is demonstrated, for example, by a significant improvement in the combined risks index[6] for 2004, and a reduction in the rate of companies with a high probability of bankruptcy. Nevertheless, many Israeli companies and businesses are still rated as having a high risk level. An improvement was also noted in the financial leverage indices (debt to equity) that constitutes an indication of financial strength of the firm and its liquidity (quick ratio). In addition, a further improvement was evident in the financial stability of the banking sector.

b. Developments in yields and risks

2004 was conspicuous for the appreciable decline in the NIS and forex short-term yield gaps,[7] on the one hand and a considerable decline in market volatility and that of financial instruments as influenced by similar global developments, on the other.

Israel operated in an environment of lower yields and risks than formerly and this contributed to its economic activity. As a result of the interest reduction at the Bank of Israel and the higher FED interest, the interest and yield gaps narrowed vis-à-vis abroad. However, the long-term yield gap was no narrower (long-term interest in Israel rose during the year and fell again as it ended). The appreciable reduction in interest did not evoke any sharp response from short capital flows, the exchange rate risk reduction and the increased risk in the American economy. Israel's risk rating and its risk premium remained at a low level similar to that at the end of 2003. Nevertheless,

[4] A discussion is presented in Section 4 on the lack of global balance and its implications for FS in Israel.

[5] Source: Processing of the financial statements of Israeli companies by the Foreign Exchange Activity Department.

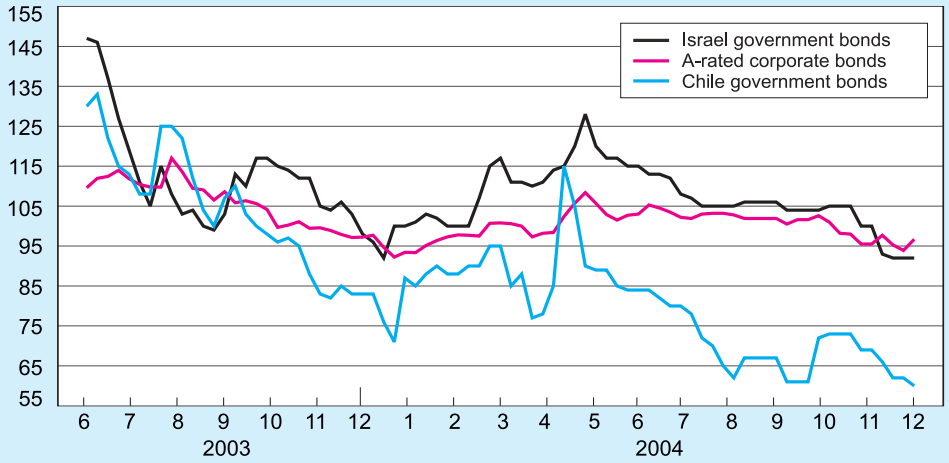
[6] An index of the state of the economy that is determined on the basis of an analysis of the business risk of thousands of companies and businesses in Israel in relation to an extensive compilation of qualitative and quantitative parameters and criteria, including income, seniority, payment ethics, profit trends, owners' records and more.

[7] It is important to differentiate between central bank interest rates or interest on deposits and debts, on the one hand, and yields, on the other. Interest rates are predetermined; yields are derived from the prices of tradable assets, such as bonds, and are considered more indicative of the expectations of the financial markets, for example, in regard to the inflation expectations.

In 2004, Israel operated in an environment of lower yields and risks than previously and this contributed to economic activity.

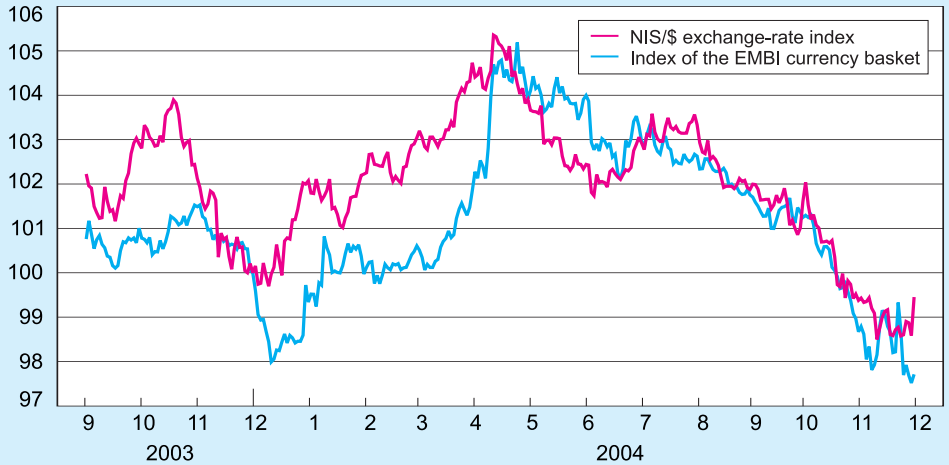
the comparative country risk deteriorated to some extent, while that of other emerging economies benefited from a higher credit rating (see Box 1). This was evident in the lower rate as Israel's credit gaps narrowed more than those of other emerging economies as well as in relation to bonds of a similar rating (see Figure 3.1). In addition, the NIS strengthened against the Dollar to a lesser degree than currencies of other emerging economies (see Figure 3.2). As distinct from the country risk (credit gaps), the exchange rate risks (volatility) that in 2003 had fallen to an unprecedented

Figure 3.1
Spread Above US Treasury Notes of Israel and Chile Government USD Bonds and Corporate A-Rated Bonds, June 2003–December 2004



SOURCE: Based on Salomon Smith Barney.

Figure 3.2
Changes in the NIS/$ Exchange-Rate Index vis-à-vis the Dollar Exchange Rate of Emerging Markets (the Countries in the EMBI), September 2003–December 2004 (31 December 2003 = 100)



SOURCE: Bank of Israel.

level, continued to fall. This trend that continued throughout the year was consistent with volatility developments in other currency markets.[8] In the last quarter of the year, the NIS exchange rate risk rose somewhat against the Dollar and other global rates. At the end of 2004, the ratio of Israel's comparative long-term yield to country risk remained at a similar level to that of last year, but Israeli's short-term yield to the currency risk ratio dropped considerably.

Box 3.1
Factors Affecting Israel's Risk Premium

Non-residents' perception of risk in the Israeli economy is measured, inter alia, by the spread between the yield on Israeli government bonds and risk-free American government bonds. This spread, in the eyes of non-residents, constitutes one of the indices for examining the risk in Israel and serves also as a benchmark for pricing the bonds of Israeli corporations that issue bonds overseas. Since December 1995, the Government of Israel has issued guarantee-free bonds on the international market.

In work undertaken by the Israeli Foreign Exchange Activity Department, it was found that the aforesaid gap apparently represents an index of Israel's credit risk, and is influenced mainly by exogenous factors that are unconnected with the state of the Israeli economy. It was also found that the spread of Israeli bonds overseas was affected by Israeli holdings in these bonds.

An analysis of the international interest data demonstrates that there is a link between the risk-free interest level and the level of the risk-associated bonds. From the beginning of the sixties until the end of 1981, the yield on American government bonds had risen, in general, from approximately 4 percent to approximately15 percent as a result of inflation in the United States during this period. The spread on Class A bonds grew corresponding from a nominal value of approximately 50 to a nominal value of approximately 300 respectively. Risk-free bonds began to slide in 1982 to approximately 5 percent in 2004. A corresponding decline occurred in the spread of Class A bonds to a nominal value of approximately 90, in the first half of the nineties. A possible explanation is that this is due to the higher level of American government bond yields, other bonds were perceived by investors to present a higher risk. This is because the higher the interest on the bond, the greater the interest load and the market therefore demands a higher risk premium. This premium is measured in terms of a gap.

Another possible explanation is linked to the fact that the spread presents a simultaneous measurement of both the risk and its price. A fall in global interest leads to a reduction in the risk aversion (in other words – investors are willing to assume a greater risk in the absence of an alternative

[8] See more extensively on reduction of global volatility in section 4 below.

investment), that is, the price of the risk decreases. The risk premium therefore falls (unless there has been a change in the level of risk).

It was further found that the range spreads of countries with an A-rating, like Israel, is between a nominal value of approximately 70 and 200 according to the prevalent level of the yield spread in the bonds market. It was also found that given the current level of interest, the change of one level in Israel's rating from A- will entail a change in the gap in the nominal value of between 10 and 15.

From the second half of the nineties, spreads began to expand despite the continued slide in interest-free bond yields. The increase was the result of global financial crises from the second half of the nineties. These crises altered the perception of risk on the part of players in the financial markets as regards bonds prices that is denoted in a reversal of the gap trend. Successive global financial crises as well as crises in the United States had a cumulative effect that led to a continuous rise in the perception of the risk among players in the financial markets. As a result, between 1994 and 2002, Class A bond spreads increased by a nominal value of approximately 200, despite the fact that the yields on risk-free bonds fell in the same period by a nominal value of approximately 300.

Therefore, in order to examine the appraisal of the risk in Israel alone, the other aforementioned effects must be neutralized. An analysis of the Israel bonds on deducting the gap of the Class A bonds constitutes a benchmark for Israel and indicates that in the first quarter of 2000, the Israeli gap was higher than that of the A group by an approximate nominal value of 60 - when Israel's spread fell to a nominal value of approximately 30 below the below the Group A spread. The spread began to deteriorate from the start of 2002. From the beginning of 2003 until the present, the gap has been between a nominal value of 0 and 20 above Group A.

There is another effect that derives from Israelis' holdings in bonds overseas. These Israelis hold some 30 percent of the free Israel government bonds abroad and some 20 percent of Israeli corporate bonds outside Israel. Israelis' perception of the risk in relation to Israeli bonds overseas differs from and is lower than that of non-residents. Hence, the gap of these bonds reflects a mixed perception of risk of both non-residents and Israeli residents. An analysis of the influence of Israelis' holdings on the gap shows that in years 2001 to 2002, Israeli residents contributed approximately 20 n.v. to the reduction in the gap of Israeli Government bonds. In the years that preceded 2001, their influence was less as the weight of their holdings was commensurately less. From this it appears that the premium required by overseas residents only that derives from Israeli government bond yields is higher than that forecast by the market and is also influenced by holdings of Israeli residents.

c. Refinement of the NIS-forex market

The degree of refinement of the NIS-forex Market[9] is known to have an impact on financial stability: in the event of a lack of refinement, such as a market of insufficient depth, with low liquidity or tradability – the development of an exceptional financial event will not be inhibited and is even likely to be exacerbated. Moreover, the lack of refinement, in itself, is likely to generate an exceptional financial event.

There was no great change in the degree of refinement in the forex market in 2004 in relation to the previous year: the volume of foreign currency trading rose somewhat, and foreign financial institutions' share in trading increased but, primarily, the trading margins[10] fell from the 2003 peak level. On the other hand, the volume of transactions in "over the counter" (OTC) derivative instruments[11] fell and exchange rate volatility remained at a low level, particularly when making an international comparison.[12] The reduction in the trading margins and the two-directional changes in the forex trend denote the heterogeneity of this market as indicated by a drop in the heterogeneity index.[13] Activity on the NIS-forex market increased in the first and last quarters of the year and was more moderate in the two middle quarters.

d. Identifying threats to financial stability

No signs of threats to financial stability or financial pressures in activities of the various sectors were discerned in 2004 or in the various channels of activity. It would seem that the interest gap was consistent with market expectations – a development that indicates, inter alia, increased confidence in macro-economic policy. No acute changes were noted in the exchange rate and the capital movements of the different sectors did not deviate from their historical level. In the months of November and December 2004, the force of capital movement as well as exchange rate volatility increased against the background of a significant inflow of capital from non-residents in the short-term and an investment in stocks on the Tel Aviv Stock Exchange.

There was no great change in 2004 in the refinement of the forex market in relation to the previous year: the extent of activity rose somewhat, foreign dealers' share increased but primarily the trading margins fell from the 2003 peak level.

[9] The efficiency of the market. Refinement of the market refers to various aspects of the market's efficiency of operation such as continuous trading, the range of instruments available to investors, the cost and accessibility of information. However the principal factors in refining the market are the degree of liquidity and tradability and the level of exchange rate volatility.

[10] Two indices – the trading gap and foreign exchange volatility – also serve to appraise the exchange rate. Any decline will indicate a lowered risk.

[11] On the TASE, the volume of transaction fell even more. See also Part 2 – the NIS-forex Market.

[12] See the discussion in Part 4 on the low volatility recorded in the markets this year and its causes.

[13] See the discussion in Part 4 on heterogeneity and centralization in non-residents' activity in the foreign exchange and stock markets.

3. THE FINANCIAL RESISTANCE OF THE ECONOMY IN ITS EXTERNAL FOREX ACTIVITY.

This section examines the financial stability of the Israeli economy from a balance sheet perspective[14] - whether from an overall view of Israel vis-à-vis the rest of the world or from the aspect of the various sectors that operate in forex. We are therefore examining the relative extent of Israel's foreign exposure, the structure of its liabilities and assets[15] and sectoral exposure to exchange-rate changes. The aim of the analysis is to appraise the vulnerability of the financial system both to crises and the development of an exceptional financial event.

The extent and structure of the exposure as reflected in Israel's foreign assets and liabilities balance affect the ability of the economy to withstand financial crises.

The extent and structure of the exposure, as reflected in the Israel's foreign assets and liabilities balance affect the ability of the economy to withstand financial crises. During the nineties, a number of financial crises occurred as a result of balance sheet problems: the structure of the public-sector debt in Russia (1998), Mexico (1994-5) and Brazil (1999); liquidity problems in the South Korean banking system (1998) that originated, inter alia, from external obligations; the structure of foreign exposure of the non-banking private sector in Indonesia (1997).

The factors examined are the assets and liabilities structure vis-à-vis abroad of the various sectors, the distribution of the various categories of investment, the distribution of loan and capital instruments in which local and non-residents invest and the distribution of assets on the basis of their tradability.

From an analysis of Israel's external and forex exposure as reflected in its balance sheets and their components, it would appear that Israel's financial resistance improved in 2004. Forex activity recorded a significant upturn as the business sector was no longer exposed to changes in the exchange rate. Additionally, on the side of net external liabilities, Israel's resilience increased due to the relative reduction in their extent and an improvement in ratios that denote Israel's short-term liquidity risks. The continued upward trend in net external debt assets improves Israel's standing in the eyes of foreign investors but exposes it to foreign investment risks. On the other hand, a deterioration was recorded in Israel's resistance on the side of its gross assets and liabilities due to their growth. In addition, households hold a significant surplus of assets in foreign currency and have a marked exposure to an appreciation of the Sheqel. The short NIS position of non-residents widened, after it had narrowed during the year.

[14] This approach is similar to the analysis of an individual corporation's balance sheet. In an article by Berganza, Chang & Herrero: "Balance Sheet Effects and Country Risk Premiums: An Empirical Investigation"(Oct. 2003) an empirical connection was found between the changes in the balance sheet structure and an economy risk premium.

[15] The Bank of England publishes an annual analysis of the report International Investment Position (IIP) from the aspect of financial stability under the title: External Balance Sheet. This analysis examines, inter alia, the structure of the currency and geographical exposure that derived from various sections in the report.

a. Israel's resilience vis-à-vis abroad

(1) External liabilities

Israel's gross external liabilities/GNP ratio increased in 2004 to approximately 109 percent compared to 106 percent in 2003 and with a similar liabilities composition. On the other hand, the external debt/GNP ratio diminished from approximately 62 percent in 2003 to approximately 61 percent in 2004. The share of liquid liabilities in total liabilities remained at approximately 60 percent. The share of gross short-term debt balance in the total gross debt balance dropped from 42 percent at the end of 2003 to 40 percent at the end of 2004.

Israel's foreign exchange resilience improved significantly as the business sector was no longer exposed to changes in the exchange rate.

(2) Net external liabilities

Israel's net external liabilities/GNP ratio recorded a salient drop in 2004 to approximately 24 percent. An improvement was also recorded in the composition of these liabilities. The accepted indices for appraising the coincidence of the extent of the external debt to basic parameters in the economy, such as: the external short-term debt ratio to short-term debt assets or to the foreign currency reserves, improved. This was despite a deterioration in the gross external debt to volume of cash as the latter increased considerably. Israel's net external debt this year reversed the trend – and showed a surplus of debt assets of 8 percent of the GNP. Non-residents saw advantages in the absence of a net external debt but it exposed the economy to other risks such as credit or interest risks.

(3) External assets

Israel's external assets/GNP ratio rose significantly to 83 percent, and a deterioration was noted in their composition from the viewpoint of financial stability. The rate of investments in shares rose and increased Israel's participation in the foreign shares investment risk. A sizeable increase was noted in direct investments with a shorter maturity period. An increase in the weight of tradable shares was also recorded as well as a corresponding increase in Israel's exposure to changes in their prices abroad.

A significant increase was noted in the extent of Israel's external assets, mainly in direct investments with a shorter maturity period.

b. Sectoral exposure to exchange rate risks

Israel's resistance in its foreign exchange activities improved this year as the business sector was no longer exposed to a devaluation risk. However, a certain vulnerability remained because of the considerable exposure of households to an appreciation of the Sheqel. In addition, a considerable increase was noted in the short NIS position of non-residents in favor of the NIS. An improvement in the economy's resistance enhances its ability to absorb any financial crises that may occur.

In 2004 all Israeli residents' sectors in the economy took steps to reduce exposure to a devaluation of the NIS, as may have been predicted in view of the narrower interest gap. The business sector shifted to a small foreign exchange credit balance. This decline was a pleasant surprise as it was effected by an appreciation of the Sheqel and in the absence of any crises. Nevertheless, the reduced heterogeneity among holders of foreign currency assets and owners of liabilities within the sector somewhat offset the advantage derived from the fact that there was no longer any exposure to a devaluation. Households increased their exposure to an appreciation of the Sheqel even more from the end of 2003. The household sector is the most vulnerable sector in the economy because of its high exposure to an appreciation of the Sheqel but its wide distribution in relation to other sectors partially offsets the risk. Institutional investors increased their foreign currency exposure slightly. The banking system, that had increased its foreign currency assets and also reduced its liabilities, nevertheless maintained a neutral exposure to the exchange rate by means of derivative financial instruments.[16] Non-residents closed their short-term position in favor of the NIS at the beginning of the year – a position that may be connected with short-term speculative activity – but they have once more lengthened their position to a considerable extent in recent months.

4. EVENTS THAT ARE MATERIAL TO FINANCIAL STABILITY AND THEIR IMPLICATIONS

Vulnerability of the business sector to a devaluation lessened significantly but the vulnerability of households, that derives from their exposure to an appreciation of the Sheqel remained relatively high.

The last quarter of 2003 saw the beginnings of foreign currency asset accruals by **households**. This reached its peak in February-March 2004 and then faded.[17] The phenomenon was moderate in relation to the accruals recorded in the first quarter of 2002. In that quarter, against the backdrop of a significant increase in the currency risk and country risk, foreign currency funds recorded a significant accrual by households that was accompanied by a significant devaluation in the exchange rate. Characteristics of the present phenomenon and its inhibition by market forces without State intervention indicate that it was essentially a short-lived but continuous adjustment by households. The backdrop to this change in households' behavior was the anticipated reform of income tax on investments in securities as a result of which NIS investments were less attractive. This was in a financial environment of low yields and a search for higher yields.

This adjustment hides a potential pressure on the NIS-forex market for an outflow of capital and devaluation of the NIS as occurred in the first quarter of 2002. A number of factors led to the partial realization of this potential: the increased risk of investing abroad and in foreign currency due to the lack of global equilibration and the increased risk on the American market,[18] investors' fears of capital losses due to the anticipated

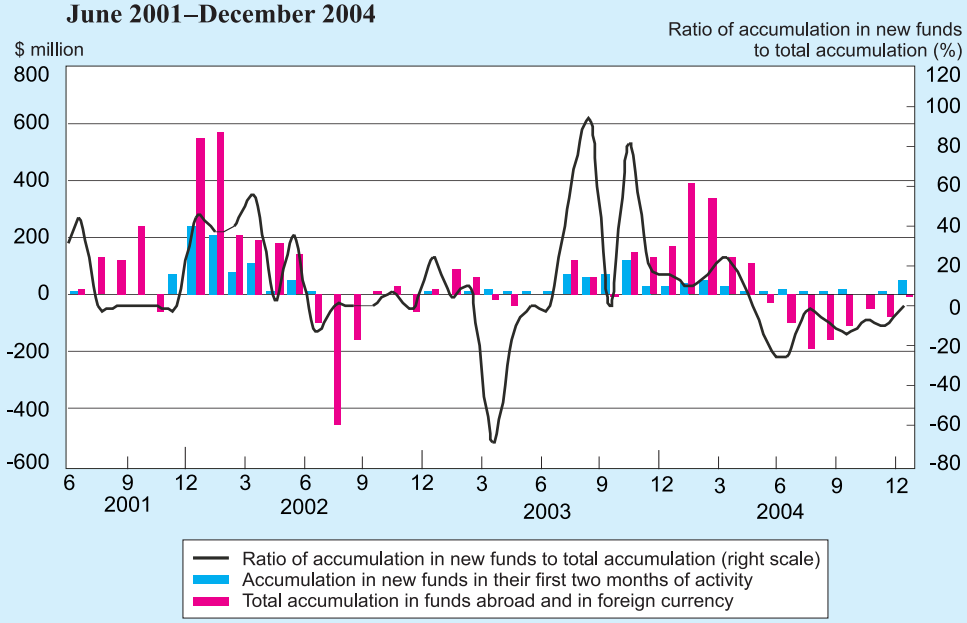
[16] See the banking balance sheet in Part 2 – The NIS-forex Market.
[17] See more extensively regarding household activities in Part 2 – the NIS-forex Market
[18] See below in this Part for further details.

increase in long-term yields in the United States – a process that was deferred until later; the growing attractiveness of Israeli capital markets in the relevant period. In addition to all the aforementioned, reference may be made to the contribution of the recession, the process of transparency to the public of the tax reform and the underlying favorable conditions of the economy compared to those that had prevailed in 2002. The exposure of households to an appreciation of the Sheqel at the end of 2003 was high - as it had been at the beginning of the year. It may also be that the losses incurred by households as a result of the appreciation of the Sheqel at its peak, reduced their motivation to purchase foreign exchange assets.

The household sector is characterized by low financial sophistication compared to other sectors, as well as by information difficulties such as availability, continuity and the ability to analyze it.

Nevertheless, in retrospect, the adjustment was moderate, from the viewpoint of household behavior and its impact on financial stability. The household sector is characterized by low financial sophistication compared to other sectors, as well as by information difficulties such as availability, continuity and the ability to analyze it. These characteristics present a challenge to maintaining financial stability in the face of two short scenarios: the fear of a swift change in household behavior (a "phase shift") and the fear of "mass" behavior.

Figure 3.3
Accumulation in the New Funds vis-à-vis Total Accumulation in all Funds, June 2001–December 2004



SOURCE: Based on reports of the funds.

In general two main behavioral characteristics may be nominated that are likely to prod households towards herd-like behavior: a response to changes in the exchange rate and vulnerability to marketing efforts of financial mediators. The former, a response to a devaluation in the Sheqel itself motivates households to buy foreign currency (for example, by accrual in funds) and the opposite – an appreciation of

the Sheqel motivates households to sell foreign currency (by making withdrawals from funds). Thus,[19] there is a positive correlation of 43 percent between the monthly accrual in foreign currency funds and the change in the NIS-Dollar exchange rate. The correlation is reinforced in periods in which new and significant information, such as a deterioration or amelioration in the geo-political situation, reaches the market.

The second factor, sensitivity to financial brokers' marketing efforts emanates from the fact that households are exposed to aggressive marketing on the part of financial mediators, particularly the banks. An analysis of accruals in new funds compared to the overall accrual in funds (see Figure 3.3) shows that in the months of September to December 2003, accruals in new funds explain a significant part of general accruals. It should also be pointed out that accruals in mutual funds of the banks in their initial stages are tenfold those of accruals in similar private funds, which may testify to the considerable force of the banks' marketing. However, from the months of December 2003 until May 2004 (the major part of the adjustment period) the share of new funds in the total accruals dropped discernibly. It may be that investigations on the part of the Securities Authority into previous bank marketing restrained the marketing activity during the relevant period.

In the months of September to December 2004, a significant capital inflow to Israel on the part of non-residents was noted as well as a corresponding discernible global weakening of the American Dollar and the return of foreign investors to other emerging economies. This was denoted, inter alia, in the extensive purchase of shares on the Tel Aviv Stock Exchange and a discernable increase in their short NIS position as

Figure 3.4
Ratio of Nonresidents' Net Surplus Local-Currency Assets to GDP, December 1993–December 2004
(percent)

SOURCE: Based on banks' reports.

[19] See Natalie Levy, Internal Paper 12/2004:

happened in the second quarter of 2003 (see Figure 3.4). Acute changes in the various financial indices (the exchange rate, share prices, the extent of capital movement and a rapid change in the short position), in general, are undesirable from considerations of financial stability but the market mechanisms operated efficiently and absorbed the changes. At the same time, the evident position that non-residents opened in favor of the NIS was potentially threatening to financial stability as it increases Israel's vulnerability to crises that act to devalue the NIS.

2004 was characterized by low global volatility in the prices of various financial assets and in reduced credit margins. A similar tendency to reduced volatility in the financial markets was also noted in Israel.

Effective global financial trends were well predisposed, this year, to the Israeli economy: the American Dollar's weakening trend, rising share prices, increases and decreases in long-term bond yields, the improvement in corporate profitability and continued growth. The price adjustment of the various internal financial assets to global price changes was relatively swift, although not similar in its force. The capital outflow recorded in emerging economies from April to June 2004 due to the increase in long-term yields in the United States was reflected in Israel by the increase in Sheqel long-term yields, a certain devaluation in the exchange rate, foreign currency future transactions but not in the sale of shares. In general foreign currency selling was relatively slight.

2004 was characterized by **low volatility** in the prices of various financial assets both externally[20] and internally and in reduced credit margins. The primary bond, stock and forex markets remained with no clear direction and, for most of the year, traded within a narrow band. The effective volatility inherent in options over a selection of financial assets remained moderate. The low volatility noted in global markets was the result of several factors: improved corporate stability that was reflected in their balance sheets (such as a decrease in debt financing and an increase in their profitability as a result of increased efficiency) and the steps they had taken to reduce credit gaps and fluctuations of their shares; the low yields in the markets prompted investors to invest in assets with a high risk and they were content with a smaller risk premium (credit margin).

The credit margins in emerging economies also dipped to a historically low level. This was against the backdrop of substantial global liquidity, the effective impact of continued global growth, increases in prices of the commodities that they export, an amelioration of the basic parameters of emerging economies such as fiscal improvement, a trading account surplus and very high foreign currency credit balances. A large number of economies even achieved an improved credit rating.

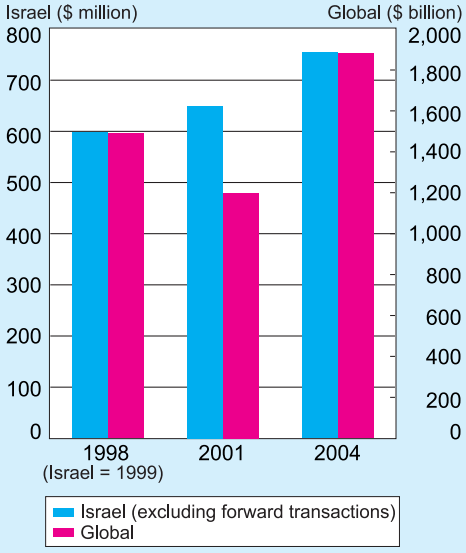
Israel registered a similar trend of diminished volatility in the financial markets including in the NIS-Dollar rate. This reached a particularly low level from a historical standpoint. The reasons for this were similar: the improved global trend that has already been mentioned, improved corporate stability and the improvement in corporate profitability as well as the narrower interest gap that reduced the incentive for short-term investment. Israel's credit margin also diminished but to a lesser extent than in other economies.

[20] IMF Financial Market Update November 2004, BIS Quarterly Review, December 2004.

The volume of trading on the NIS-forex market in Israel had stabilized in recent years at a higher level than formerly. This development was derived partially from the reforms that the Israeli economy had undertaken such as the broader band, foreign currency liberalization, the entry of foreign investors and an expanded range of financial instruments. This expansion was, on occasion, commensurate with developments in global currency markets. Thus, for example, in 2003, against the backdrop of external high interest, Israeli's short-term activities in the economy increased considerably.[21] At the same time, since 2003, the rate of growth has decelerated and come to a stop.

It would appear that the expansion in the volume of trading and its subsequent contraction reflects, inter alia, long-term developments in global foreign currency markets[22] (see Figure 3.5). In 2004, global trading volumes were noted that were 56 percent higher than in 2001, against the backdrop of several developments: clear trends in the foreign currency markets and higher volatility led to investments in currencies that exhibited a consistent appreciation (momentum trading). These developments also brought increased hedging activities in their wake especially on the part of international corporations who sought to minimize possible risks emanating from currency positions. Another development was substantial interest gaps that encourage investments in high-interest currencies financed by short positions in low interest currencies (carry trade). These two strategies further reinforced the demand for currencies that would revalue. Moreover, investors who had discerned the recovery of the various currencies began to relate to an investment in currency as an alternative to an investment in shares and bonds.

Figure 3.5
Daily Turnover in Foreign Currency, 1998, 2001 and 2004



SOURCE: Based on banks' reports and BIS data.

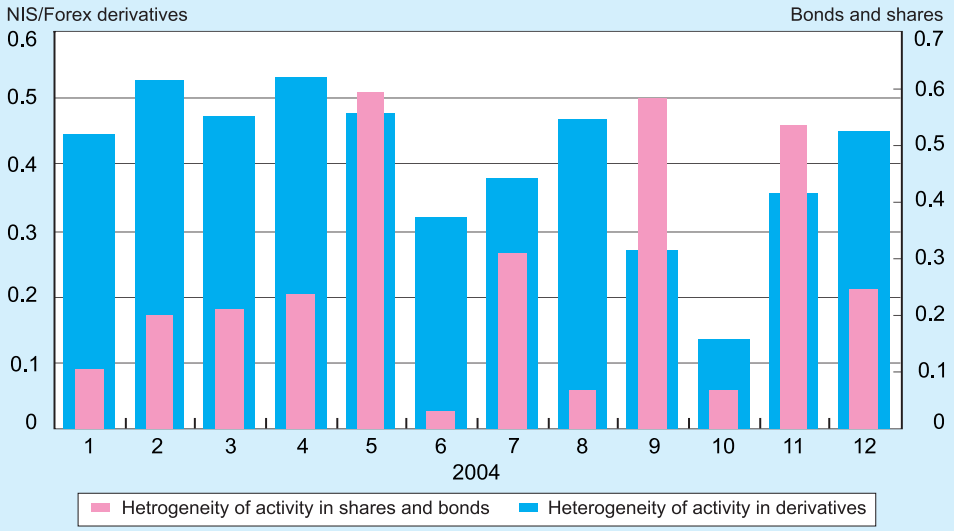
Narrowed interest gaps and the absence of a clear trend in the exchange rate are expected to act in future to reduce global currency trading volumes as they will act to reduce the incentives for speculative and hedging activities.

Heterogeneity and diversity of financial activity on the part of investors strengthens market stability. Great importance is attributed to foreign investors' behavioral patterns against the backdrop of their relative strength in the economy.

[21] See Part 3 of the Annual Review of the Foreign Exchange Activity Department of the Bank of Israel.

[22] Gabriele Galati, Michael Melvi, Why has FX trading surged? Explaining the 2004 triennial survey1, BIS.

Figure 3.6
The Hetrogeneity of Nonresidents' Activity in Bonds, Shares, and NIS/Forex Derivatives,[a] 2004



[a] A high value indicates a rise in heterogeneity.

SOURCE: Based on banks' reports.

In general, a notable degree of heterogeneity may be discerned in non-residents' stock and bond activities on the Tel Aviv Stock Exchange for the major part of the year (see Figure 3.6). Non-residents' activities in NIS-forex derivatives (in the OTC market) were substantial in extent but relatively low in heterogeneity. From a comparison between non-residents' activities on the Tel Aviv Stock Exchange and their activities in NIS-forex derivatives, a certain correlation may be discerned in the activities of both types of instruments. It may also be seen to be largely homogeneous from January to May 2004.

The concentration of foreign investors' activities such as heterogeneity is demonstrated in their activities on the Tel Aviv Stock Exchange and in NIS-forex derivatives. Non-residents' activities on the Tel Aviv Stock Exchange are relatively concentrated from two aspects: they invest in only a small number of key companies and have more substantial holdings in these companies. From the aspect of Israel's external balance, realization of a large investment as occurred in 2004, has a significant impact on the balance. From the aspect of trading in securities, a certain lack of balance is created as a result of their activities, as their impact is particularly high on key stocks and negligible on others. Non-residents' activities in NIS-forex derivatives is perceived to be concentrated as a small number of foreign financial institutions are responsible for large trading volumes. It is nevertheless reasonable to assume that at least some of their activities are carried out for their clients.

The diminished involvement of the public sector in the financial markets is a long-term process that acts as a buttress for financial stability, as a result of a more efficient allocation of resources and more accurate pricing of assets and risks.

This process was conspicuous this year in a number of areas. The policy of non-intervention of the Bank of Israel in the foreign-exchange market: for some years now, the Bank of Israel has not intervened directly in the foreign-exchange market and allows the market mechanisms to fix the exchange rate process. This was obvious this year in the purchase of foreign-exchange by households in the first quarter and against the background of substantial foreign-exchange purchases by many central banks in the emerging markets that were observed during year, in an effort to protect a fixed exchange rate from appreciation; a number of steps taken by the government to reduce its intervention in economic and financial activities: the government's steps to reduce the tax burden and to close the fiscal deficit were noted, inter alia, in the lighter government debt burden and the deflection of resources in the economy to a private, efficient investment; steps towards privatization accompanied by encouragement of sectoral competition contributes to Israel's economic efficiency; reduction of government financial mediation – the reform in pension savings and the privatization of the banks reduces government involvement in the management of financial mediation. Privatization of the banks is particularly important to FS as it promotes competition in mediation of the banks, replaces government business management with private business management and reduces, to some degree, "public responsibility" for stability of the banking system on the basis of the fact that the government is the owner of a large bank; reduced government intervention in pension savings both in its management and in the issue of financial instruments for pension savings reduces the "insurance and subsidy" that generates government intervention in these savings and contributes to efficient management. In addition, the private sector replaces the government in the issue of financial instruments. Evidence of this may already be seen in the issue of private bonds to replace foreign-currency linked bonds such as *Gilboa* and the issue of index-linked bonds (*Glila*).

The lack of global equilibration was perceived as a main potential threat to global FS because of the fear of rapid deflection of international capital. The state of the American economy compared to the rest of the world is at the base of the lack of balance. On the one hand, the American economy is growing at a discernible rate compared to the rest of the world and on the other, its trading and fiscal deficits ("twin deficits") are at record levels. The growth in the American economy is slanted towards consumption and financed by external debts. There is a significant fear as to the ability to equilibrate and to contend with this situation over time.[23] On the other hand the central banks in China and others in South-Eastern Asia accumulate foreign currency from FS considerations and in order to protect the exchange rate and invest the surplus in American bonds that finance the United States deficit. A change in their

[23] A further lack of global balance is the growth imparity between the various economies: in the United States and China growth is fast and tows emerging economies in its wake; in contrast, growth is sluggish in the Euro Bloc and Japan. According to various estimates (Global Insight 12/04) as long as policy is not changed in the United States to increase savings (reduce the deficit), and policy does not change in the rest of the world to reduce savings (by increasing private consumption), the burden of reducing the deficit in the current account will fall on the money market.

behavior, such as fluctuation in the fixed exchange rate that would lead to the reduced accrual of surpluses or to the investment of the surpluses in currencies other than the dollar is likely to weaken the American currency even further, to create difficulties in financing the United States deficit and even to inhibiting growth in the United States and elsewhere in the world.

Against this backdrop and tendency in the United States to consumption in addition to the low rate of savings, the fear also exists of a sharper rise in interest than forecast and/or of a rapid devaluation of the dollar that will not allow world markets to adjust gradually to the new situation. The resulting outflow of capital is likely to be diverted in a number of directions according to the nature of the crisis. On the other hand, growth in the United and the fact that the dollar is the central reserve currency reduces the fear of such a situation.

This process had already had an impact on the Israeli economy in 2004, when it facilitated the Bank of Israel's interest reduction process despite the evident external interest gap, as the weakness of the dollar throughout the world lessened the pressure to devaluate the NIS that had been generated by the reduction in interest. It may be, also, that global uncertainty surrounding this subject restrained the adjustment process in the household sector at the beginning of 2004.

Warning of the lack of the global equilibration was inherent in the potential debt and exogenous financial crises. Alternatively, a process of rapid interest increases in the United States would probably have an appreciable effect on the management of Israel's monetary policy.

Israel's interest environment and the narrow interest gap, are unfamiliar and the economy's ability to contend with them, over time, at this level is unclear. In particular, the fear exists that the markets' reaction to changes in the interest gap is not linear, and is liable to generate an acute change ("phase shift") in investors' behavior. Nevertheless, the manner of entry into environment testifies to adjustment and stability: this was achieved as a result of the improvement in Israel's economy and the impact global of developments, with the improved resistance of the economy and implementation of long-term processes that support financial stability. Furthermore the narrow interest gap is not unique to Israel. A number of emerging economies maintain a lower level of interest than that of the American dollar that had been perceived until recently as a low-risk currency. It may be that the underlying lack of global equilibration is greater than the risk of holding dollars. This increased risk may in future lead Israel also to a negative interest gap vis-à-vis the dollar. It should be pointed out that interest on the NIS is already lower than that of developed countries (England, Australia, and New Zealand).

5. MAIN THREATS TO FINANCIAL STABILITY

Identification of future threats is an inherent part of a financial stability study, apart from lessons learned from the past. Early identification assists in neutralizing a

threat as information reaches the markets gradually, with no surprises as the threat arises and before its development or, in the event of need, by the operation of policy instruments.

A number of potentially key threats to financial stability (FS) were manifest at the end of 2004, the evident lack of global stability in financial markets such as the weak American currency and inequality of growth between the economic blocs; multiplicity of financial changes in Israel in the near future, such as separation of the provident funds from the banks; the bill for the appointment of government bond specialists; the long-term deflection of investments, such as pensions, that until now were restricted mainly to government bonds, to a variety of internal and external holdings. It is difficult to estimate the cumulative effect of the changes that have taken place such as forex liberalization and the tax reform as well the changes that are yet to affect financial stability. It should be pointed out that international experience shows that countries are more exposed to a lack of financial stability in times of regulatory changes.

The low level of interest in Israel provides the thinnest of cushions against acute and unforeseen crises, whether external or internal. The pronounced decrease in volatility and the credit gaps in Israel and elsewhere have raised the suspicion that it is an over-optimistic expression of investors' assessment of the risk rather than a reflection of the true risk. This is evident against the background of the record levels of movement of capital to emerging economies noted this year. A rapid change in the expectations of financial markets is likely to entail a sharp counter-reaction. The external finance environment is expected to be less relaxed in the future because of global interest increases and the forecast slowdown in growth.

APPENDIX 1: A STRUCTURED ANALYSIS OF THE CRISIS PROCESS – THE TRANSITION FROM FINANCIAL STABILITY TO FINANCIAL CRISIS

This Appendix presents a schematic description of the development process of a financial crisis[1] - (that we have referred to as a "challenge to stability process") that may serve as a general framework for the analysis of financial crises with diverse characteristics. The crisis process[2] - that is, the transition of the financial system in the economy from a state of financial stability to financial crisis – may be characterized by the six stages specified below:

1. *The roots of the process/crisis* – The roots of financial crises stem from the shaky infrastructure of the financial system from three main aspects: (a) an insufficiently competitive/efficient structure of the array of financial institutions and structural problems as well as a lack of sophistication of the financial markets; (b) distortions in yields, compared to risks, on various financial assets and the relative expediency of use of the different financial holdings, as a result of involvement of authorities of the State in the financial system by various means;[3] (c) faulty adjustment of the financial system to the deterioration of underlying financial factors in the economy, especially at the point of turning downwards from a peak.
2. *Construction of injury* – The fact that roots of a process- crisis/shaky infrastructure exist, provides an incentive for financial institutions, players in the financial markets and for the public at large. Exploitation of these incentives creates a gradual process of the construction of injuries in the financial system that reflect both a non-optimal composition of the assets and liabilities portfolios of the financial institutions and of the public as well as an over-exposure to financial risks of various sorts of the different sectors in the economy.
3. *The appearance of a shock* – The substantiation of unforeseen events – whether globally or in the domestic economy, in the economic, financial fields, whether actual or geo-political; in the foundations of the financial system or in other fields – is liable to create a crisis in the financial system, especially if it is highly vulnerable.
4. *Eruption of the crisis* – The appearance of a crisis causes a reaction on the part of financial institutions, of players in the financial markets and of the public at large, the force of which depends on the force of the crisis, the degree of injury and their vulnerability and that of the financial markets before its appearance. When the force of the crisis and/or the injury is severe, the response of the financial system will be exceptionally vigorous and, according to the foregoing definition, will be

[1] See footnote 3 to part III text.

[2] The description of the crisis process here is appropriate not only for instances in which the injury to the financial system and the economy is severe – when it is customary to refer to such instances as a financial crisis, but also to instances in which injury to the stability of the financial system is of a lesser degree.

[3] Economic policy is designed to attain appropriate aims such as growth and price stability but on occasion the means that are adopted for the attainment of such aims create distortions in the financial system, that generate exceptional risk-taking by players.

defined as a financial crisis. The eruption of a crisis reflects the extent of the shock to the financial system against the backdrop of the injuries that it contains. The eruption may be expressed by a number of tracks/transmission mechanisms in the financial system, such as the collapse of financial institutions, an acute alteration in the exchange rate, a discernible reduction in share prices, a sharp drop in bond prices (a rise in yields), a significant increase in the cost of financing the debt in the economy and more.

5. *Inhibiting the eruption and return to routine* – The end of the eruption once it has exhausted itself, or as a result of policy measures adopted by the authorities in reaction to it. As a result of the inhibition, the financial system remains initially at a high level of sensitivity ("relative stability") and only subsequently, and usually gradually, does it return to a state similar, but not identical to the state that had existed before the crisis.
6. *Repercussions and damage* – The eruption of the crisis leads to disruptive functioning of the financial system, to the substantiation of risks and losses and on occasion also to actual damage. Occasionally, the repercussions are positive in that both the public and the authorities have learned to map the risks and to recognize the room in which they can maneuver so that the eruption of the crisis is used to carry out reforms.

APPENDIX 2: TABLE OF THE MAIN INDICES OF FINANCIAL STABILITY

This Appendix presents the main indices[4] analyzed with the aim of obtaining a general picture of the financial stability in the economy in its external activities and in foreign currency transactions. The table is supported by the theoretical analysis approach presented in Appendix 1.

1. Roots of the process of challenge to financial stability

This section presents the various indices that analyze three areas in which conditions are likely to develop that will encourage the creation of financial injury: the degree of structural refinement of the NIS-forex market; the external yield to risk ratio and that of the NIS vis-à-vis foreign currency; the real situation in Israel and overseas and the main global financial developments. Deterioration in any of these areas, especially if

[4] In most, but not in all, indices an increase denotes a deterioration of financial stability. The directivity of an index may be discerned from the indication of its critical value; a high critical value denotes a fear that the index will increase, a low critical value denotes a fear that the index will decrease, a bilateral critical value denotes a fear of a sharp change in the index; the quarterly data are an average of three calendar months unless otherwise indicated; * quarterly aggregate; ** at the end of the quarter. A figure that is emphasized in the table indicates a figure that deviated from the historical trend of its development.

prolonged, is likely to lower financial resistance of the economy to the development of financial events that potentially challenge Israel's financial stability.

a. The degree of refinement of the internal NIS-forex currency market

The degree of refinement of the NIS-forex market[5] is pivotal in assessing financial stability because of the fear that a lack of refinement – such as the absence of sufficient depth to the market at times of low liquidity or tradability or because of great homogeneity – will not inhibit but is likely to exacerbate the development of an exceptional financial event. In another instance, lack of refinement is likely, in itself, to generate an exceptional financial event.

It should be noted that an increase in the level of the trading margins denotes a reduction in the market's refinement because of the fear that it is an indication of the disadvantages of competing market forces that will act to reduce the buy-sell margins, for instance because of the lower number of market players than desired (see Table 1).

Appendix 2 Table 1
Efficiency of the Financial Markets - the Shekel/Foreign Currency Market – 2004

	2004				The critical value for comparison (quarterly)		
	I	II	III	IV	Average	Low	High
1. Average daily trading volume in foreign currency	750	732	646	762	693	631	754
2. Balance of open contracts in financial derivatives (OTC)	12,731	11,649	12,317	14,516	13,409	11,561	15,257
3. Share of foreign financial institutions in the total trading volume in foreign currency (%)	43.9	48.6	46.1	46.4	45.0	40.5	49.5
4. Heterogeneity of the activity of foreign residents in shekel/ foreign currency derivatives (OTC)	0.48	0.44	0.37	0.32	0.41	0.33	0.48
5. The actual volatility of the shekel/ dollar exchange rate (daily in annual terms, %)	5.0	4.1	3.0	5.0	6.0	2.6	9.4
6. Shekel/dollar buy/sell spread	58	50	34	34	57	38	76

SOURCE: Reports of the banks and processed data of the Foreign Exchange Activity Department.

b. Yields and risks in the economy and of the economy vis-à-vis abroad

The yield ratios in Israel and those of the economy vis-à-vis abroad are determined on the basis of a range of simultaneous developments. They are of central importance in assessing financial stability because of the force and speed of their impact on the short-term flow of capital to and from the economy and because they may have an inherent financial distortion and not reflect the market forces or because they are not sustainable.

[5] See footnote 9 to part III text above.

The country risk is measured by the risk premium compared to developing and developed economies, its rating and credit rating. The exchange rate risk is measured by the de facto volatility of the exchange rate and the standard deviation embodied in the options. The yield to country risk premium that is measured by means of the long-term yield gap divided by the risk premium of the economy indicates, inter alia, the degree of the economy's attractiveness to long-term investments from overseas. An increase encourages the injection of capital into the economy and vice-versa. The yield to exchange rate risk ratio that is measured as the short-term yield gap divided by the exchange rate risk denotes, to a greater extent, the attractiveness of a short-term movement of capital (see Table 2).

Appendix 2 Table 2
The Ratio of Return to Risk compared to Abroad and in Foreign Currency – 2004

	2004				The critical value for comparison (quarterly)		
	I	II	III	IV	Average	Low	High
1. Interest rate spread between central banks - the Bank of Israel relative to the FED (%)	3.5	3.0	2.6	2.1	5.3	2.1	8.4
2. The yield spread between government of Israel shekel bonds and US government bonds (3-month, %)	3.6	3.2	2.8	2.1	4.9	2.2	7.7
4. The yield spread between government of Israel shekel bonds and US government bonds (10 months, %)	3.6	3.2	3.5	3.2	4.7	2.1	7.3
6. Local annual rate of inflation (%)	–2.5	–0.7	0.6	1.0	0.9	–4.2	6.0
7. Difference in rates of inflation between Israel and the US	–4.3	–3.6	–2.1	–2.4	–1.5	–6.4	3.5
8. Rating of the country's risk (out of 100 percent)	58	60	61	–	57	53	61
9. Standard & Poor's rating of the country's risk	A–	A–	A–	A–	–	–	–
10. The yield spread between government of Israel dollar bonds and US government bonds (10-year)	103	116	108	100	120	88	153
11. Ratio of Israel's risk premium index to that of the emerging economies (EMBI) (%)	24.1	24.1	23.9	25.9	22.0	18.9	25.2
12. Implicit standard deviation derived from 3-month shekel/dollar options of the Bank of Israel (expected volatility, %)	5.7	5.0	4.4	5.2	7.2	4.2	10.3
13. Ratio of the 10-year yield spread to the country's risk premium	3.52	2.80	3.23	3.21	3.82	2.64	5.01
14. Ratio of the 3-month yield spread to the exchange rate risk (implicit standard deviation)	0.64	0.64	0.63	0.40	0.68	0.54	0.82

SOURCE: Reports of the banks, information from international companies and the processed data of the Foreign Exchange Activity Department

c. The internal and external effective activity and main global financial trends.
An exceptional and rapid deterioration or amelioration in the discrete internal effective activity and its adjustment to the rest of the world is counted in no small number of researches as a central factor in the development of financial crises. Israel's strong financial links with the rest of the world and the speed of financial transmission necessitates monitoring the main global financial trends. See Tables 3 and 4).

Appendix 2 Table 3
Real Economic Activity – 2004

	2004				The critical value for comparison (quarterly)		
	I	II	III	IV	Average	Low	High
1. The annual real rate of growth (%)	1.0	1.7	1.6	2.9	0.7	–0.9	2.3
2. The government deficit (+) relative to GDP (%)	4.5	4.3	3.9	3.7	4.8	3.9	5.6
3. The ratio of government debt to GDP	1.04	1.06	1.04	1.04	1.03	1.02	1.05
4. The ratio of the annual deficit (+) in the current account to GDP (%)	–0.001	–0.001	–0.004	0.002	0.002	–0.007	0.011

SOURCE: Reports of the banks, government sources, Central Bureau of Statistics and processed data of the Foreign Exchange Activity Department.

Appendix 2 Table 4
Main World Developments – 2004

	2004				The critical value for comparison (quarterly)		
	I	II	III	IV	Average	Low	High
1. Real rate of growth in GDP in the developed countries (%)	5.5	4.8	4.7	4.2	4.1	2.8	5.4
2. Rate of growth in the volume of world trade (%)	16.1	26.3	–	–	–	–	–
3. Yield on shares abroad (NASDAQ) (%)	0.4	0.4	–1.9	4.5	1.8	–2.5	6.2
4. Volume of capital movements to emerging economies ($ billions)	23.1	19.8	17.8	–	17.3	10.8	23.8
5. Index of risk averseness of investors worldwide	–1.55	–1.56	–1.53	–1.90	–0.6	–2.3	1.2
6. Change in the euro/dollar exchange rate (%)	–0.1	–0.3	0.2	3.1	0.9	–1.3	3.2
7. Actual volatility in the euro/dollar exchange rate (daily, in annual terms, %)	12.9	11.5	9.3	8.3	9.9	7.2	12.5
8. Implicit volatility of the euro/dollar exchange rate	11.1	10.8	9.9	10.2	10.3	9.5	11.2

SOURCE: IMF, Merrill Lynch, Bloomberg and processed data of the Foreign Exchange Activity Department

2. Assessment of financial resilience (vulnerability)

This group of indices examines Israel's financial stability on the basis of the balance sheet stability approach – for the economy vis-à-vis abroad and for the different sectors that are active in foreign currency.[6] For this purpose, the total external exposure of the economy is examined as well as the structure of liabilities and assets and the extent of exposure of the various sectors to changes in the exchange rate (see Tables 5 and 6). The analysis is intended to assess vulnerability of the financial system to potential external crises and to the development of exceptional financial events as well as vulnerability that emanates from the structure of the various financial exposures.

Appendix 2 Table 5
The Resilience of the Economy with Respect to Events Abroad – 2004

	2004				The critical value for comparison (quarterly)		
	I	II	III	IV	Average	Low	High
A. Liabilities							
1. Ratio of foreign liabilities to GDP	1.13	1.16	1.12	1.09	1.06	0.96	1.16
2. Ratio of the gross external debt to GDP	0.63	0.64	0.62	0.61	0.63	0.60	0.65
3. Share of short-term debt in the total gross external debt (%)	41.7	40.3	40.5	40.4	42.2	40.1	44.2
4. Share of liquid liabilities in total foreign liabilities (%)	59.9	60.5	60.7	60.5	59.6	58.6	60.6
B. Surplus of Liabilities							
1. Ratio of the surplus of foreign liabilities to GDP	0.31	0.32	0.30	0.27	0.28	0.24	0.33
2. Ratio of the net external debt to GDP	–0.07	–0.08	–0.08	–0.09	–0.05	–0.09	–0.02
3. Ratio of the gross short-term external debt to short-term debt assets	0.50	0.47	0.47	0.46	0.51	0.47	0.55
4. Ratio of the gross short-term external debt to the Bank of Israel's foreign exchange reserves	1.13	1.08	1.09	1.09	1.16	1.07	1.25
5. Ratio of M2 balances to the Bank of Israel's foreign exchange reserves	2.37	2.30	2.41	2.47	2.40	2.31	2.50
C. Assets							
1. Ratio of the economy's assets abroad to GDP	0.82	0.85	0.82	0.82	0.78	0.71	0.85
2. Proportion of shares in the economy's assets abroad (%)	10.4	10.2	10.6	10.5	8.8	6.8	10.9
3. Share of direct investment in the economy's assets abroad (%)	16.1	15.9	16.4	16.2	14.4	12.2	16.6
4. Proportion of tradable shares in the economy's assets abroad (%)	8.4	8.2	8.6	8.4	6.7	4.5	8.9

SOURCE: Reports of the banks and processed data of the Foreign Exchange Activity Department

Appendix 2 Table 6
The Resilience of Foreign Exchange Activity of the Non-Banking Private Sector – 2004

	2004				The critical value for comparison (quarterly)		
	I	II	III	IV	Average	Low	High
1. Ratio of net liabilities in foreign currency of the non-banking private sector to GDP	–0.16	–0.19	–0.18	–0.17	–0.13	–0.19	–0.06
2. The share of the gross debt in foreign currency of the non-banking private sector in the sector's total debt (%)	33.8	33.7	33.7	33.1	34.9	33.1	36.8
3. Share of gross assets in foreign currency of the non-banking private sector in the sector's total assets (%)	4.7	4.7	4.7	4.6	4.6	4.4	4.8
4. Share of foreign currency deposits of the non-banking private sector in the sectors' total deposits (%)	28.3	28.9	29.0	28.8	28.3	27.5	29.1
5. Ratio of the surplus of net shekel assets of foreign residents to GDP	0.006	0.003	0.001	0.008	0.003	–0.008	0.014
6. Ratio of surplus of net liabilities in foreign currency of the business sector to GDP	0.05	0.03	0.03	0.01	0.06	0.03	0.10
7. Ratio of surplus of net assets in foreign currency of households to GDP	0.21	0.21	0.21	0.20	0.20	0.19	0.21
8. Ratio of surplus of net assets in foreign currency of institutional investors to GDP	0.03	0.03	0.03	0.03	0.02	0.02	0.03

SOURCE: Reports of the banks and processed data of the Foreign Exchange Activity Department.

3. Analysis of events that present a potential challenge to financial stability

This group of indices analyzes exceptional developments in Israel's financial activity that present a potential challenge to financial stability. Identification[7] of these events enables a more efficient monitoring of financial stability (See Table 7).

[6] For a more extensive consideration of the importance of the F.S. Index see Part 3 in this Section.

[7] It is possible to differentiate between indices in which a deviation indicates events that present a potential challenge to financial stability – for example, a sharp change in the NIS –Dollar rate – and other indices that assist in assessing the severity of the financial event – for example, changes in the foreign exchange risk or in capital movements.

Appendix 2 Table 7
Indices for the Identification and Evaluation of Events with the Potential to Undermine Stability – 2004

	2004				The critical value for comparison (quarterly)		
	I	II	III	IV	Average	Low	High
1. The difference between the short-term yield spread and the interest rate spread between the central banks (%)	0.11	0.17	0.18	–0.01	–0.31	–1.05	0.44
2. The change in the shekel/dollar exchange rate (%)	1.0	0.1	–0.1	–1.2	–0.2	–2.1	1.6
3. The investment by individuals in mutual funds that invest abroad and in foreign currency	287	–7	–151	–63	46	–148	240
4. The sale of investments in tradable Israeli securities in the secondary market in Israel and abroad by foreign residents	–49	–58	–45	227	–4	–138	146
5. The withdrawals of foreign residents from foreign resident accounts	39	223	15	–116	80	–56	216
6. Net purchase (+) of foreign currency for the short term (whose sensitivity to the interest rate is high) by foreign residents	199	62	–31	–456	–77	–495	341
7. Net purchase (+) of foreign currency for the short term (whose sensitivity to the interest rate is high) by Israeli residents	47	428	–157	231	–9	–570	553
8. Net purchase of bonds by foreignresidents in the emerging economies ($ billions)	13	9	–	–	8	2	15

SOURCE: Reports of the banks and processed data of the Foreign Exchange Activity Department.