Chapter 4
The Financial System

- The global financial crisis worsened in 2008 and threatened to paralyze the world's financial system. As a result of the crisis, a serious liquidity shortage developed in the global financial system, including at the very core of the interbank money market. Many banks and financial institutions worldwide collapsed or encountered serious difficulties, and an unprecedented level of government injection was required in order to save them. The financial crisis encroached heavily on real activity as well, and by the second half of the year nearly all of the world's countries were suffering from a considerable downturn in activity and part of them had entered a recession.
- The financial markets in Israel were hit by the crisis as badly as other financial markets worldwide, and their reaction reflected concern over the implications of the crisis for real activity in Israel: Prices of shares and corporate bonds fell heavily, the volatility in the markets increased greatly and the yield margins in the credit market rose sharply, thereby increasing the cost of raising credit in the economy. In addition, the exchange rate of the shekel appreciated sharply until June, followed by a large depreciation later in the year.
- The profitability of the banks and the insurance companies in Israel was also badly hit in comparison with previous years, although despite the deterioration in their position, the financial institutions in Israel remained resilient compared with those abroad. This was due to their favorable situation prior to the crisis, and because the banking system in Israel is conservative and operates under comprehensive regulation and close supervision. Also alleviating the adverse impact on Israeli compared with foreign institutions were their limited exposure to toxic assets[1] worldwide and their low reliance on the local and international capital markets for raising sources.
- The domestic corporate bond market was the center of risk for the local financial system due to its rapid and unbalanced development during recent years, which was reflected by the increasing amount of capital raised for financing investments in real estate abroad—an industry that was initially at the center of the financial crisis.
- Growing uncertainty and savers' desire to move to lower risk channels of savings led to increased withdrawals from mutual funds specializing in

[1] Toxic assets are sophisticated financial instruments that were developed worldwide during recent years and retrospectively proved to be of inferior quality and very risky.

bonds and from the provident funds. These funds were compelled to realize large volumes of assets, which spurred the rise in yields in the corporate bond market.

- Due to the seriousness of the crisis, the Israeli government and the Bank of Israel adopted a number of measures that were aimed at expanding the availability of credit in the economy and reducing its cost, and at encouraging real activity. The measures adopted included: the granting of guarantees to local banks for raising capital, the establishment of Manof (leverage) funds,[2] large cuts in the interest rate, and intervention in the foreign currency market and the government bond market.

[2] See Section 2c below.

1. MAIN DEVELOPMENTS

In 2008 the global financial system experienced one of its worst ever crises.

In 2008 the global financial system experienced one of its worst ever crises (hereinafter: "the global crisis"). The crisis, which is still in full spate and is actually intensifying, emerged at the beginning of 2007 in the subprime mortgage market in the USA, gradually spread to other markets and sectors in the USA and Europe, and worsened in September 2008 with the collapse of the Lehman Brothers Investment Bank and other world leading financial institutions. The crisis eroded the credibility of the functioning of the global financial system. As a result, the money market, the securitization market and the interbank market were almost completely paralyzed, and a serious liquidity shortage developed in the global financial system. Major financial institutions worldwide collapsed while other institutions reached the verge of collapse, requiring an unprecedentedly large government injection in order to save them. The assessment of the risks in the markets rose sharply and prices of the majority of financial assets worldwide plummeted, concurrent with increased correlations between global markets. Real estate prices, which had reached the situation of a bubble in certain countries, also fell heavily. Due to the credit crunch, which adversely affected business sector activity and heavily eroded the prices of financial assets and thereby harmed private consumption, the financial crisis spread in full force to real activity as well. The pace of growth in the entire world slowed appreciably, to the extent that a global recession was feared (see Section 2).

The local financial system also experienced a major shock as a result of the global crisis.

The implications of the global crisis were clearly apparent in the local financial system and in real activity in the economy, and the extent of the impact increased in the last quarter of the year as the global crisis worsened: Prices of shares and corporate bonds fell heavily, the volatility in the markets increased greatly, the risk margins in

the bank and interbank credit markets rose sharply and increased the cost of credit in the economy, business sector issues of capital ceased almost entirely, the economy's risk premium rose, the flow of nonresidents' financial investments slowed and became negative in the second half of the year,[1] and the profitability of the business sector, including the banks and insurance companies, declined. Volatility in the foreign currency market increased greatly as well and following a large appreciation in the first half of the year, the shekel depreciated heavily in the second half, and the exchange rate reverted close to its level at the beginning of the year. This resulted from Bank of Israel intervention in trading from March and the worldwide strengthening of the dollar. Growth in the economy fell considerably in the last quarter of the year, and for the whole of 2009 a recession is expected in view of the fact that the Israeli economy is a small and open economy that is heavily dependent on export markets (Table 4.1).

The financial institutions in Israel were more resilient in the face of the crisis than their counterparts abroad. However, the local financial markets, principally the equities market and the corporate bond market, reacted strongly to the crisis.

Despite the turbulence experienced by the local financial system, the money market and the financial institutions in Israel, including the local banking system, were more resilient in the face of the crisis than their counterparts abroad. The response to the crisis in Israel was centered in the financial markets: The equities market and the corporate bond market reacted very strongly, no less than in the developed economies and the other emerging markets, and sometimes even more strongly. This response reflected concern over the implications of the global crisis for Israeli companies' profitability and their ability to repay their debts on time. The local market's negative response was particularly apparent among companies from the real estate industry, principally among those which mainly operate abroad.

The main reasons for the relative resilience displayed by the local financial system compared with its counterparts abroad were the sound position of the economy prior to the crisis, following several years of rapid growth and the management of a responsible macroeconomic policy. These were reflected by the current account surplus, the high level of the foreign exchange reserves, the low budget deficit, the decline in the debt/GDP ratio, the relatively low tax burden on firms and households, high business sector profitability, a conservative banking system that is subject to comprehensive regulation and close supervision and whose resilience and capital ratios improved considerably during recent years, and real estate prices that hardly rose at all during recent years, in contrast to the bubble situation in part of the world's countries (Figure 2.15 in Chapter 2).

The local financial system's relatively moderate response to the crisis also resulted from Israeli financial institutions' limited exposure to complex financial assets abroad, the absence of appreciable money and securitization markets in Israel, the low level of foreign banks' involvement in local financial intermediation, and from the local banking system's limited reliance on raising sources in the local or overseas capital markets.

[1] Without taking into account Teva's acquisition of Barr, whereby Barr shareholders were allotted Teva shares.

Table 4.1

Main Stability Indicators of Israel's Financial System, 2003–08

(percent)

	2003	2004	2005	2006	2007	2008
A. The global environment						
Rate of growth of global GDP	3.6	4.9	4.4	5.1	5.2	3.4
Increase in world trade	5.4	10.7	7.6	9.3	7.2	4.1
Emerging markets' bond index (EMBI) spread	5.6	4.4	3.2	2.0	1.9	3.8
VIX (volatility) index of Chicago Board Options Exchange	22.0	15.5	12.8	12.8	17.5	32.7
B. The domestic environment						
Government debt/GDP ratio	97.4	96.0	92.2	83.7	77.6	76.3
Net external debt/GDP ratio	-4.1	-8.2	-16.7	-22.1	-23.6	-24.7
Private credit/GDP ratio	134.8	134.0	138.6	138.4	148.8	142.8
Business-sector credit/product ratio	131.8	136.2	137.0	137.0	148.7	137.9
Household credit burden (credit/disposable income ratio)	62.0	61.3	60.7	56.8	59.4	58.6
Israel's risk premium (the CDS spread)	0.60	0.41	0.30	0.22	0.32	1.60
Yield gap between 10-year government shekel bonds and 10-year US T-bonds	4.68	3.30	2.09	1.52	0.94	2.24
C. Financial assets						
Risk indices (annual averages)						
Implied volatility of:						
Exchange rate	10.4	6.2	6.3	7.3	9.3	15.1
Tel Aviv 25 share price index	26.7	20.0	19.3	21.1	21.2	33.8
Actual volatility of:						
Exchange rate	7.1	4.1	4.6	5.3	7.0	14.5
General share price index	16.6	12.6	12.9	13.0	14.1	24.2
Unindexed government bonds	3.3	1.5	1.5	1.2	2.0	2.5
Indexed corporate bonds	1.7	0.9	1.6	1.1	2.3	9.2
Prices and yields (in annual terms)						
Change in NIS/$ exchange rate (during the year)	-7.6	-1.6	6.8	-8.2	-9.0	-1.1
Change in effective exchange rate (during the year)	4.7	4.3	1.1	0.0	-3.1	-10.1
Change in general share price index (during the year)	55.7	17.4	33.2	5.4	23.3	-46.4
Yield to maturity of 5-year unindexed government bonds	8.4	6.6	5.6	6.0	5.2	5.2
D. Resilience of the financial system						
The banking system[a]						
Risk-weighted capital ratio	10.3	10.8	10.7	10.8	11.0	11.5
Ratio of balance sheet credit ratio to GDP	88.8	83.6	82.0	80.3	82.5	86.3
Ratio of problem loans to total credit	10.5	10.5	9.5	8.4	6.7	6.8

(Cont.)

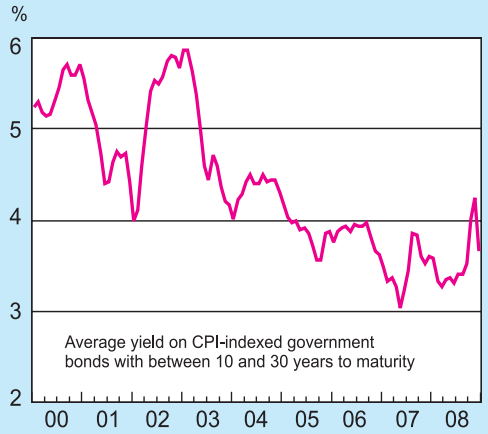
Table 4.1 (cont.)
Main Stability Indicators of Israel's Financial System, 2003–08

(percent)

	2003	2004	2005	2006	2007	2008
Insurance companies[b]						
Core capital[c]/assets ratio	5.3	5.7	5.3	5.4	5.6	5.6
Share of risk assets in total assets	22.1	25.7	35.6	42.1	46.4	43.2
Provident funds[d]						
Share of liquid accounts in total liabilities	45.0	47.4	50.1	52.3	56.5	57.0
Ratio of liquid assets to liquid liabilities	10.9	13.2	23.6	22.6	18.4	23.2
Provident funds' share in government indexed bonds market	45.7	43.5	39.7	34.1	26.0	21.5
Share of risk assets in total assets	34.6	38.4	49.9	58.6	68.0	50.5
Market liquidity						
Change in total daily turnover in the markets	-4.8	9.0	35.6	27.1	42.7	4.5
Bid-ask spread in NIS/forex market	0.15	0.10	0.08	0.08	0.08	0.11

[a] The figure for 2008 is to September.
[b] The figure for 2008 is to June.
[c] Including assets held against with-profits schemes, in which the risk is borne by the participant and not by the insurance company.
[d] Including central severeance pay funds and advanced study funds.
SOURCE: Based on IMF data and data of the Capital Markets, Insurance and Savings Division of the Ministry of Finance.

Figure 4.1
Real Long-Term Interest, 2000-08
(monthly average)



SOURCE: Bank of Israel.

The banks' and the insurance companies' profitability suffered in 2008.

The banks' profitability suffered in 2008 due to the materialization of market risks and the deterioration in the real economy. The insurance companies also suffered a large erosion in their profitability and actually recorded losses in the third quarter as the result of high exposure to market risks in their nostro investments and a decline in fees, which are dependent on their performance. In order to strengthen their stability, the banks and the insurance companies are endeavoring to increase their capital in accordance with the supervisory authorities' requirements. The provident funds managed to prepare themselves for the growth in withdrawals, and their liquidity ratio actually increased towards the end of the year although this was concurrent with high negative yields.

Despite the crisis, the long-term real interest rate on government bonds remained low in 2008.

Unlike in previous crises, the long-term real interest rate on government bonds remained low in 2008, like its level in 2007–an average of 3.5 percent (Figure 4.1).

Factors that supported a continuation of the low interest rate environment in 2008 were the high level of private saving, which increased demand for financial assets, principally low risk assets–due to increased uncertainty; globalization and capital movements, which strengthened the relationship with the low interest rates worldwide; and government saving, which despite a large decrease during the year still remained positive and decreased the government's borrowing requirements. In contrast to the low level of the long-term real interest rate on government bonds which serves as a benchmark for the business sector's financing costs, the risk premium required on credit for financing the business sector rose sharply in 2008 and increased the cost of raising capital in the economy, against the background of the business sector's increased risks and deterioration in its real position.

A component of the local financial system that suffered far more during the year, and which was the center of risk for the local financial system, was the nonbank credit market. This market developed rapidly during recent years as the result of structural reforms in the long-term institutional saving industry, reduced government borrowing and institutional investors' tendency to take more risks in an attempt to achieve higher yields. This was against the background of the low interest rate environment, the growth in competition and the worldwide decline in risk premiums.

The center of risk for the local financial system was the nonbank credit market, which developed in an unbalanced and without proper diversification during recent years.

The rapid development of nonbank credit, which was reflected by the increased issue of bonds to the general public and institutional investors, diversified the sources of credit for financing the business sector and created effective competition to the concentrated banking system in Israel. But since nonbank credit expanded before institutional entities were able to develop an adequate infrastructure for assessing and monitoring its risks, and without the parallel development of a supervisory infrastructure and institutional restrictions for this credit, it grew rapidly and without proper diversification, thereby increasing its vulnerability to shocks.

As an example, nonbank credit to the real estate industry expanded rapidly because of the lack of sector-specific restrictions on this credit. The low cost of the credit prompted issuing firms to take more investment risks, as reflected inter alia by the allocation of a large part of the credit for financing leveraged investments in real estate projects abroad–an industry that was exposed to excessive price increases during recent years and became the focus of the global crisis. Institutional investors also showed an increased tendency to take risks: They extended credit without collateral, relying almost completely on the rating companies, and at historically low margins that did not accurately reflect the growing risk involved in investment.[2]

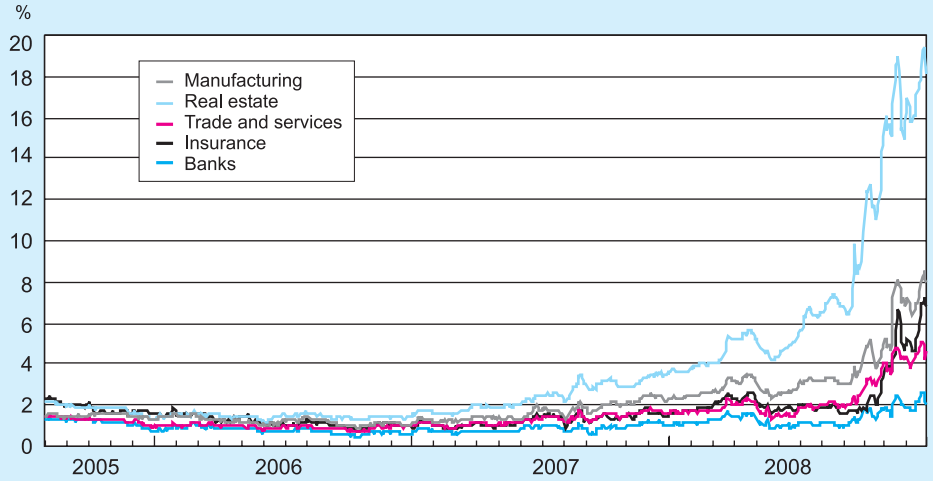
Due to the nonbank credit market's lack of balances, its vulnerability to external shocks increased.

Due to the nonbank credit market's lack of balances, its vulnerability to external shocks increased. As a result, it reacted strongly to the increase in risks and the materialization of part of them in the wake of the global crisis: the primary market contracted and dried up almost completely during the second half of the year, CPI-

[2] As an example, the spread between corporate bonds and government bonds contracted from an average of 1.5 percent in July 2005 to an average of 0.75 percent in September 2006, and rose to an average of 6.7 percent in the last quarter of 2008.

indexed corporate bond prices dipped by 17 percent, and yields and risk margins rose heavily, mainly in the second half of the year and especially among companies from the real estate industry (Figure 4.2).

Figure 4.2
Yield Gap between CPI-Indexed Corporate Bonds and Government *Galil* Bonds, by Industry,[a] July 2005 to December 2008



[a] The yield gap is calculated as the gap between the yield to maturity on corporate CPI-indexed bonds excluding convertibles, with yields to maturity of up to 60 percent and average duration of more than half a year, and that on government *Galil*-type bonds with an average duration of 5 years.

SOURCE: Bank of Israel.

The large rise in yields in the corporate bond market is connected to firms' higher credit risk resulting from the crisis, and from the rise in the liquidity premium due to the greatly increased withdrawals from the mutual funds and the provident funds.

The rise in yields in the corporate bond market is partly connected to the increase in the liquidity premium in this market, which resulted from the greatly increased withdrawals in 2008 from mutual funds specializing in investment in "other bonds,"[3] and from smaller scale withdrawals from the provident funds. The growing pace of redemptions mainly derived from the flight to lower risk investments in view of the increased uncertainty in the markets and the abnormal negative yields which the provident funds presented in the second half of the year. This resulted from the continued expansion in higher risk assets in their portfolios during recent years, without the investor public being adequately aware of the increased risk in the portfolios which the funds manage on their behalf.

As a result of the large withdrawals, the mutual funds and the provident funds had to realize large volumes of assets, including corporate bonds, thereby contributing to the rise in yields. This was in a market where the level of tradability is not high, due to the structural problems created by a large number of series of low market value, the lack of activity by foreign investors, the high proportion of the bonds in the portfolios of the mutual funds and provident funds (11 percent and 40 percent respectively in

[3] Corporate bonds accounted for 55 percent of these funds' assets at the end of 2007.

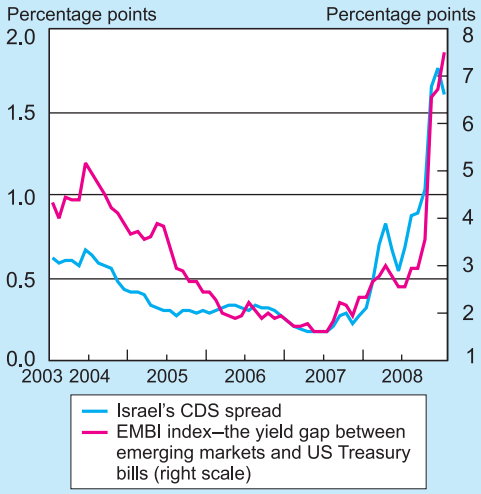
June), and the mutual funds' and provident funds' large share of the corporate bond market (10 percent and 27 percent in June respectively).

While the mutual funds' increased exposure to investment in corporate bonds during the years 20042007 was a direct result of the choice made by the investor public (by selecting a fund that specializes in this form of investment), at the provident funds, where specific investment paths only began to develop recently, such a direct connection does not yet exist. The question therefore arises whether the reforms in the provident fund industry, including the Bachar Reform, led to the transfer of the ownership and management of the provident funds from the banks to the insurance companies and private brokers, contributed to the provident funds' increased risk appetite.[4]

The growth in the risk appetite of the provident funds was typical of investors worldwide. The increase in risk appetite resulted from the low interest-rate environment, which prompted investors to seek a higher yield concurrent with their willingness to incur more risks.

The provident funds' increased risk appetite appears to have resulted from a combination of factors, principally background economic conditions and the structural changes in the industry. The search for yields resulting from the low interest rate environment increased the risk appetite of savers in Israel and worldwide, and not merely of the provident funds. This is apparent from the worldwide decline in risk margins until mid-2007 (Figure 4.3), and from the high accruals in Israeli mutual funds specializing in corporate bond investment.

Figure 4.3
Risk Premium of Israel and the Emerging Markets, December 2003 to December 2008



SOURCE: Bloomberg.

At the same time, regulatory changes in the provident fund industry since 2002 gave the funds complete freedom in the management of investments, with their investment regulations covering only stability restrictions and restrictions on investment diversification.[5] Other changes increased the transparency in the industry and simplified the possibility to move between different fund managers. All these contributed to growing competition in the provident fund industry and the Bachar Reform, which led to the banks' sale of the provident funds, mainly during 2007, further increased this competition.

The rapid increase in the provident funds' exposure to equities began back in 2003 and to corporate bonds, at the beginning of 2005, and can be attributed to the range

[4] For more details of the Bachar Committee's recommendations, see the Committee's Report of September 2004 and legislative changes in 2005.

[5] The reference is to restrictions on the rate of assets which a provident fund can hold in a particular corporation, or grant as loans, and on the rate of the amount issued of a single security which it is entitled to hold.

of previously mentioned factors. However, this cannot be taken as indicating that the reform measures were not in the right direction. It should be remembered that before the reforms, the financial system in Israel suffered from excessive government involvement, high risk and inefficiency, and from the oligopolistic banking system's concentration and control over nearly all levels of the financial system. Although it is therefore very important to preserve the main elements of the reforms, these need to be supplemented, principally by adapting regulation to the new structure of the financial system following the Bachar Reform. This should include the imposition of new restrictions on the nature and composition of the long-term saving portfolio and tightening the supervision over nonbank financial entities, which as a result of the reform took on the management of a substantial part of the public's savings. The Bachar Committee and the IMF have already made recommendations regarding the measures required. However, the more rapid than expected implementation of the reform led to the structural change before regulation was adapted to the new structure.

Although the reforms in the financial system during recent years helped to reduce the concentration and control of the banks over nearly all sectors of the financial system, the reforms need to be supplemented by adapting regulation to the new structure of the financial system following the Bachar Reform.

The reforms made a major contribution to increasing the competition and transparency in the financial system, but also increased institutional investors' tendency to prefer short-term yield considerations and to take excessive credit and market risks, inter alia because the reforms placed more emphasis on increasing the transparency of investment performance and less on the risks involved in investment. The result was an increase in the potential risk in the saving and investment products offered to the public and in the credit portfolio in the economy. The reforms also increased institutional investors' share of financial intermediation, reduced the banks' potential conflicts of interest, and spurred the competition for credit and for management of the public's assets. But this was before the institutional investors had established an adequate infrastructure for assessing and monitoring credit risks, before an adequate supervisory infrastructure for them was constructed, and before a legal infrastructure was instituted for preventing conflicts of interest in their activity.

In order to strengthen the financial system's stability, major regulatory procedures need to be applied for the purpose of reducing the risks in the financial system.

In view of all these factors, it would appear that in order to strengthen the financial system's stability, a number of important measures need to be taken which will reduce the risks in the financial system: (1) Increasing the supervision of nonbank financial entities, principally the insurance companies, which have become a financial intermediary managing a substantial part of the public's assets, either directly or via the provident funds and the mutual funds under their control;[6] (2) Reducing the potential conflicts of interest in the nonbank financial intermediaries' activity as underwriters, as credit suppliers and as managers of the public's savings, in the spirit of the regulations that were approved at the beginning of 2009; (3) Providing regulatory coverage for the activity of the rating companies in accordance with the principles determined in the developed countries, including the reduction in the weighting attributed to them in the assessment of securities, and action with respect to the moral failure involved in

[6] As a result, at the end of 2008 the insurance companies managed NIS 140 billion in life insurance plans, and also controlled 55 percent of the provident fund industry's assets and 37 percent of the mutual fund industry's assets (Table 4.2).

their activity in the event of identity of interests between them and the issuers of the debt which order and pay for the rating; (4) Increased transparency regarding the risks inherent in investment instruments and in the asset portfolio managed on behalf of the members, while imposing restrictions on the issue of over-sophisticated financial instruments whose risks are difficult to assess; (5) Increasing the public's financial education; (6) Adapting the structure of the system of incentives for the entities managing the public's savings in a manner whereby it does not encourage them to take excessive risks; and finally, (7) The imposition of restrictions on the composition of the institutional investors' portfolios, principally those that are managed on behalf of investors who are approaching retirement age, by expanding the diversification in them and reducing the component of higher risk assets—this in order to assure a reasonable pension for the investors. The Ministry of Finance has already begun to implement this process in 2009 in accordance with a government resolution.

2. THE GLOBAL FINANCIAL CRISIS, LESSONS TO BE LEARNED AND MEASURES FOR DEALING WITH THE IMPLICATIONS

a. The global crisis

The global financial crisis was revealed in the subprime market in the USA and rapidly spread to other markets and sectors in the USA and Europe.

The global crisis broke out as the result of serious structural weaknesses in the financing arrangements for the subprime market in the USA, and the difficulties which financial institutions connected to that market had encountered. The crisis spread rapidly to additional markets and sectors, initially in the USA and the UK and subsequently to other developed countries. (See the Bank of Israel Report for 2007, Chapter 4.) The crisis exposed distortions in the global financial system which had arisen at the beginning of the decade due the large balance of payments and budget deficits in the USA and the cash surpluses from China and the oil-producing countries which were invested in the USA. These led to a decline in interest rates and margins in the financial markets, prompted investors to seek investment alternatives that would yield a higher interest rate, and encouraged financial institutions to greatly increase their activity without a suitable capital base.

The first signs of the crisis were exposed at the beginning of 2007 and it worsened continually during 2007 and 2008, as front-ranking financial institutions encountered difficulties.

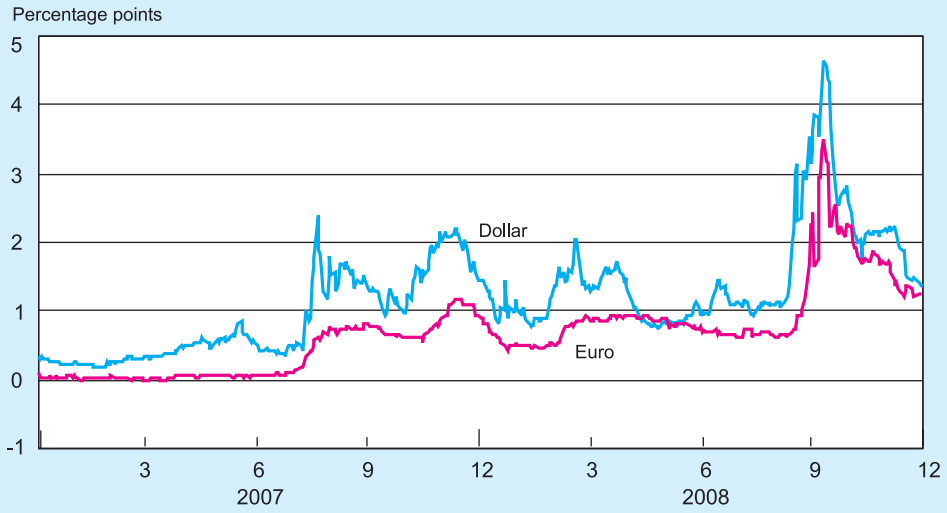
The first signs of the crisis were revealed in February 2007, when a number of large financial institutions that had extended subprime loans began to report losses. The extent of the crisis increased in August 2007 when three hedge funds managed by the large French bank BNP-Paribas collapsed, a development that dramatically increased the risk assessment in the markets, paralyzed the interbank money market and created a serious liquidity shortage for many financial institutions. The intensity of the crisis increased again in March 2008, with the collapse of the Bear Stearns investment bank. The crisis was exacerbated again at the beginning of September, when it became necessary to save from collapse the Fanny Mae and Freddie Mac mortgage agencies, which relied on raising short term capital for their liquidity. The fright prevailing in the markets due to greater risk made it impossible to raise capital, with the result

that those companies became insolvent. In the case of the mortgage agencies, the central bank and the Treasury Department went to their rescue in order to prevent the collapse of several more exposed financial institutions in a chain reaction. Although the measures taken by the authorities eventually achieved this objective, it came at the price of increased moral hazard in the system.

This was not the case in mid-September, when the Lehman Brothers investment bank collapsed. Like Bear Stearns, Lehman Brothers' fate was sealed by a credibility crisis when it failed to raise short-term finance. But in this case, the central bank did not succeed in organizing a rescue program for it, and the investment bank collapsed. The result was a considerable increase in the market's risk assessment, leading to the shutdown of key components of the financial system in the developed countries, including money markets, fixed-income markets, and interbank credit markets (Figure 4.4). This situation led to a large-scale liquidity shortage, and the opportunities for obtaining credit decreased greatly. The financial crisis was reflected by large downturns in the prices of the majority of financial assets and real estate assets, by an expansion in risk margins and by increased uncertainty. Financial institutions collapsed or almost collapsed, and banks ceased to lend to each other and to business customers.

The crisis paralyzed key components of the global financial system, including money markets, bond markets and inter-bank credit markets.

Figure 4.4
The Spread between the Libor Interest Rate and Interest on 3-Month T-Bills in the US and the Eurozone, 2007-08



SOURCE: Bank of Israel.

The unprecedented extent of the crisis led to the adoption of policy measures unusual in their nature and scale, initially in the USA, and subsequently in other developed economies. The measures adopted by the authorities in different countries in order

to halt the spread of the crisis can be divided into two types: the employment of traditional policy instruments to an unusual extent; and the use of exceptional policy instruments, which did not conform to the economic concept prevailing before the crisis (mainly in the USA).

Among traditional policy instruments that were employed to an exceptional extent, the most notable was the monetary policy instrument: In the USA for example, the interest rate set by the central bank was cut from 5.25 percent in mid-2007 to close to zero at the end of 2008, and in many developed countries the central banks injected vast amounts of liquidity into the financial system. The size of the fiscal expansion, which derived from various aid and support programs, was also notable: It is estimated that the budget deficit in the USA in 2009 will exceed 8 percent of GDP. In the UK, where a bank had not collapsed for decades, the authorities were forced to provide an all-embracing deposit guarantee to depositors at the banks in the wake of the panic caused by the collapse of the Northern Rock bank, and other countries augmented and expanded their deposit insurance arrangements. In the UK, then in the USA and other developed countries, the authorities took unprecedented action to strengthen the banks' stability by employing measures to enable them to issue capital. In addition, the authorities in various countries exerted pressure on sound financial institutions to purchase institutions that had encountered difficulties.

The unprecedented extent of the crisis spurred the authorities in different countries to adopt measures unusual in their nature and scale in order to halt the spread of the crisis, or to at least moderate its impact.

Among the nontraditional instruments that were employed mainly in the USA, but not only there, were: the nationalization of investment banks, mortgage-granting financial institutions and an insurance company in order to prevent their collapse; the central bank's injection of funds on a very large scale to companies and financial institutions (inter alia via the purchase of toxic assets) in order to alleviate their liquidity difficulties; compelling financial institutions—which were not supervised by the central bank in the past—to become bank holding companies as a means of enabling the central bank to supervise them.

The panic in the markets subsided following this government intervention and interest rates began to fall, although the distance from historical yield levels is still great.

Although the unprecedented intervention by the authorities in different countries led to a partial stabilization of the financial system, the global system was still faced with a credit crunch and risk premiums remained high.

Despite the partial stabilization, credit to businesses remained limited and the growing economic slowdown made any type of debt a questionable proposition. Due to concern over additional write-offs and the lack of accessibility to the capital market in the event that they would need to raise liquidity, financial institutions preferred to strengthen their balance sheet rather than increase credit, exacerbating the credit and liquidity shortage and leading to a large rise in the risk premium, mainly from mid-October.

The financial crisis and the credit shortage in turn exacerbated the global economic slowdown due to the shortage of sources for financing business sector activity and for making investments. The decline in asset prices, which began back in 2006, led to a decrease in consumer spending in the USA even before the crisis worsened in September. The chain of events in September and October reduced consumer

The financial crisis and the credit crunch exacerbated the global economic slowdown.

confidence to its lowest level for decades, as apparent from the major downturn in consumption and economic activity.

In Europe as well, the actual economic slowdown was worse than expected. In a number of countries, a recession was already evident in the first quarter of the year. In order to assure the local banking system's ability to repay debt, many European countries provided guarantees to the banks. The fear that a collapse of the banking system in countries such as Ireland, Italy, and Greece would lead to the country's economic collapse as well is reflected by the increase in those countries' risk premium as measured by the CDS margin.

The financial crisis and the economic slowdown spread to the emerging markets and to the currency markets, and were reflected by depreciations, an outflow of capital and an increase in the risk premium to levels reflecting fear of repayment default. Developed countries such as Australia and Iceland were also subject to part of these phenomena.

The global economic crisis is still in full spate, and its intensity is increasing. It is therefore too early to summarize the implications and lessons arising from it. At this stage however, it is already possible to point to a number of understandings concerning the factors that led to its development:

- Although a high level of innovation was apparent in the capital market, it transpired that the financial companies' and supervisory authorities' monitoring of the new instruments that had been developed and the risks involved in them were inadequate, due to delays in developing rules for managing these risks and because of the lack of a systemic concept of financial stability and potential systemic risks. The failure may also have resulted from mistaken concepts regarding the operation of the financial markets as a whole and the pricing of assets in particular. However, it is not clear if and when the appropriate concepts will be formulated, and what will be their implications for the structure of the financial system and the supervision of it.
- Moral failure inherent in a system of incentives that encouraged financial intermediaries to bring into the credit markets borrowers with an inferior payments record and/or repayment ability. The banks extended credit while ignoring borrowers' quality because the risk involved in it was not recorded in their balance sheets due to securitization. It actually transpired that the banks were exposed to the markets for innovative financial assets, and this exposure facilitated the spread of the crisis to the banking system.
- Proper supervision was not maintained over key elements in the capital market, primarily the rating companies. Apart from an unsuitable system of incentives, the rating companies' failure derived from the complexity of the new financial instruments and from an inaccurate assessment of new borrowers' repayment ability due to the lack of historical data on those borrowers.
- The activity of the central bank in the USA and the banking supervision authority, which is located within it, has been dictated for many years by a concept whereby

preventive intervention in the financial system should be kept as low as possible.

- The securitization of subprime mortgages involves a number of separate components: the extension of bank credit, activity in securities, management of the savings of institutional investors, including the pension funds, and other areas of financial activity. As a result, this securitization activity crosses the limits of the authority and supervisory areas of the different regulatory authorities. Mortgage securitization was effectively characterized by a deficient structure of incentives, which was not dealt with by a single one of those authorities. This was because from the narrow viewpoint of each of them, no improper behavior requiring their intervention had been recorded.

b. Lessons of the crisis from the Israeli aspect

The corporate bond market in Israel was the center of risk in the local financial system in 2008 and to some extent, the crisis that occurred in it resulted from the same factors that caused the onset of the global crisis.

The corporate bond market in Israel was the center of risk in the local financial system in 2008 and to some extent, the crisis that occurred in it resulted from the same factors that caused the onset of the global crisis: (1) Conflicts between the financial intermediaries and the rating companies, and the investor public, and the desire of the former to maximize their profits exposed investors to growing risks; (2) As with securitization transactions, the institutional investors that extended credit via the purchase of bonds were not usually exposed to credit risk at all. This risk was incurred by the investors, in contrast to the situation with bank credit, in which the bank alone bears the credit risk; (3) Market discipline was lacking because of institutional investors' enthusiasm for seeking new forms of investment that would produce a higher yield against the background of the low interest rate environment; (4) The rating companies had a major responsibility for the development of the crisis because institutional investors' almost complete reliance on these companies' credit ratings impaired the investors' ability to assess the risk in investments accurately; (5) And finally, inadequate regulation provided fertile ground for the speedy and unbalanced development of the market (Box 4.1).

Many of the understandings reached worldwide regarding the lessons of the crisis are highly relevant to the Israeli economy as well. Due however to the severity of the crisis and the fact that it is still prevalent, those recommendations which have been formulated to date and are presented below are still general from the aspect of the definition of the courses of action to be taken, and are not practical guidelines that can be applied here and now (see Box 4.2). Any solution to be devised in the future will likely require regulatory adjustment and a tightening of the supervision over the nonbank system. It should however be remembered that while supervision might be able to reduce the probability of an additional crisis and/or moderate the damage caused if it does occur, it is unable to totally prevent the emergence of crises in the future. It is therefore important to invest in the financial education of the public, and to impose restrictions on financial transactions in which the risk appears to be excessive. Restrictions should also be imposed on the composition of pension

saving portfolios, principally those that are managed on behalf of investors who are approaching retirement age.

Set out below are the understandings regarding the lessons of the crisis:

(1) Regulatory adjustment and tightening of the supervision by the supervisory authorities–The need for augmenting regulation and tightening supervision are the main conclusions arising from international entities' analysis of the crisis. The crisis highlighted the need for tightening the supervision over nonbank financial entities. In the Israeli economy, the immediate implication of this conclusion is the need to increase the supervision of the insurance companies, which as the result of the Bachar Reforms have become a dominant factor in the capital market, granting credit and managing a large part of the public's savings (Table 4.2). The authorities must increase their monitoring of developments in the institutional investors' portfolios by means of accurate and detailed reports that are submitted to them by the financial intermediaries. As part of this intervention, the supervisory authorities can also contribute to the circulation of essential information, which will enable the public to properly assess the quality of an institutional investor's holdings.

Part of the restrictions currently imposed on the banking system, such as restrictions on the sector-specific diversification of credit risks, can also be applied to nonbank financial intermediaries. The process of increasing the financial institutions' capital should be completed as prescribed, and their risk management systems should be enhanced, especially with respect to liquidity risk and management risk. As an example, the liquidity requirements imposed on the banks should be adapted to the new situation where they are more involved in the securities markets, and are therefore exposed to market risks in the event of a liquidity shortage in the market.

(2) Restricting the sophistication of financial instruments and increasing their transparency—The issue of complex and sophisticated financial instruments whose investment risk cannot be properly assessed should be avoided. With respect to the risks involved in investment in instruments that are issued, full transparency, not only for specialists, should be assured.

(3) The rating companies—The rating companies were a key factor in the development of the crisis worldwide and in Israel. The global trend is to reduce the reliance on rating companies, to improve the rating process, and to create a clear distinction between the rating of companies and the rating of structured products. Experience worldwide and in Israel shows that institutional investors and regulators must reduce the use of rating as the sole device for making investment decisions, and that they should develop their ability to assess credit risks themselves. In addition, regulation should be applied to the rating companies, in order to deal with the problem of the identity of interests existing between the rating companies and the issuing companies, which order the rating and pay for it. As an example in this respect, the rating companies should be prohibited from providing advice on the marketing of complex instruments, in order to reduce the identity of interests between them and the issuers of the instruments. European and other countries are already preparing to tighten up their regulation of the rating companies.

Table 4.2
Estimate of the Changes in Control of Long-Term Savings[a] and Mutual Funds Resulting from the Pensions Funds Reform and the Adoption of the Bachar Committee Proposals, 2003–08

(percent)

	Total assets (NIS billion)	The largest five banking groups						The largest five insurance groups						Other financial institutions
		Total	Hapoalim	Leumi	Discount	Beinleumi	Mizrahi-Tefahot	Total	Migdal	Clal	Phoenix	Menorah	Harel	Total[b]
Total long-term savings[a]														
December 2003	260	52	22	14	10	3	4	21	7	5	3	2	3	27
December 2004	293	50	21	14	9	3	4	28	9	6	4	6	3	22
December 2005	355	45	19	12	8	3	2	30	10	7	4	7	3	25
December 2006	394	35	17	7	7	2	2	37	10	7	5	7	8	28
December 2007	424	11	9	1	1	0	0	54	14	15	9	8	8	35
September 2008	363	5	0	3	1	0	1	60	16	16	9	10	9	35
Mutual funds														
December 2004	101	84	34	29	13	4	5	2	1	1	0	0	0	14
December 2005	125	77	30	27	12	4	4	3	1	2	0	0	0	20
December 2006	111	1	0	0	0	1	0	41	8	14	2	4	12	58
December 2007	120	1	0	0	0	1	0	38	10	10	3	3	11	61
December 2008	98	2	0	0	1	1	0	36	7	11	3	4	11	62

[a] Long-term savings include assets in provident funds, the new pension funds (including the central pension fund of the Israel Electric Corporation controlled by Clal), and with-profit life insurance schemes.

[b] The two largest portfolio managers that are not banks or insurance companies are Psagot and Prisma. At the end of June 2008 Psagot held about 5 percent, and Prisma about 7 percent, of all long-term savings assets. At that time Psagot held about 23 percent of mutual funds' assets, and Prisma held about 12 percent.

SOURCE: Based on data of The Capital Markets, Insurance and Savings Division of the Ministry of Finance, and of the Securities Authority.

(4) Accounting and disclosure—Accounting regulations need to be adapted in order to increase the disclosure regarding off-balance-sheet instruments and the risk involved in investment in them. The regulations for the revaluation of nontradable instruments should also be adapted in order for them to reflect as accurately as possible the economic value of the assets involved. In Israel, adjustments must be made in the method of revaluating nontradable assets that are held by the institutional investors, in view of the distortions that have been discovered in the existing revaluation model. The temporary provision issued by the Capital Market Division at the Ministry of Finance at the beginning of 2009 deals with this issue.[7]

(5) Structure of the supervisory authorities—The present financial crisis has not increased the consensus regarding the desired structure of the supervisory authorities. This is because the crisis has also afflicted countries that recently amalgamated their supervisory authorities (the UK and Ireland) as well as countries that remained with a diversified supervisory structure (the USA). In any event, the action taken with respect to the present crisis has demonstrated the importance of increasing the process of coordination and information exchange between the supervisory authorities. Once the crisis ends and the lessons have been learned from the manner in which it was managed, it will be necessary to adapt the structure of the supervisory authorities in Israel in the direction of a function-oriented structure, as is apparent in other countries as well.

(6) The securitization market—This is a central market in the economies of the developed countries, which contributes considerably to risk diversification, to the functioning of the capital markets and to lowering the cost of long-term funding. The continued functioning of this market is essential for the functioning of the markets as a whole but obviously only after numerous adjustments have been made, as necessitated by the lessons of the crisis.[8] Such a market is now being developed in Israel, and this should be done while analyzing and learning lessons from mistakes that were made abroad. It is particularly important to create a market adapted to the structure of the capital market in Israel, which will include simple assets with a high level of transparency that can be understood by investors and the rating companies. The system of incentives should be adapted in a manner whereby the entity initiating the securitization transaction will assure the quality of the securitized assets, by for example leaving part of the securitized assets in its balance sheet. In addition, it is proposed to adapt the regulation of the SPE (the company specializing in the issue flotation).

[7] Circular 2009-9-2 of March 2 2009 concerning the revaluation of investment in nontradable debt.

[8] Restoring confidence in securitization markets, ASF AsuF, SIFMA, European Securitisation Forum, December 3, 2008, FSF report.

Box 4.1

The structure and the supervision of the capital market: Lessons from the corporate bond market and from the management of the provident and the advanced study funds

An analysis of the institutional and regulatory background in the Israeli capital market, taking the provident funds and the advanced study funds as an example, shows that the erosion in the public's financial assets in the wake of the global crisis derived not only from the extent and intensity of the external shock in international capital markets, but also from the institutional investors' exposure to risk. This risk exposure resulted from local factors, and in particular from the inherent conflicts of interest in the capital markets in areas left without suitable supervision and regulation.

a. The inherent conflicts of interest between investors and financial intermediaries and agents in the nonbank credit market

Financial intermediaries in the nonbank credit market and credit rating firms have no particular incentive for monitoring a borrower's activity because their income depends on the size of the portfolios they manage, on the volumes of the transactions they carry out in these portfolios and on the size of the corporate bond flotations. Credit risk, however, is borne exclusively by the bond holder. As a result the financial intermediaries have an incentive to finance relatively risky assets which would not have been financed had the former been obliged to share the investment risk borne by the public. The shift into higher risk market segments was accompanied by unreliable credit rating in Israel and abroad in recent years, as a result of the difficulty in assessing higher risk projects (borrowers) in the absence of historical data on their performance. The corporate bond holders in Israel thus became exposed to risks of which they were unaware and which would adversely affect the capital market's stability at a later stage.[1]

The low quality of credit rating was reflected in the low level (until the onset of the crisis) of the risk premium on corporate debt over government debt, and in the inability of the rating firms to properly assess the risks involved in the excessive exposure of the nonbank credit market to the real estate industry. As a result of this failure, when the crisis began a positive spread developed between the premiums on bonds of real estate companies and those of other companies that had received the same rating prior to the crisis, in spite of the fact that the intended involvement of

[1] A conflict of interest between a financial intermediary and an investor may also arise in a situation where financial institutions, including banks, transfer their credit risk to the general public through loan securitization.

some real estate companies in high risk markets abroad was common knowledge at the time of the bond flotations (Figure 4.11).

The supervisory authorities, in their turn, perceived the development of the nonbank credit markets in Israel as evidence of the increasing "perfection" of the capital markets. As a result, they refrained from tightening their supervision and regulatory involvement, which could have moderated the risk exposure of lenders and thereby of borrowers who would not have obtained capital at low cost to finance their risky undertakings.

b. Ways of coping with the conflicts of interest

The inherent tendency of capital markets to boom and then bust, because of incentives supporting their excessive expansion, can be attenuated by weakening the conflicts of interest contributing to such expansions through adequate incentives and mechanisms. These can be created by increasing the cost of exploiting the conflicts of interest, on the one hand, and by reducing the cost of imposing market discipline, on the other. Measures to achieve the first objective could include a requirement that financial intermediaries keep some of the securities they issue in their own portfolios, and/or laws and regulations whereby damages to the investing public's interests resulting from negligence or mismanagement, even if unintentional, would involve fines and compensation. Linking the capital adequacy of the fund managers to the risk of their investment portfolio may provide the means through which these managers will internalize the risks to which they expose the public, since it is reasonable to expect a higher exposure to risk to raise the probability of damage claims. This mechanism of risk sharing may eventually reduce the public's exposure to risk, in contrast to insurance against negligence and mismanagement, which induce higher exposure to risk.

As appropriate measures for the reduction of the cost involved in imposing market discipline may be considered the lowering of the cost of gathering information regarding the quality of the investments made by the funds. This can be attained if greater transparency requirements are imposed on the reports of the firms seeking to be financed by the public and if the composition of the funds' portfolio is disclosed to the public at the level of investment in single firms. Such information could be used by the public to impose market discipline by exploiting its ability to shift between institutional investors. However, neither of these two courses of action can ensure that the behavior of the latter will conform to the public's interests. As a result the supervisory authorities' intervention should also be used to reduce the investors' risk exposure. This intervention should aim at:

(a) The "perfection" of mechanisms increasing the cost of exploiting conflicts of interest. This requires the enforcement of regulations by the capital market supervisory authorities aimed at preventing conflicts of interest, and their taking

disciplinary and legal action, including the revocation of the license to engage in financial intermediation and credit rating of companies violating these regulations.

(b) The dissemination of information to the public to strengthen market discipline, thereby motivating the financial intermediaries and the institutional investors to internalize the risks they impose on the public. The more intricate the information that needs to be processed—because of the complexity of the financial instrument and/or of the holding structure in the business sector—the more expensive it will be, and its dissemination to the public will be thus more problematic. It is therefore essential that the authorities, charged with gathering this information in the context of their supervision of the capital market, be responsible also for its dissemination, rendering it less costly and contributing thereby to the "perfection" of the markets. It is sometimes claimed that information of this type could actually undermine the stability of the financial markets. This is likely to happen if the information becomes available when the capital market is already in crisis. However, increased transparency prior to the outbreak of a crisis contributes to its prevention.

(c) Direct regulatory intervention in the financial management of the institutional investors limiting their exposure to risk.

c. Encouragement of risk exposure in the absence of safety valves

The present supervisory system for the provident and the advanced study funds (hereafter the funds) is weak precisely in the three aforementioned domains. No proper integrated and computerized system for processing the reported data exists which could allow the monitoring in real time of institutional investors' exposure to risks and conflicts of interests, and their compliance with regulation. The supervisory authorities do not disseminate information concerning the management of the funds— especially with respect to risk—which is essential for imposing market discipline. There is also a trend towards relaxing regulatory restrictions on risk exposure, and placing excessive reliance on market forces for remedying distortions in the capital market.

The funds have been heavily exposed to corporate securities especially corporate bonds at the expense of government bonds during the last four years because of the lack of restrictions on exposure to a particular sector (the business sector as compared to the public sector) and to a particular financial instrument. Moreover the exposure to corporate bonds has been concentrated

in bonds issued by the construction and the real estate industry because of the absence of sector-specific restrictions.[2]

Because of the higher short term volatility of corporate security prices compared to government bonds, the funds investing in such securities must hold them for relatively long terms to ensure a positive yield. However a substantial part of the public's investments in these funds, especially those of individuals close to retirement, is already liquid and can be withdrawn at short notice (see discussion in section 4c.ii). As a result the aforementioned exposure to short term volatility, particularly during crises, induces the fraction of the public that can do so to liquidate its fund holdings to avoid their erosion. The aggregate effect of such a reaction is the amplification of the fall in the prices of corporate securities in the stock exchange in view of the substantial share of corporate securities held by the funds.

It would have been reasonable, therefore, to require the funds to adjust the risk exposure of their savings plans inversely to the age of their members or at least to differentiate in the management of the investment portfolios between saving plans which are already liquid or are close to becoming liquid and other illiquid plans. Such an investment policy is expected to minimize the exposure to risk not only of liquid saving plans, thereby mitigating volatility, especially during periods of financial turmoil, but also of new plans, withdrawable only at retirement, belonging to investors close to retirement age. Moreover, the drop in the funds' holdings of government bonds prior to the outbreak of the crisis (Figure 4.16) exposed the funds' portfolios to systemic risks originating in the capital market, given that during crises the correlation between the return on different corporate securities increases, and government bonds serve in general as a loss mitigating factor.

The factors which pushed the funds to expose the public to excessive risks were also supported by the great emphasis put by the supervisory authorities on the funds' returns as an indicator of their successful management compared to the minor emphasis put on risk exposure. The combination of the imbalance between return and risk and the public's increased ability to move between institutional investors pushed the funds to take excessive risks, in an attempt to market themselves by presenting high yields, and thereby avoid the shift of funds to their competitors.

The Capital Market, Insurance and Savings Commissioner's report for 2007 highlights the almost exclusive reliance for risk assessment purposes on credit ratings and on the geographical distribution of investments in Israel compared with abroad, and the lack of reference to the sector-specific exposure of the funds' investment

[2] The proportion of corporate securities (shares and bonds) of Israeli firms held by the funds in Israel rose from 36 percent at the beginning of 2005 to 56 percent in December 2007. The proportion of bonds increased from 18.5 percent to 37 percent, and the proportion of shares from 18 percent to 19 percent. The proportion of government bonds in the portfolio fell from 40 to 20 percent during the same period, as a result of massive liquidation of government bonds totaling NIS 18.1 billion in 2007, mainly by the provident funds, against a net accumulation of assets of only NIS 3 billion.

portfolios or to any other information connected with the investment risk in specific firms. Such information, had it been available, could have allowed control of the quality of the credit assessments of the credit rating companies. The result was the creation of a conception that to a great extent ignored the risk element of financial investments, thus contributing to the undertaking of high risk projects by borrowers in the capital market. which increased their vulnerability to negative shocks in the domestic and international economies. This raised the credit risk of all lenders, not only that of bond holders, given the substantial exposure of Israeli banks to these borrowers.

As a result of the funds' apparently excessive exposure to risk, their returns in 2008 on stocks and bonds (corporate and government) were inferior to those of the market portfolio.[3]

d. The system of regulation of the provident and the advanced study funds

Directives concerning restrictions on the provident and advanced study funds' investments relative to their total assets appear in the Income Tax Regulations (Rules for the Approval and Management of Provident Funds) and in the draft of the "Law on the Supervision of Financial Services ((Investment Rules)" of 2006. At present only the Income Tax Regulations are effective, because the draft of the law has not been yet ratified.

According to the Income Tax directives, a fund's total holdings in the securities of a specific corporation are restricted and cannot exceed 10 percent of the value of its portfolio, provided the corporation's credit rating is at least AA.[4] For lower ratings, the permitted exposure is lower.

The upper limit of the permitted exposure of a fund through loans and/or deposits to a "group of borrowers" (companies operating under the umbrella of the same controlling parties) is 15 percent of its total assets, under similar credit rating restrictions.[5] There are no regulations, however, that limit the funds' investment in securities such as stocks and bonds of companies belonging to the same group of borrowers. This omission has been remedied in the draft of the new law. Under this draft the investment restrictions on a group of borrowers cover all types of securities; however the draft has not been ratified

[3] It is possible to derive approximately the capital gains (losses) of the funds by comparing the change in the value of the portfolio between two points in time obtained through net accumulation to the change in their market value. According to these calculations the losses of the funds in their bond portfolio including both government and corporate bonds were 7 percent of their value at the end of 2007 and of their stock portfolio 50 percent compared to a positive return lower than one percent in the market bond portfolio and a 31.4 percent loss in the market stock portfolio.

[4] Section 41.c.(a), 41.c. (b) and 41.c.(c)

[5] Section 41.d.

yet.[6] In any event, the 15 percent restriction may still be too high, because exposure to five groups of borrowers allows an investment of 75 percent of the funds' investment portfolio in their securities! Moreover the existing Income Tax Regulations contain no quantitative restrictions on the extent of the funds' exposure to nonnegotiable loans and deposits, provided the borrowers' rating is at least BBB.[7]

The existing draft of the Supervision of Financial Services Law reflects the conception that has prevailed in recent years whereby increased competition in the capital market is sufficient to prevent any conflicts of interest and to assure the proper management of the institutional investors by imposing market discipline. This despite the fact that the information available to the players in the markets is only partial. As a result, the imposition of restrictions on exposure to a sector (government or business), to an industry within the business sector, or to a particular financial instrument or market, which was not regarded as essential in the original Income Tax Regulations, has not been reflected in the draft of the law either.

In line with the above exposition and especially in view of the markets' inability to stabilize themselves because of a system of incentives that is subject to conflicts of interests between the financial intermediaries and the public investing in the various funds, the imposition of quantitative restrictions of the type mentioned above seems necessary. For the same reason, the existing interdependence in the Income Tax Regulations between the exposure of the funds' investment in the securities of a particular corporation and the latter's credit rating should be strengthened and extended to groups of borrowers instead of being retracted altogether, as in the draft law.[8]

e. Summary

The above analysis allows us to learn some lessons concerning the functioning of the capital market. Because of inherent conflicts of interest in the capital market between financial intermediaries and the investing public, the implementation of reforms leading to the creation of new financial markets makes it necessary to take legal and economic measures for reducing the incentive to exploit these conflicts of interest. The assumption that increased competition will succeed in preventing the conflicts of interest by imposing market discipline is too strong, because it is based on the assumption of availability of complete information to the public and of its effective utilization. Since gathering the information

[6] Section 12. (a).
[7] Section 41.d.3.(2).
[8] Compare Section 11(a) in the draft of the law as compared to Section 41.c.(a), 41.c.(b) and 41.c.(c) in the Income Tax Regulations.

involves a cost, the information accumulated is partial only and as a result, so is the imposition of market discipline. Market forces are therefore unable to ensure the proper functioning and stability of the capital market, as is apparent from the rapid development of the nonbank credit market and its excessive exposure to the construction and real estate industry. For this purpose intervention by the supervisory authorities is required, in three areas: In the monitoring of compliance to regulations preventing conflicts of interest; in the dissemination of information that is essential for imposing market discipline; and in regulatory intervention in order to solve problems, mainly in the management of risks, to which market discipline fails to provide an adequate solution. Reforms must therefore be implemented alongside the establishment of the legal and regulatory infrastructure mentioned above. Without it, the reforms could increase the capital market's vulnerability to shocks because of the existing potential of conflict of interests. The "exploitation of opportunities" to implement reforms postponing to a later date the establishment of an appropriate supervisory and regulatory infrastructure may, as a result, undermine instead of promoting the objectives of the reform.

With respect to the provident and the advanced study funds, attention should be drawn to the fact that to assure their proper functioning, the conclusions drawn in the present analysis must be applied to them: The Ministry of Finance must establish a proper computerized system for reporting, processing and analyzing the data in desirable cross sections in real time. Such a system will facilitate the supervisory authorities' activity in the three previously mentioned areas. Achieving these objectives requires the allocation of the necessary budgets to increase the number of professional personnel at the Ministry of Finance, thereby closing the gaps in the allocation of supervisory resources relative to the other authorities supervising different segments of the capital market in Israel—a necessary but not sufficient condition for the adequate supervision of the financial markets.[9]

[9] See Avi Ben Bassat, "Supervision of the Capital Market," Israel Democracy Institute, 2007.

Box 4.2
Reforming the supervision of financial systems—proposals under consideration around the world

A grave worldwide financial crisis naturally generates a tide of proposals relating to the reform of financial system supervision. This brief box cannot even list, let alone review, all the proposals bruited thus far. Thus, we content ourselves with a capsule survey of the most important of them. Proposals relating to a wide range of topics have been floated by (a) international institutions such as the IMF, the World Bank, the BIS and the Financial Stability Forum; (b) international entities that lack formal standing, e.g., the Group of Thirty; (c) national institutions such as central banks, the U.S. Congress, and other government bodies; (d) economists and politicians.[1]

The present survey is based mainly on a report issued by the U.S. Congressional Oversight Panel (COP)[2] in January 2009. This report was chosen because it is up to date, includes an interesting minority opinion, and, especially, serves the government entity that is making the largest injections in its efforts to ease the situation. The survey also draws somewhat on several other proposals, e.g., the speech by Prof. Ben Bernanke, Chairman of the Federal Reserve Board of Governors, on March 10, 2009.

Some of the main proposals follow:

(1) Toughen capital requirements generally and those relating to complex and off-balance-sheet transactions particularly.

(2) Identify financial institutions of systemic importance and place them under tougher surveillance—both in regulation and in current supervision. The institutions at issue include systematically important financial intermediaries and mechanisms that liaise among institutions, such as the trading and settlement systems.

(3) Place under supervision all financial activities that take place outside effective supervisory settings ("shadow financial systems").

(4) Narrow discrepancies in the supervision of different institutions in similar areas of business; improve coordination among supervisory authorities in order to plug loopholes.

(5) Improve the risk management tools, especially those relating to the overall firm-wide level and to off-balance-sheet transactions.

(6) Lessen the reliance on ratings companies and find an alternative to them within the financial intermediaries' own capacities.

[1] For example, the Mayor of New York City, Michael Bloomberg, in conjunction with Senator Charles Schumer, under the auspices of the McKinsey consulting firm.

[2] An exhaustive list of published reports appears in the appendix to this report.

(7) Strengthen corporate governance in financial institutions, including holding the Board of Directors and other internal supervisory entities to a higher level of responsibility; limit the incentives that senior employees receive and create an incentive by rewarding them for appropriate risk management.

(8) Place limits on leveraging in financial intermediation.

(9) Improve transparency, especially in the disclosure of risks in off-balance-sheet activity and valuation methods.

(10) Place responsibility for the maintenance of financial stability in the hands of the central bank only.

(11) Adjust regulation in the field of financial stability in order to thwart the exacerbation of cyclicality that many create bubbles.

(12) Achieve coordination among supervisory authorities around the world and, in particular, establish a universal regulatory floor in order to prevent financial activity of systemic importance from being transferred away from countries that participate in the supervisory system and meet if not surpass the floor requirements.

(13) Regulate the activities of derivatives markets that have systemic importance, foremost via central clearinghouses.

An important characteristic of most of the proposals issued thus far is that they are not ripe for application; they merely point to areas that require special attention for the improvement of supervision or broach general ideas that entail further development, without providing the details that a program ready for implementation must have. Admittedly, it is still premature to expect detailed proposals; after all, the crisis is still developing and, at the present writing, the mechanisms that brought it about remain insufficiently understood. However, the proposals being framed should be viewed as a road map that the world will follow to a new financial structure.

Some of the reports raise explicit arguments about the limited nature of capital market supervision. Most noteworthy in this respect was the COP report, which in regard to transparency, for example, stresses how hard it is to attain adequate transparency in highly complex transactions and also notes the importance of a high level of transparency for those who are not expert in the field.

However, since most complex transactions were described in great detail in prospectuses, it is hard to speak of a lack of transparency in regard to them, at least for experts in the field. The main problem concerns the effect of the complexity of the transaction on risk assessment, not the lack of transparency. Furthermore, the minority opinion in the COP report notes that the first and most important failures in the U.S. financial system occurred not in unsupervised sectors but, contrarily, among banks, which were under close supervision — a phenomenon that raises doubts about the effectiveness of supervision overall.

Finally, one of the main objectives cited in the COP report is to prepare the system well for the next crisis. The underlying awareness is that developments that no one can foresee, let alone prepare for in terms of their pernicious implications, will occur at some future time. The report proposes the establishment of an external commission of experts (the Financial Risk Council) for the sole purpose of warning Congress and the supervisors about threats as soon as they develop, i.e., while they can still be tackled. The idea of establishing an authority to treat system risks from a medium and long-term perspective was presented at length in Prof. Bernanke's speech several days before this Report went to press.

c. Measures taken in Israel for dealing with the implications of the crisis

The global financial crisis was one of the factors that reduced the availability of credit to the business sector, and led to a sharp decline in real activity and to considerable erosion in the public's savings. In their attempt to at least partly alleviate the damage caused by the crisis, the authorities decided to apply a series of measures that are detailed below. Part of these measures are already being implemented while others are being delayed, since their implementation has either not yet been begun or it is taking time.

As part of the authorities' attempt to alleviate the damage caused by the crisis, it was decided to apply a number of measures, one of whose objectives was to increase the stock of credit in the economy.

1. The Finance Ministry has provided the banks with State guarantees of NIS 6 billion for assuring the issue of deferred deeds of liability for increasing Tier 2 capital. Raising capital by means of State guarantees will reduce the cost of issues, and make it possible to increase the supply of credit which the banking system will be able to extend to the business sector and the general public.

2. A decision was taken to establish investment funds (*Manof* funds) for increasing the granting of nonbank credit. For this purpose, the Finance Ministry and the long-term institutional investors (provident, pension, and insurance funds) will allocate capital for the establishment of investment funds that will grant loans to corporations over half of whose activity is in Israel. The government will bear the primary risk of the investment at an amount to be determined, and will be credited with part of the earnings if there are any. State investment in the funds is planned to reach NIS 5 billion, and the tender is on the fund's level of leverage. The funds will be able to rollover debt, reschedule it and to invest in companies that have encountered difficulties, although the investment in the secondary market will be limited to 20 percent. It was initially decided to establish a fund in which the government will invest NIS 500 million.

3. The corporate bond market, which only developed in recent years, encountered its first crisis and lacks the tools necessary for coping with a crisis on this scale. The Securities Authority is promoting the appointment of "credit officers" who will help companies cope with the problems involved in rescheduling the marketable bonds

which they issued. The credit officers, who will be appointed by a representative of the bond holders, will work with the issuing company, the bond holders and sometimes with other creditors as well, in order to expedite the formulation of an effective arrangement that will benefit the bond holders and which will be approved by them.

4. Tax relief measures have been granted in order to encourage foreign investment in the Israeli economy and the flow of money in foreign companies that are controlled by Israeli residents. For this purpose, a temporary provision has been approved for the 2009 tax year which reduces the rate of tax imposed on dividend distribution by foreign companies that are held by Israeli companies from 25 percent to only 5 percent. In addition, a tax exemption has been granted on the interest paid to nonresidents on bonds that are listed for trading on the Tel Aviv Stock Exchange, as practiced in other developed countries. This is in order to encourage foreign investors to invest in locally traded corporate bonds.

5. In order to improve the liquidity position in the economy and to reduce costs to the business sector, the Bank of Israel initiated a number of monetary policy measures: (a) The absorption of liquidity surpluses by means of Makam issues was reduced from January 2009. (b) Loans for longer terms have been added to the monetary loans granted in tenders to the banking system for a day and a week. (c) The Bank of Israel's interest rate corridor at the commercial banks' borrowing and lending windows was reduced from ±1 percent to ±0.5 percent in January, and to ±0.25 percent from March 2008. (d) Repo tenders to the commercial banks and institutional investors will be offered for longer than the present period of a week.

6. At the beginning of November, the Commissioner of the Capital Market issued a temporary provision permitting an institutional investor to calculate the value of nontradable corporate bonds which it purchases from the publication date of the temporary provision according to their adjusted cost, and not in accordance with their market value. This is for up to 3 percent of the revaluated value of the institutional investor's assets. The temporary provision is intended to encourage the repurchase of corporate bonds by institutional investors, and thereby alleviate part of the distress in the corporate bond market resulting from investors' fear of purchasing bonds.

7. The Finance Ministry issued a temporary provision for a year valid from the beginning of 2009, whereby investment in a nontradable asset that was made from the beginning of 2009 can be revaluated in accordance with a risk margin and current revaluation mechanism determined by the institutional investor or alternatively, to classify the investment as a loan and to revaluate it in accordance with international standards. The temporary provision is intended to obviate the need for revaluating an asset on the basis of abnormal market returns, if these returns do not properly represent the risk involved in investment in that asset.

8. The large decline in the local securities markets led to a substantial erosion of the public's savings, including savings for retirement. In order to deal with the large erosion in the savings of members approaching retirement age, the government decided to implement a program for protecting the pension savings of elderly members. This

program has two parts: As a long-term solution, the Finance Ministry is preparing a comprehensive regulatory reform, which includes age-dependent investment tracks, in order for the risk inherent in savers' investment portfolios to decrease as they approach retirement age, by increasing the proportion of less risky assets in the portfolio. As an immediate solution for the problem, the government cast a defined safety net for pension saving in order to ensure a basic pension allowance for savers approaching retirement age (over the age of 57) whose pension saving is heavily exposed to the capital market.

9. In view of the reduced availability of credit in the economy and small businesses' difficulty in raising credit from the banking system, the government decided to increase the aid for small businesses[9] via a government fund. The sum allocated to the fund amounts to NIS 200 million. A decision was also taken to establish a medium sized business fund[10] at an amount of NIS 200 million, and to supplement the "single exporter" fund by allocating NIS 77 million to the fund. Apart from these amounts allocated by the government, the banks that won the tender will allocate additional amounts from their own sources. The sources available to the funds total NIS 2 billion.

Because of the severity of the crisis it is important to complete the measures that have been decided as soon as possible, and to initiate further measures as necessary in order to alleviate the damage caused to the Israeli economy by the recession.

3. THE PUBLIC'S ASSET PORTFOLIO AND CREDIT IN THE ECONOMY

a. The public's asset portfolio

The value of the public's asset portfolio fell heavily in 2008 following three years of rapid increase in its value.

The value of the public's asset portfolio fell by 12.1 percent in 2008,[11] following three years of rapid growth of over 10 percent a year. The decline in the value of the portfolio resulted from the large drop in assets prices caused by the global financial crisis (Table 4.3).

The proportion of higher-risk assets in the portfolio decreased, and that of lower risk-assets increased.

Risk assessment in the financial markets rose sharply in the wake of the crisis, volatility increased and risk margins expanded. These developments had a major impact on the composition of the public's asset portfolio: The proportion of lower risk assets such as government bonds and deposits increased, and the proportion of higher risk assets such as shares and corporate bonds decreased. The portfolio

[9] Businesses with no more than 70 employees and whose last annual turnover does not exceed NIS 22 million.

[10] A business with an annual turnover of NIS 22100 million.

[11] This is exclusive of the government's obligation to the established pension funds. Although this obligation became effective at the time of the funds' recovery arrangement in 2003, only in February 2008 did the funds receive a directive to record it as part of their assets. The balance of the obligation varies from month to month, and at the end of 2008 amounted to NIS 76.7 billion.

was also affected by the volatility in inflation during the year and by exchange rate developments. All this was in addition to the long-term effect of the structural reforms which were made in recent years.

Table 4.3
The Financial Asset Portfolio of the Public, 2005–08

	Balance (NIS billion)				Composition (percent)			
	2005	2006	2007	2008	2005	2006	2007	2008
Total assets	**1,648.5**	**1,837.0**	**2,057.9**	**1,884.6**	**100.0**	**100.0**	**100.0**	**100.0**
Nominal change on previous year (%)[a]	16.0	11.4	12.0	-12.1				
Tradable assets in the portfolio (%)	47.4	50.2	52.6	42.1				
Assets by indexation								
Unindexed assets	501.5	542.8	567.6	668.8	30.4	29.5	27.6	35.5
CPI-indexed assets	521.7	547.7	609.2	660.9	31.6	29.8	29.6	35.1
Assets in or indexed to foreign currency	258.5	280.0	307.2	290.6	15.7	15.2	14.9	15.4
Shares in Israel	310.7	392.9	492.6	211.9	18.8	21.4	23.9	11.2
Shares abroad	56.1	73.5	81.4	52.4	3.4	4.0	4.0	2.8
Total assets, by indexation (excluding shares and the government's undertaking to help the old pension funds)	**1,281.8**	**1,370.5**	**1,484.0**	**1,543.5**	**100.0**	**100.0**	**100.0**	**100.0**
Unindexed assets	501.5	542.8	567.6	668.8	39.1	39.6	38.2	43.3
CPI-indexed assets	521.7	547.7	609.2	584.2	40.7	40.0	41.0	37.8
Assets in or indexed to foreign currency	258.5	280.0	307.2	290.6	20.2	20.4	20.7	18.8

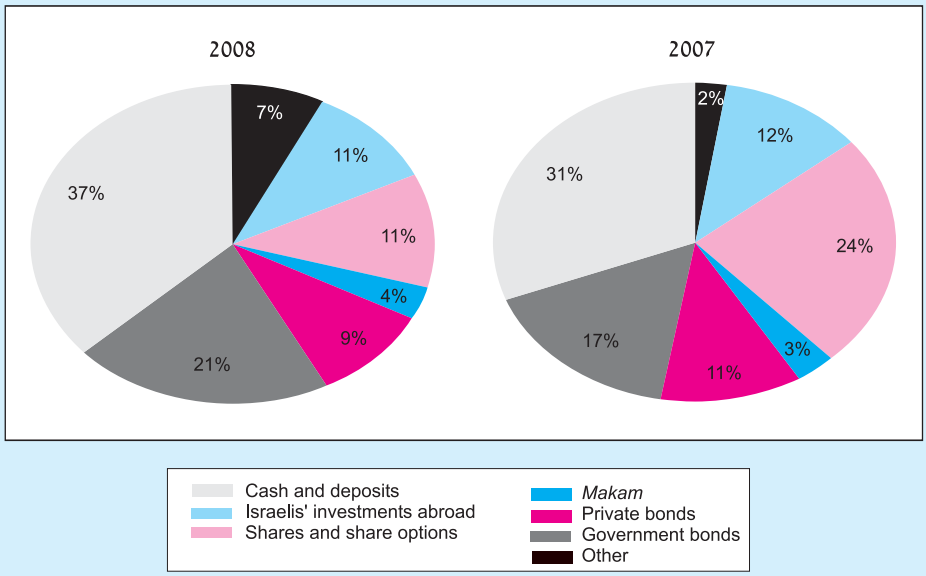
[a] The rate of change in 2008 is calculated after deducting the government's undertaking to help the old pension funds. See footnote 11 to the text.

SOURCE: Based on banks' financial statements, and data from the Tel Aviv Stock Exchange and the Ministry of Finance.

As a result, the proportion of shares in the portfolio fell heavily, from 23.9 percent at the end of 2007 to only 11.2 percent at the end of 2008, a rate similar to that prevailing during the previous recession in 2002–03 (Figure 4.5). The reduced proportion of shares in the portfolio resulted from the 46 percent price slide that occurred after five years of consecutive gains, and reflected expectations of a downturn in companies' profitability and the increased assessment of risk.

The rate of investment abroad decreased as well, and reached 10.8 percent of the portfolio at the end of 2008 compared with 11.7 percent at the end of 2007 and 13.1 percent in July 2007. The decrease was partly offset by the large cumulative 18 percent depreciation against the dollar from July. The rate of investment abroad had been rising until the onset of the global financial crisis, but fell in the wake of the crisis. The reduced rate of investment abroad resulted from the price slides there and the realization of investments. Households were particularly notable for realizing investments, via the mutual funds as well as the provident funds, while the pension funds continued to increase their investments abroad during the crisis.

Figure 4.5
Distribution of the Public's Portfolio by Type of Asset, 2007 and 2008 (end of year)



SOURCE: Bank of Israel.

The share of unindexed shekel assets in the portfolio increased.

Concurrent with the decrease in the proportion of shares and investments abroad in the portfolio, the proportion of unindexed assets rose considerably and reached 35.5 percent of the portfolio compared with 27.6 percent at the end of 2007. This came after a decline in that component of the portfolio since 2005. (Exclusive of the share and designated bond components of the portfolio, the increase in the proportion of the unindexed component was more moderate.) The growth in the proportion of unindexed assets was connected to the increase in risk assessment and the resulting move to lower risk assets, principally deposits at the banks, *makam*, and unindexed government bonds.

Part of the rise in unindexed shekel assets was via the purchase of shekel money-market funds, at the expense of funds specializing in investment in corporate bonds.

Part of the increased proportion of unindexed shekel assets derived from the purchase of shekel money-market funds (see Box 4.3). These were launched in 2008, and invest only in short-term shekel assets–shekel deposits, *makam* and short-term unindexed shekel bonds—which are less exposed to volatility in the market. A total of NIS 29 billion was accrued in these funds during the year compared with the NIS 38 billion that was withdrawn from the other funds (principally those specializing in investment in corporate bonds) (Figure 4.6).

Issuers of ETFs continued to record a net accrual for certificates specializing in investment in corporate bonds.

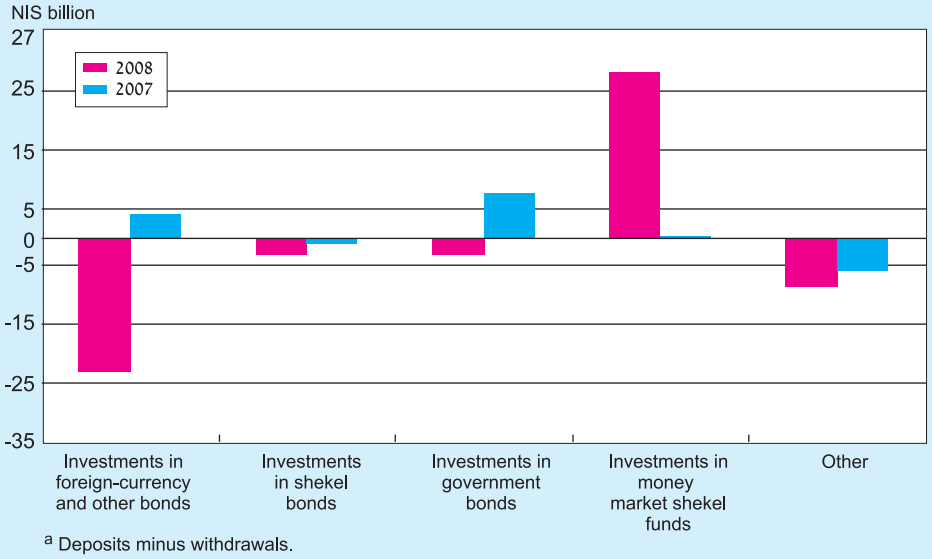
In contrast to the large withdrawals from mutual funds specializing in investment in corporate bonds, as in other economies during the year issuers of exchange traded funds (ETFs) continued to record a net accrual for certificates specializing in investment in corporate bonds. The net investment in ETFs specializing in corporate bonds amounted to NIS 5.4 billion in 2008, nearly all of it in the first half of the year. It

This was in contrast to the large withdrawals by mutual funds specializing in the same form of investment.

is difficult to explain the accruals in these certificates in view of the large withdrawals from the mutual funds specializing in the same form of assets. One of the reasons may be connected to the very low management fees on basket certificates compared with mutual funds. Those deciding to invest in corporate bonds despite the higher risks have therefore chosen to do so by buying basket certificates.[12] In addition and in view of the higher level of risk, the public showed a growing tendency to invest in indexed products and basket certificates, which provide a wider range of indexed investment than the mutual funds.

The portfolio share of tradable assets fell heavily during the year and reached 42.1 percent of the portfolio compared with 52.6 percent at the end of 2007. (This decrease is obtained even exclusive of designated bonds for the established pension funds.) This development, which halted a five-year trend of consistent growth in tradable assets' share in the portfolio, resulted from the large decrease in the prices of tradable assets (principally shares) and a reversion to the accrual of unindexed shekel deposits. The result was a reduction in the liquidity in the financial markets following many years of consistent growth in their liquidity and tradability under the impact of structural reforms, which encouraged the development of new market instruments at the expense of deposits at the banks and nontradable bonds.

Figure 4.6
Net Accumulation[a] in Mutual Funds, by Specialization, 2007 and 2008



[a] Deposits minus withdrawals.

SOURCE: Bank of Israel.

[12] The launching of basket certificates for investment in corporate bonds only became possible at the beginning of 2007 when the Tel Bond 20 Index was introduced. At the beginning of 2008 another two indices were introduced–the Tel Bond 40 and the Tel Bond 60.

Box 4.3
Money-market funds

Money-market funds began to operate in Israel at the beginning of 2008, following the completion of the legal infrastructure for their operation. A money-market fund is a type of mutual fund that invests in high-rated short-term assets only.[1] The purpose of approving the investment regulations for money-market funds was to create a convenient form of investment for savers as a type of substitute for a bank deposit which bears a relatively low risk and facilitates the development of competition the banks in short-term borrowing and lending activity.

Purchasing a money-market fund makes it possible to achieve a slightly higher yield than that of a bank deposit while increasing the risk to a certain extent. This is because a money-market fund enjoys an economy of scale and obtains a higher interest rate on a bank deposit than a private saver could achieve. Apart from that, the fund invests part of the assets in government and corporate bonds and high-rated short-term commercial papers. These also makes it possible to achieve a higher yield, although subject to a controlled increase in risk.[2]

The development of the money-market funds could support the development of competition for short-term bank credit by creating demand for issues of commercial papers by the funds.[3] Following the launching of the funds, the issue volume of commercial papers did indeed increase, and the funds invested in these securities. However, the worsening of the global crisis curtailed this development in its early stages.

Another advantage of investment in a money-market fund is that the investment provides the saver with liquidity, in contrast to a bank deposit, because the fund can be sold at any time while a bank deposit is not liquid and breaking it involves the payment of a penalty.

The money-market funds accrued NIS 29 billion in 2008, while NIS 38 billion were withdrawn from the other mutual funds.

[1] A money-market fund is entitled to invest in government bonds, makam, and deposits at the banks, as well as high-rated corporate bonds and CPs, providing that the duration (average term to maturity) of the funds' total assets does not exceed ninety days. In CPs that are not traded on the stock exchange, the investment is restricted to those whose term to maturity does not exceed thirty days, and which can be redeemed with seven days notice.

[2] One of the lessons learned from the crisis in the American economy is that even money-market funds investing in high-rated commercial papers could encounter difficulties, as happened in the USA at the money-market funds investing in ABCP–Asset Backed Commercial Papers.

[3] Commercial papers are short-term securities (from a week up to a year), which are issued by corporations and enable them to raise short-term finance as a substitute for bank credit.

To date, most of the money-market funds' assets have been invested in deposits, short-term unindexed government bonds and makam (97 percent of the funds' assets) (Figure 4.27).

The money-market funds have made hardly any investments in corporate bonds or commercial papers. This is not surprising in view of the crisis in the corporate bond market and the funds' desire to avoid excessive risk exposure in order not to lose their reputation for solidity. The yield achieved by the money-market funds in 2008 shows that they did indeed succeed in serving as a suitable substitute for deposits at the banks. During the year, they achieved a cumulative yield of 4.3 percent compared with an average 3.31 percent yield on bank deposits. The higher yield also resulted from the fact that to date, most of the funds have refrained from charging management fees because of the high competition in the industry, or have charged very low fees.

In the area of credit, to date the money-market funds have not contributed to the development of the short-term nonbank credit market. As stated however, this is because of the crisis in the bond market. Once the crisis is over, the funds can be expected to gradually allocate part of their assets to investment in high-rated commercial papers as well, and the large amounts accrued in them will constitute a major source for competition with the banks.

It should be noted in this respect that the investment regulations applying to the money-market funds ensure that investment is made in high-rated assets only, and the rate of investment in commercial papers is limited to 25 percent of their assets. This is in contrast to the investment regulations governing the provident funds and mutual funds, which permit complete freedom for the investing body. In view of the latest crisis in the bond market, it may be necessary to restrict the money-market funds' rate of investment in tradable corporate bonds and CPs as is their rate of investment in nontradable CPs.

In the USA, these funds are allowed to issue check books and credit cards and thereby represent competition to demand deposits at the banks, which is not yet possible in Israel.

b. Credit to the nonfinancial private sector and the corporate bond market

i. Credit to the business sector and the corporate bond market

Outstanding bank and nonbank credit to the business sector remained practically unchanged in 2008 and totaled NIS 738 billion in December (Table 4.4).[13] The slower pace of expansion in outstanding credit following three years of rapid growth—mainly in nonbank credit—resulted from the reduced supply of nonbank credit and from the

[13] The amount of outstanding nonbank credit, which is presented mostly at market value, and bank credit, which is presented at its adjusted value.

The rate of increase in credit to the business sector slowed in 2008 because of the reduced supply of nonbank credit and the fall in bond prices.

decline in bond prices caused by the increased assessment of risk in the financial market as a whole and in the corporate bond market in particular. The volume of business sector issues therefore fell heavily during 2008 as a whole. These issues ceased almost completely in the second half (Table 4.5), and prices of CPI-indexed corporate bonds dipped by 17 percent.

As regards demand for credit, the downturn in the economy affected it in two opposite directions: While the decline in investment reduced the demand for credit, the deterioration in firms' real position increased their working capital requirements. The Companies Survey[14] for the fourth quarter of the year shows that firms' financing constraint increased in the second half of 2008, and that the increase was more apparent among smaller firms. The increase in the financing constraint was more notable in the construction, transportation and commerce industries than in others.

Table 4.4
Changes in Credit to the Business Sector,[a] 2003–08

	2003	2004	2005	2006	2007	2008
Balances			(NIS billion, at current prices)			
Total credit to the business sector[b]	503	530	591	644	740	738
of which Domestic bank credit	362	353	358	357	379	408
Nonbank domestic credit	56	75	126	166	239	197
Credit from nonresidents	86	102	107	120	122	133
Distribution of credit to the business sector				(percent)		
By source						
Domestic bank credit	72	67	61	55	51	55
Nonbank domestic credit	11	14	21	26	32	27
Credit from nonresidents	17	19	18	19	16	18
By tradability						
Tradable bonds	8	10	14	18	24	23
Nontradable bonds	7	8	11	12	11	8
Loans	85	81	75	70	65	70
Annual change in credit to the business sector				(percent)		
Total credit to the business sector	-1.7	5.2	11.5	9.0	14.9	-0.3
of which Tradable bonds	6.7	31.5	48.5	42.8	53.0	-7.1
By source						
Domestic bank credit	-4.8	-2.4	1.5	-0.3	6.1	7.7
Nonbank domestic credit	35.4	35.5	66.4	32.3	43.9	-17.8
Credit from nonresidents	-5.8	18.0	5.4	12.5	1.1	9.4

[a] Credit to the business sector includes loans and tradable and nontradable bonds, with loans shown at their adjusted price and tradable bonds at their market price. (For the definition of credit to the business sector, see the Bank of Israel website http://boisite/deptdata/stability/indic/e03e.pdf).

SOURCE: Based on Bank of Israel data and data from the Capital Market, Insurance and Savings Division of the Ministry of Finance.

[14] The survey is conducted by the Bank of Israel's Research Division among 500 companies and businesses in the economy, and can be used to obtain an initial view of the situation in the economy.

Table 4.5
Security Issues by the Nonbanking Private Sector in Israel and Abroad, by Type of Security,[a] 2004–08

	NIS million, at current prices					Composition				
	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
A. Capital raised in Israel	**29,698**	**54,242**	**61,375**	**109,367**	**22,704**	**100**	**100**	**100**	**100**	**100**
of which via tradable securities	18,769	31,912	38,073	73,891	19,066	63	59	62	68	84
1. Working capital	23,214	49,733	54,548	87,922	15,648	78	92	89	80	69
Shares and convertibles	6,656	12,237	11,873	14,959	5,855	22	23	19	14	26
Tradable bonds	5,629	15,165	19,373	37,487	6,155	19	28	32	34	27
Nontradable bonds[b]	10,929	22,331	23,302	35,477	3,638	37	41	38	32	16
of which commercial paper					965					
2. Financial instruments	6,484	4,510	6,827	21,445	7,056	22	8	11	20	31
ETFs for shares[c]	3,453	628	4,359	4,987	-1,358	12	1	7	5	-6
ETFs for bonds	42	83	360	6,257	8,124	0	0	1	6	36
Structured bonds	2,060	3,593	1,946	5,283	829	7	7	3	5	4
CDs[d]	929	206	163	4,918	-539	3	0	0	4	-2

[a] Not including issues by subsidiaries and by banking corporations. Since 2008 not including issues by foreign companies.

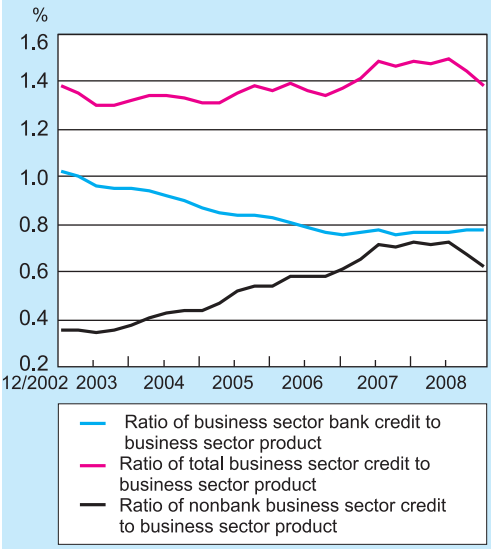
[b] Including bond issues by municipalities totaling NIS 140 million in 2005 and NIS 330 million in 2006.

[c] Net issues.

[d] Since 2007 net issues.

SOURCE: Based on Tel Aviv Stock Exchange data.

Figure 4.7
Business Sector Credit/Product Ratios, December 2002 to December 2008



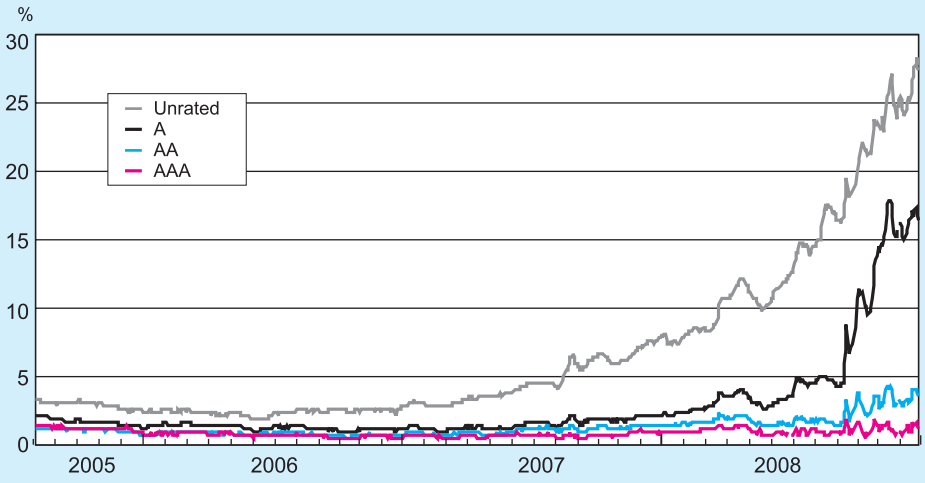
SOURCE: Bank of Israel.

Bank credit expanded by 8 percent in 2008 and its share of total credit to the business sector rose after falling consistently for several years.

While outstanding local nonbank credit contracted during the year, bank credit to the business sector expanded by 8 percent, and its share of credit for financing the business sector rose again to 55 percent following several consecutive years of decline. This marked a change in direction in the credit trends in the economy: Bank credit to the business sector is expanding at a relatively high rate, while nonbank credit is contracting after several years when the trend was quite the opposite.

Despite the rapid growth in the supply of nonbank credit during the years 2004–07, the rate of increase in total credit to the business sector was unexceptional given the high business sector product growth rates in those

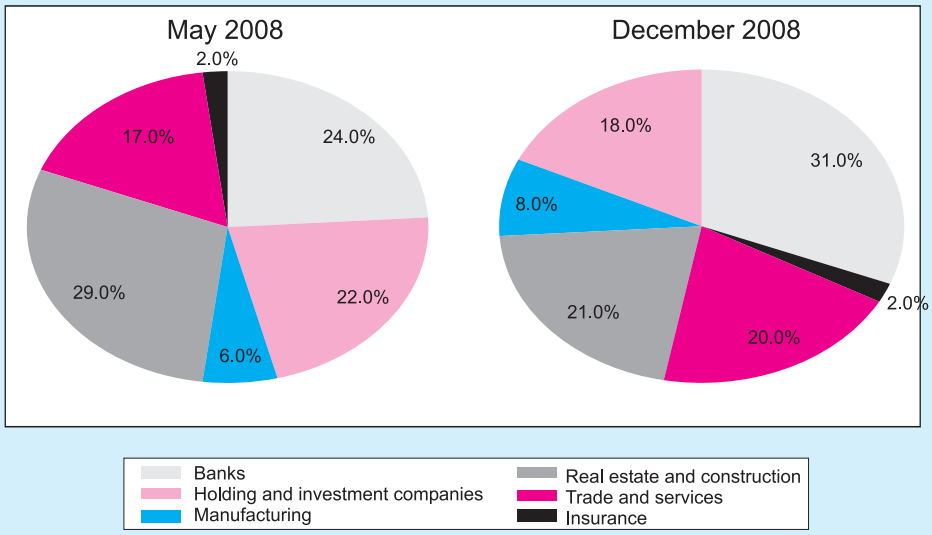
Figure 4.8
Gap between Yield on CPI-Indexed Corporate Bonds and Yields on Government *Galil* Bonds, by Rating,[a] July 2005 to December 2008



[a] The yield gap is calculated as the gap between the yield to maturity on corporate CPI-indexed bonds excluding convertibles, with yields to maturity of up to 60 percent and average duration of more than half a year, and that on government *Galil*-type bonds with an average duration of 5 years.

SOURCE: Bloomberg

Figure 4.9
Composition of the Ordinary Corporate Bond Market, by Industry, May and December 2008



SOURCE: Bank of Israel.

years. An examination of the ratio between total credit to the business sector and business sector product shows that this ratio rose to a moderate extent from 2004 (Figure 4.7) and actually fell in the last months of 2008, mainly due to the large decrease in bond prices.

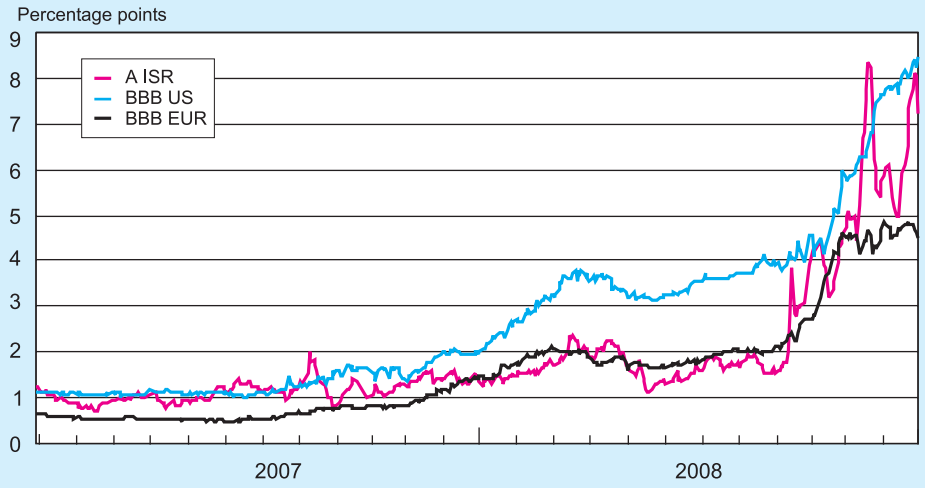
The rapid increase of nonbank credit during recent years without the development of suitable infrastructures increased the risk of the credit portfolio.

The rapid development of local nonbank credit during recent years created an alternative channel to bank credit, and led to a broader diversification of the credit risks in the economy, which could have contributed to the stability of the institutions extending credit[15] and to the creation of a more competitive financial system. But since nonbank credit expanded rapidly without the institutional investors having developed a suitable infrastructure for assessing and monitoring credit risks and without the concurrent development of a supervisory infrastructure and institutional restrictions for this credit, its rapid development actually led to an increase in the potential risk of the credit portfolio in the economy. As an example, the lack of restrictions on the amount of credit which an institutional investor is allowed to extend to a single industry enabled credit to the construction industry to expand in an uncontrolled manner—that industry, which was at the center of the global crisis, floated 40 percent of total bond issues during the year 2006–07. Such a situation could not have arisen in the local banking system, which was prohibited from increasing credit to the construction industry that was close to the upper limit of the permitted exposure of 20 percent. Moreover, a large part of the institutional investors' issues were without

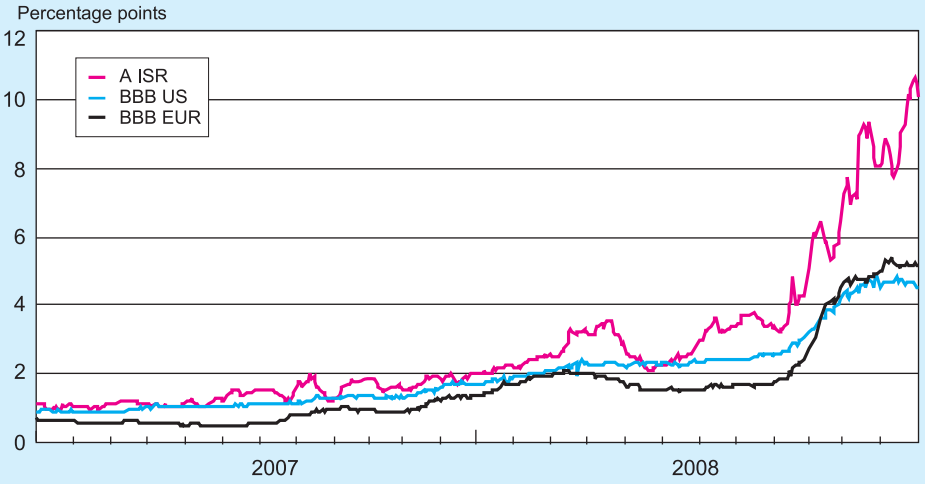
[15] This is despite the fact that the present crisis shows that the particularly rapid development of nonbank credit can impact the banking system as well.

Figure 4.10
Yield Gap between Corporate Bonds and Government Bonds in Israel and Abroad, 2007-08

A. The Financial Sector



B. Manufacturing



SOURCE: Bank of Israel.

collateral with only a limited opportunity for selling the debt and were used to finance investments abroad in countries where real estate prices rose excessively during recent years. This was without any control ability on the part of the institutional investor, a situation which the local banking industry would also not have permitted. The margins required for investment in corporate bonds fell gradually as a result of the institutional investors' increased risk appetite and the growth in competition. As a result, corporate bonds' share in the institutional investors' portfolio gradually rose and as an example, reached an average of nearly 40 percent of the provident funds' portfolio.

Additional factors contributing to the higher risk in the credit portfolio in the economy were: (a) Unlike bank credit, with saving products it is the savers and not the institutional investor who bear the full extent of the credit risks. As a result, institutional investors tended to take excessive risks; (b) Since institutional investors have yet to develop an adequate infrastructure for monitoring credit risk, credit was usually extended almost entirely on the basis of the rating companies' scores. The rating companies for their part failed to accurately assess the growing risk in exposure to real estate investments abroad–in an industry that was in the eye of the global storm. The very fact that reliance was placed on the rating companies alone[16] is problematical, because these companies have an incentive to encourage issues in order to earn commission fees, and as a result of the potential common interest between them and the bond issuers ordering and paying for the rating; (c) And finally, the supervisory authorities encouraged the development of a nonbank credit market in order to increase the competition with the banks. However, they failed to discern in good time the uncontrolled increase in risks, and did not create a suitable legal and supervisory infrastructure for stopping uncontrolled developments in the area of credit.

The lack of balances in the nonbank credit market increased its vulnerability to shocks and it reacted strongly to the higher risks resulting from the global crisis.

The nonbank credit market's vulnerability to external shocks increased due to the lack of balances, and it reacted strongly to the increase in risks and the materialization of part of them in the wake of the global crisis. As a result, the primary market contracted and nearly vanished, CPI-indexed corporate bond prices fell heavily, and yields and risk margins rose sharply, mainly in the second half of the year, concurrent with a large increase in the diversification of yields and volatility. Yields rose despite the Bank of Israel's rapid cuts in the interest rate during the third quarter of the year. The rate cuts did not spill over to the credit markets to an adequate extent because of the higher risks, and were not reflected by a decrease in the business sector's financing costs.

The local market's response to the crisis was sometimes more intense than in other developed markets.

The local market's response to the crisis was sometimes more extreme than in other developed economies. This resulted from concern that a large part of the credit raised during the years of prosperity would not be repaid on time, and that large and leading companies in the credit market would become insolvent, a development that could have systemic implications. Concern also arose as a result of the concentrated structure of ownership and control in the Israeli economy, which could lead to the crisis spreading from the real estate industry to other sectors and industries and even affect the stability of the banking system.[17] Underlying this concern was also the possibility of a further deterioration in the economic situation because of the high dependence on export markets, the almost complete drying up of sources of credit in the both the local and overseas capital markets, and the assessment that the local banking system would be unable to supply all of the economy's credit requirements.

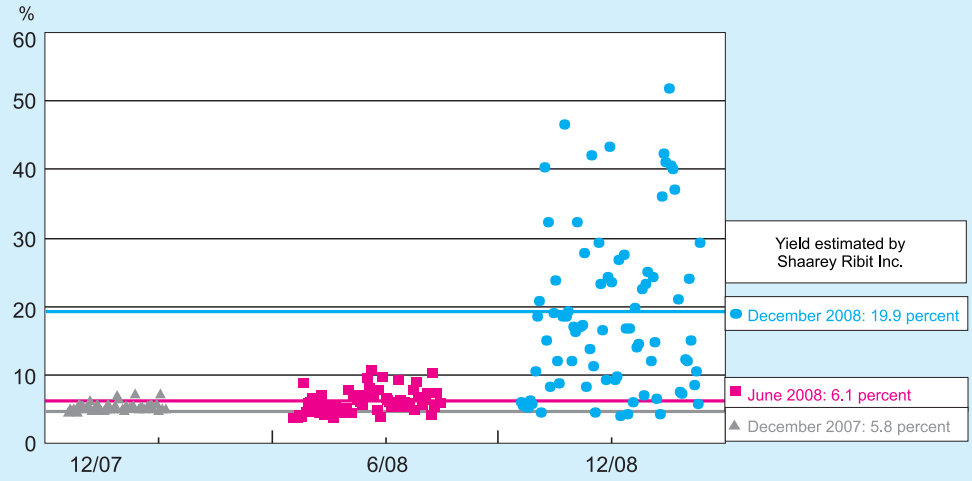
[16] As happened worldwide.

[17] B. Constantin Kosenko, "The development of business groups in Israel and their impact on companies and the economy," Discussion Paper Series, Research Department, 16.4.2008.

The margins widened in all industries and all ratings, and was particularly notable in the group of companies rated A and below.

The expansion in margins encompassed all industries and all rating scores. Particularly notable was the group of companies rated at A and below (Figure 4.8), which at the end of 2007 accounted for 34 percent of the market value of corporate bonds (Figure 4.9). The large rise in margins in this group, which was mostly in the real estate industry, encompassed other industries as well, including manufacturing, commerce and investment, and was exceptional relative to other rating scores (Figure 4.10) and sometimes even relative to other economies such as the USA and Europe.[18] The yield diversification in this group was very extensive, and created a distortion in the Shaarey Ribit company's revaluation (Figure 4.11).[19]

Figure 4.11
Distribution of Yields to Maturity on A-Graded Corporate Bonds, 2007 and 2008



SOURCE: Bank of Israel.

Investment in real estate is notable for high rates of leverage. It was partly financed by money raised domestically in the past two years.

Fifty percent of the companies in the group rated A and below are from the real estate industry. Companies from other industries such as investment are also exposed to investment in real estate. Such investment is notable for very high rates of leverage, and the sources for the investment partly derived from money raised in the local capital market in the past two years. A large part of the money raised was used for

[18] The comparison was made between every rating level in Israel with two rating levels lower than it in the USA and Europe, due to the lack of uniformity in the rating scales (see the Capital Market Commissioner's circular of August 31 2008).

[19] Shaarey Ribit Inc. is a company which the Finance Ministry selected for the purpose of determining the interest rates in accordance with which nontradable bonds should be revaluated. Because of the extensive diversification of yields in September, the average interest rate in accordance with which Interest Rates ordered bonds to be revaluated was relatively high. This harmed good companies whose interest rate was lower than the average because the method required investors to record capital losses on any investment in them. At the beginning of 2009, the Capital Market Division issued a circular that deals with this problem.

investments in real estate projects abroad against additional leverage abroad. Due to the industry's high rates of leverage, the global credit crunch and the fear (which had already begun to materialize) of a large decrease in real estate prices, the margins of companies from the industry rose sharply, especially among those that mainly operate abroad. The increase in margins was indicative of the market's lack of confidence in the rating of companies in the group and serious concern of repayment default by a large part of the companies.

In the higher rated group, AA and above, the increase in margins in Israel was far more moderate. This increase matched the rates of increase in the USA and Europe, and in the financial industries were actually lower than in the American economy.

The increased margins in the bond market derived not only from the fear of repayment default, but also from the rise in the liquidity premium. This was because of the liquidity shortage in the market, which resulted from the pressure exerted by the mutual funds' and provident funds' extensive and rapid offloading during 2008, which was caused by the large withdrawals from the funds—NIS 23 billion from bond oriented mutual funds and NIS 8.8 billion from the provident funds.

The reduced liquidity in the markets was apparent from a number of market and liquidity indices, such as the level of volatility in the market, quotation margins and average transaction size. However, trading turnover in corporate bonds continued to rise in 2008 as well, and reached a daily average of NIS 550 million (excluding structured bonds and CPI-indexed products) compared with NIS 400 million in 2007 (Table 4.6). Accordingly, the liquidity downturn did not reach the extent of a market failure and the inability to conduct transactions.

Table 4.6
Average Daily Turnover[a] in *Makam*, Government Bonds, Shares and Foreign Currency, 2004–08

	Government bonds					Other bonds				
	Makam	Unindexed	Indexed[b]	Total government bonds	*of which* in MTS[c]	Corporate bonds	Structured bonds and CDs	Shares	ETFs[d]	Foreign currency[e]
	NIS million									$ million
2004	628	616	275	891		37	31	617	41	1,648
2005	676	759	365	1,124		98	117	897	105	2,340
2006	797	1,300	391	1,691	255	131	135	1,174	286	3,029
2007	848	2,534	734	3,268	663	392	214	1,694	451	4,469
2008	784	2,575	869	3,444	339	544	173	1,602	561	4,123

[a] In and outside the stock exchange.
[b] Indexed to the CPI or foreign currency.
[c] MTS—A trading system for government-bond market makers, appointed by the Ministry of Finance.
[d] Bonds and shares exchange traded funds (ETF$_S$).
[e] Volume of foreign currency turnover, including swaps, of foreign financial institutions, other customers and domestic banks.
SOURCE: Based on Tel Aviv Stock Exchange data.

Despite the reduced liquidity, the expansion of margins appears to have largely derived from an increase in the credit risk premium rather than the liquidity premium. The liquidity premium required by the market in the absence of tradability can be derived from the yield spread required in an issue of nontradable bonds compared with marketable bonds with the same level of risk. The acceptable liquidity premium in the market for nontradable bonds during recent years[20] amounted to 0.51 percent and in the last quarter of 2008, 2 percent according to the Interest Rates company.

The increase in yield spreads in the corporate bond market appears to have exceeded that required by the higher level of risk. This is apparent from the probabilities of bankruptcy derived from the existing the level of yields, which are indicative of potential extreme rates of bankruptcy.[21] It therefore appears that the tumultuous course of developments during the global crisis and concern over its implications for local financial system increased the level of uncertainty, and the market sometimes overreacted as a result.

The issuing companies' large volume of own purchases of bonds provides support for the assessment that the higher yields on many series represented an over assessment of credit risks. A higher yield enables issuing companies to repurchase the debt at a lower price, and thereby reduce the future debt burden. Since the own purchases made during the year were dispersed among many companies from numerous industries, it was widely believed the bonds were underpriced, and that this was not restricted to a small number of companies.

The worsening of firms' nonfinancial and financial position during 2008 was also reflected by the large number of rating reductions in the course of the year, as well as by an increase in the number of companies that defaulted on their bond repayments. In 2008, rating reductions were made for 91 series of marketable bonds, and the overall market value of these series totaled NIS 38 billion at the end of the year compared with NIS 47 billion at the end of 2007. Most of the rating changes were for series that were issued by companies in the banking and real estate industries whose rating prior to the reduction was AAA or AA.[22]

The worsening of firms' nonfinancial and financial position during 2008 was also reflected by the large number of rating reductions in the course of the year.

On the basis of settlement tables, repayments of nonbank credit due in 2008 totaled NIS 14.5 billion (principal + interest, excluding structured bonds and finance sector bonds). This amount is expected to increase to NIS 17.4 billion in 2009 (Figure 4.12).

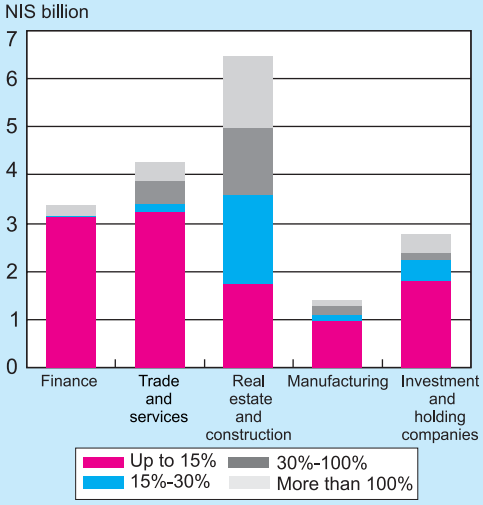
[20] On the basis of market assessments, following the application of the Interest Rates company's new revaluation directives.

[21] We made a simple calculation that gives the probability of bankruptcy derived from the market, and answers the question as to the percentage of companies which in the event of bankruptcy will immediately show a yield on investment in the corporate bond portfolio similar to that of Galil government bonds. The assumption is a recovery rate of 0 and a portfolio with a term to maturity of 5 years. Under this calculation, the probability derived at the end of 2008 was 15 percent among TelBond companies and 45 percent among real estate companies. The calculation formula is: 100*[(1+ip/100)^5(1+ig/100)^5)/((1+ip/100)^5] = the derived probability, where ip is the annual yield to maturity on corporate bonds and ig is the annual yield to maturity on Galil government bonds.

[22] Because of the large number of series issued by a small number of banks.

In view of the reduced availability of credit in the economy and the worsening of the global crisis, the high level of yields appeared to reflect concern that part of this amount would not be repaid on time. This concern was also based on the fact that 65 percent of repayments scheduled for 2009 are of companies in the A rating the group and below, and 35 percent are companies in the real estate industry. Moreover, 75 percent of scheduled repayments in the real estate industry in 2009 are attributed to bond series that were trading at a yield of over 15 percent in December. Part of these series were trading at yields of over 30 percent and in some cases nearly 50 percent.

Figure 4.12
Forecast Repayment (Principal and Interest) on Ordinary Tradable Corporate Bonds, by Industry and by Yield to Maturity,[a] 2009



[a] Forecast dated December 2008.
SOURCE: Bank of Israel.

ii. Credit to households

Outstanding credit to households totaled NIS 278.3 billion at the end of 2008, an increase of 8.3 percent compared with the end of 2007. The expansion was centered in housing loans, which at the end of 2008 accounted for 64 percent of outstanding credit to households. Outstanding credit to households at the end of 2008 accounted for 58.6 percent of households' disposable income–little changed compared with previous years. This contrasted with the situation in the American economy, where this rate rose from 100 percent at the end of 2002 to 130 percent at the end of 2008.

4. THE FINANCIAL INSTITUTIONS

a. The banks[23]

The banking system had a difficult year in 2008.

The banking system had a difficult year in 2008: The global financial crisis led to the initial materialization of the credit risks inherent in financial assets traded in overseas markets (subprime mortgages and their securitization)—each bank according to the extent of its exposure. Subsequently, the repayment ability of firms and households in Israel declined because of the downturn in domestic demand and drop in exports, as well as due to the fall in financial asset prices in Israel and abroad. At the same

[23] The analysis in this section is partly based on published financial statements for the first three quarters of 2008.

time, the commission fee reforms compelled the banks to revise the pricing of their activities, and adversely affected their reliance on commission income. However, the ability to raise capital in the corporate bond market and the equities market in Israel was severely impaired, and the majority of demand for credit went over to the banks. Against the background of all these factors, the banks had to continue preparing for the adoption of the Basel 2 directives and in addition, to raise capital in order to increase their ratio of capital to risk assets to a level of 12 percent.

The majority of demand for credit in the corporate bond market and the equities market went over to the banks.

In a situation such as this it is natural for the banking system to adopt a more conservative strategy than in the past, by increasing its investments in government bonds, supplying more credit to households for which the risks are easier to price, increasing the risk and liquidity premium in the pricing of financial intermediation, reducing credit to small businesses whose performance is more expensive to monitor, and investing less in foreign markets. Moreover, the banks could resort to credit rationing,[24] and thereby exacerbate the effect of the global financial crisis on the Israeli economy. It is also possible that the banks will exploit the shift in demand to bank credit in order to enhance their market power and charge a monopolistic premium.

Since mid-2003, the Israeli economy has been growing rapidly, strengthening the business sectors. Consequently the demand for financial intermediation increased, concurrent in many cases with an increase in firms' and households' financial resilience. The banks therefore benefited from higher profits during this period, from an increase in ROE from 8.4 percent in 2003 to 17.3 percent in 2007. Concurrently, it appeared that the exposure to the risks inherent in the bank credit portfolio fell during those years, as reflected by a decline in the ratio of the loan-loss provision to total credit from 0.78 percentage point in 2003 to 0.17 percentage point in 2007. The banks' capital adequacy also increased in that period. All these reflected an increase in the banks' robustness before the crisis. Moreover, unlike in the American economy, the growth in Israel was not accompanied by asset inflation, which sometimes results in financial intermediaries becoming heavily exposed to the market risk inherent in the prices of assets.

Israel's rapid growth since 2003 increased the demand for financial intermediation and firms' and households' financial resilience. This helped banks increase their profitability and capital adequacy, and supported their robustness when the crisis erupted.

Total bank credit expanded by 3.1 percent in real terms during 2008, following a similar increase in 2007. Credit to households increased by 4.7 percent in real terms, reflecting an upturn that had already lasted for two years. At the same time, credit to the business sector rose by 3.7 percent, while credit to the government fell in real terms. Banking data for the first three quarters of 2008 show that the growth in credit to firms in the business sector was accompanied by a one percent real decrease in credit to the small businesses sector.[25] This decrease may reflect credit rationing by the banks due to the increase in credit risks. A large part of the bank credit extended

Bank credit to the business sector increased in 2008, in real terms, while credit to the government and small business declined. The latter may reflect a drop in demand and also credit rationing by banks.

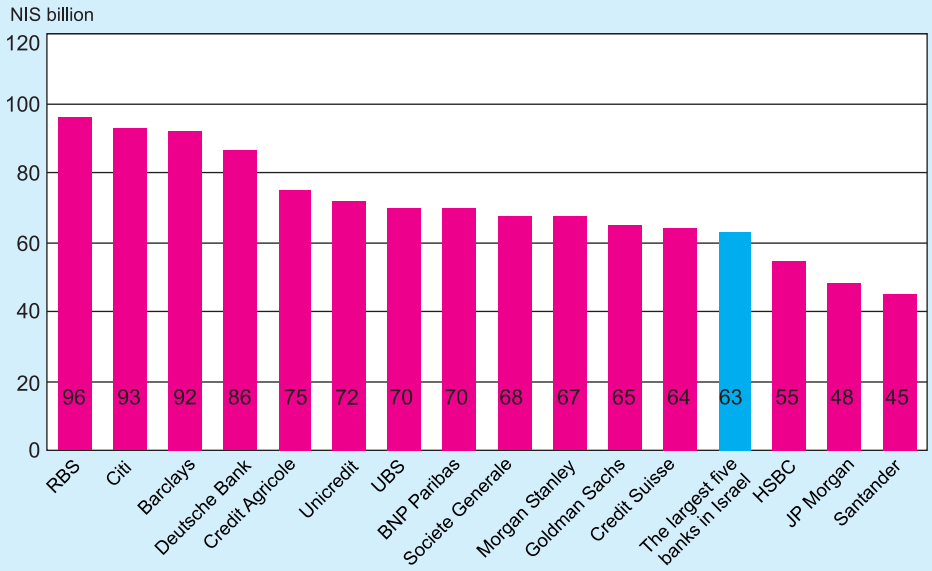
[24] Credit rationing is a situation in which a commercial bank avoids extending finance (credit) to a project or to a firm at the market interest rate or even at higher interest rates. This is in a situation where a borrower's credit risk (the probability of loan repayment default) is so high that when it is taken into account, the profit expectancy from extension of the credit is marginal. Such a situation can also arise when the bank has only partial information on the borrower's repayment ability.

[25] This aggregate is biased because of the banks' differing definitions of small businesses.

to business firms during this period was granted to those from the construction and real estate industry, an industry that until 2007 was prominent among those raising non-bank credit. This development is indicative of a shift in demand to bank credit. This shift in demand to the banks has its advantages and disadvantages: On the one hand, the banking system is specialized in extending credit and efficiently managing borrower portfolios and the risk inherent in them during recession periods as well, when borrowers' resilience declined, and is adept in responding to loan restructuring requirements. The shift in demand therefore has the effect of increasing the efficiency of the supply of financial services. On the other hand, the shift in demand is once again increasing the concentration in the credit market and thereby boosting the banks' market power, in a banking system that is already concentrated.

The banks' profitability, as reflected by the ROE of the five banking groups, fell

Figure 4.13
The Decline in the Market Value of Banks in Israel and Selected Banks Abroad, June 2007 to January 2009



SOURCE: Bank of Israel.

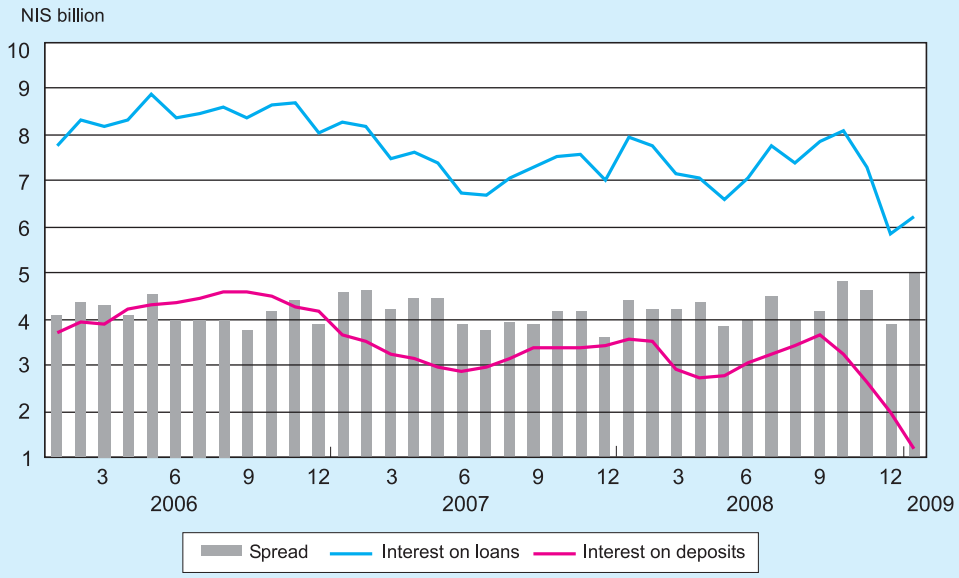
The banks' profitability fell considerably in 2008, mainly due to the realization of risks, reflected also in an increased in loan loss provision.

considerably in the first three quarters of 2008, to 4.2 percent compared with 15.6 percent and 17.3 percent in 2007 and 2006 respectively. Additional write-offs during the last quarter of the year are very likely to be registered so that profitability in 2008 is expected to be even lower. The decline in profitability derives from, among other things, their holdings of foreign mortgage based securities (MBS). The loan-loss provision relative to bank credit rose to 0.31 percent in the first three quarters of 2008

(compared with 0.17 percent in 2007).[26] According to equities market reports, most of the largest banks will record losses for the last quarter of 2008, mainly due to the large loan write-offs which they had to make.

In view of all these developments and despite the relative resilience of the Israeli banking system, the global financial crisis was reflected by a decrease in the banks' market value (Figure 4.13). It is reasonable that the decrease partly derived from concern that the downturn in demand in Israel and abroad would lead to a decline in firms' ability to repay bank credit. The banks' market value fell to a very considerable extent, as did that of the large banks abroad mentioned in Figure 4.13; however, unlike abroad, in Israel no commercial bank has gone bankrupt or needed direct emergency intervention by the government. Also noteworthy in this respect is that in contrast to the large markets in the USA and the UK, no notable trend in real estate prices developed in Israel during recent years, nor did the trend change in the past year. In overseas markets, the reversal of this trend was instrumental for much of the impact of the global crisis.

Figure 4.14
Bank Interest Rates on Loans and Time Deposits of up to 3 Months in the Unindexed Segment, and the Spread between them, January 2006 to January 2009

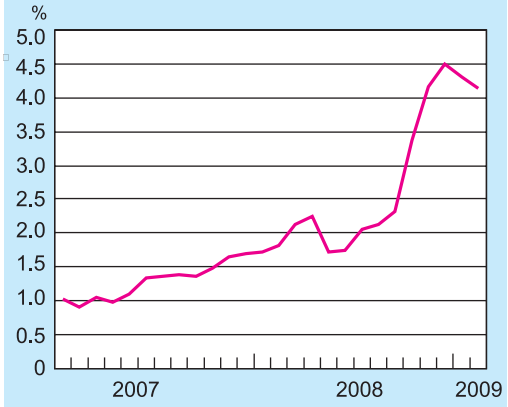


SOURCE: Bank of Israel.

[26] Since the decision in principle regarding the loan-loss provision in a given year is usually made at the end of the year, this figure could change considerably when 2008 year-end reports are published.

The expansionary monetary policy undertaken by the Bank of Israel in response to the crisis can be effective in mitigating the development of the recession if the market interest rates are lowered too. In this respect the rise in the risk premium partly offset the effectiveness of the policy. The spread between the marginal bank interest rates on loans and time deposits of up to 3 months in the unindexed segment rose in the second half of 2008 (see Figure 4.14),[27] and the question is to what extent this increase reflects the rise in borrowers' credit risk (Figure 4.15) and the banks' exposure to it, and to what extent it reflects the banks' exploitation of the market power, resulting from the shift in demand for credit to the banking sector. It is, however, too early to identify empirically whether commercial banks indeed exploit their increasing market power.

Figure 4.15
The Credit Risk Premium Calculated from the Yield Gap between Corporate Bonds[a] and Government Bonds, January 2007 to February 2009



[a] Excluding the real estate industry.
SOURCE: Bank of Israel.

b. The insurance companies

The insurance companies' position deteriorated during the year.[28] The deterioration largely derived from life insurance activity, which is more sensitive to the capital market and accounts for approximately half of the insurance industry's premium income. General insurance activity was less seriously affected. This was because the deterioration in the nonfinancial situation has not yet been fully reflected in their financial results.

Life insurance assets totaled NIS 140 billion the end of 2008, of which 60 percent were concentrated in profit sharing plans (see Table 4.7) which contracted by 12 percent in 2008 after years of rapid growth, and accounted for 7.5 percent of the public's asset portfolio at the end of the year.

The insurance companies' financial results show a large fall in income and a move to a small aggregate loss.

The insurance companies' financial results in 2008 show a large decline in income and a move to a small aggregate loss of NIS 60 million compared with a profit of NIS 2.1 billion year-on-year.

While profitability on general insurance activity remained positive, if low, and premium income from it rose by 6 percent, life insurance activity moved to a loss. Contributing to the downturn in profitability were the losses in the capital market and the move to negative yields on profit sharing policies, which prevented the companies

[27] For the marginal rates and not average rates we used the banks' data for the current month only.
[28] The data are based on the five largest insurance companies' financial reports for September 2008.

Table 4.7
Institutional Investors: Main Developments, 2004–08

	Mutual funds	Provident and severance pay funds	Advanced study funds	Pension funds		Life insurance schemes[a]		Total
				Old	New[b]	Guaranteed yield	Profit sharing	
				Balance[c] (NIS billion, current prices)				
2004	101.1	163.7	60.5	124.2	23.8	43.6	58.1	575.0
2005	124.6	163.7	71.2	142.3	44.3	47.3	70.9	664.3
2006	111.5	173.5	78.6	145.7	53.8	48.5	83.0	694.5
2007	119.3	186.1	88.0	157.1	62.8	50.1	96.4	760.0
2008	98.3	142.1	70.8	235.9[d]	69.1	54.9	84.8	755.9
				Percent of total institutional investors' savings[e]				
2004	17.6	28.5	10.5	21.6	4.1	7.6	10.1	100.0
2005	18.8	24.6	10.7	21.4	6.7	7.1	10.7	100.0
2006	16.1	25.0	11.3	21.0	7.7	7.0	11.9	100.0
2007	15.7	24.5	11.6	20.7	8.3	6.6	12.7	100.0
2008	13.0	18.8	9.4	31.2	9.1	7.3	11.2	100.0
				Percent of public's asset portfolio				
2004	7.1	11.5	4.3	8.7	1.7	3.1	4.1	40.5
2005	7.6	9.9	4.3	8.6	2.7	2.9	4.3	40.3
2006	6.1	9.4	4.3	7.9	2.9	2.6	4.5	37.8
2007	5.8	9.0	4.3	7.6	3.1	2.4	4.7	36.9
2008	5.2	7.5	3.8	12.5	3.7	2.9	4.5	40.1
				Net accrual (NIS billion, current prices)[f]				
2004	13.9	1.0	2.7	-4.2	3.7			17.1
2005	16.0	2.5	2.8	-3.8	17.9[g]			17.5
2006	-18.3	-0.8	3.0	-4.3	6.2			-14.2
2007	5.0	-0.7	3.7	-4.2	6.4			10.2
2008	-9.4	-8.8	-0.6	-4.4	8.0			-15.1

[a] Asset balances of life insurance plans do not include fixed assets, receivables and deferred purchasing expenses.

[b] Including general pension funds and central pension provident funds.

[c] All institutional investor assets are net of investments in mutual fund.

[d] Since February 2008, assets of the old pension funds include the government's undertaking to help them. That undertaking has applied since 2003, but only in February 2008 were the funds directed to record it as part of their assets. The balance of the undertaking changes every month, and in December 2008 it totaled NIS 76.7 billion.

[e] Includes: mutual and training funds, which are defined as short- to medium-term investments, and provident funds, pension funds and life insurance plans, which are defined as institutional and contractual long-term savings.

[f] Excluding transfers between funds.

[g] Including a one-time deposit in a central pension provident fund.

SOURCE: Based on mutual funds' returns to the Bank of Israel and data of the Capital Market, Insurance and Savings Division of the Ministry of Finance.

from charging variable management fees. These can only be charged again after the cumulative yield (which includes the period of negative yield) becomes positive again.[29]

The insurance companies' equity capital decreased in 2008, and their ratio of Tier 1 capital to total assets also declined.

The global financial crisis was reflected in the resilience of the insurance companies: In 2008 equity capital fell at all of the large companies compared with the previous year, and the ratio of Tier 1 capital to total assets also dropped. The move to losses and the erosion in the value of assets, which was charged to capital, created a deficit in the equity capital of part of the companies, which responded by augmenting the capital required. On the basis of present trends, the insurance companies will have to raise Tier 1 and Tier 2 capital in the near future in order to adhere to supervisory requirements.

The risks inherent in the insurance companies' large exposure to the capital market materialized during the year, and their exposure to credit risks increased. Particularly notable was the insurance companies' major dependence on their performance in the markets, which increased as the reform processes were implemented. This resulted from the increased proportion of marketable assets in profit sharing life insurance plans, the investment of the nostro portfolio, and the move to revaluation at market prices of the nontradable assets in the profit sharing life insurance portfolio. The profit sharing plans were less exposed to the corporate bond market than the provident funds (27 percent of the portfolio as compared to 40 percent). However, these plans' exposure to overseas activity increased more than that of the provident funds (21 percent as compared to 10 percent).

The turbulence in global markets and the decline in the resilience of financial institutions worldwide highlighted the reinsurers' risk deriving from the high concentration in this area.

The turbulence in global markets and the decline in the resilience of financial institutions worldwide highlighted reinsurers' risk:[30] Reinsurers' liabilities to the insurance companies totaled NIS 10 billion in September. The concentration in the area is high, while no reliance can be placed on reinsurers' high rating in this period, and diversification needs to be expanded by increasing the number of reinsurers (as did indeed happen).

Due to the nature of their activity, liquidity risk at the insurance companies is relatively low because of the long term of their liabilities and the loss incurred by insureds in the event of early withdrawal of a policy. At the level of the single company however, the risk that insureds will transfer plans to another company exists. Despite the financial crisis, the insurance industry did not experience large scale withdrawals and transfers. The reform applied at the beginning of 2009, which permits mobility between long-term saving plans, will require the insurance companies to adjust their level of liquid assets due to the possibility that members might move from life insurance plans to other channels of long-term saving, such as provident funds and pension funds.

[29] Under the regulations, when the yield on profit sharing plans is negative, they must produce a positive yield of the same size in the future before the companies are eligible to participate (15 percent) in the profits.

[30] Reinsurers– Large insurance companies abroad to which part of the insurance risk can be sold in return for a premium.

c. The provident funds

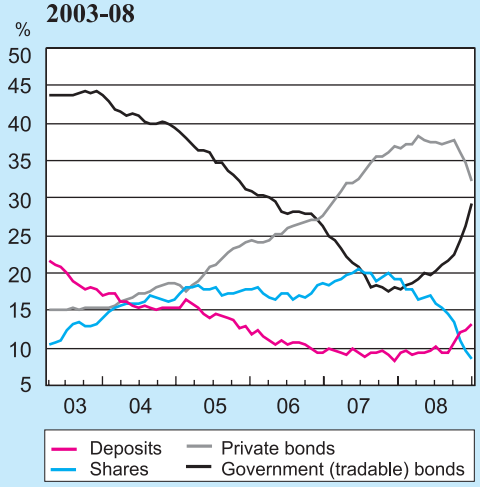
i. Investment policy and the composition of the portfolio

The provident funds recorded a negative net accrual of NIS 8.8 billion in 2008, and an abnormal negative yield of 15.4 percent.

The banks' sale of the provident funds to the insurance companies and other managers was almost completed in 2008, and at the end of the year the banks managed less than 8 percent of the provident fund industry's assets. The assets of the provident funds and the severance pay funds, which are managed by over 500 funds, decreased to a major extent in 2008 and reached NIS 145.4 billion compared with NIS 188.9 billion in 2008. This resulted from the large increase in withdrawals and the negative returns on investments. Withdrawals from the provident funds totaled NIS 8.8 billion in 2008[31] compared with NIS 700 million in 2007, and the cumulative yield was negative and reached –15.4 percent.

The higher rate of withdrawals during the year was connected to the global financial crisis, which led to a large decrease in the prices of financial assets and prompted the public to seek lower risk forms of investment. The provident funds, which had been perceived as a long-term solid form of investment, increased their risk exposure during recent years, sometimes even without the members being aware of it (Figure 4.16).

Figure 4.16
Composition of the Asset Portfolio of Provident and Severance Pay Funds, 2003-08



SOURCE: Bank of Israel.

As an example, the provident funds purchased shares and corporate bonds and increased the proportion of these securities in their portfolios at the expense of government bonds and deposits (Table 4.8). Accordingly, their exposure to leveraged investments in real estate abroad[32] increased and the correlation between their assets increased as well due to the high correlation between share prices and corporate bond prices at times of crisis. As a result, the funds presented abnormal negative yields in the second half of the year, and the amount of withdrawals from them increased for this reason.

The growth in withdrawals from the funds may also have partly resulted from the complexity and accompanying uncertainty of the process of transferring the funds' assets from the banks to other managers which the members had not chosen. In some cases, the same member's funds were transferred to a number of different managers.

[31] Excluding transfers between funds.
[32] Capital raised in Israel served as equity for leveraged investments abroad.

Table 4.8
Composition of Institutional Investors' Portfolio, by Type of Asset, 2006–08

(percent)

	Investments abroad[a]			Shares			Private bonds			Government bonds			Other assets[b]		
	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008
Provident and severance pay funds	8.9	10.5	7.2	18.5	19.2	8.6	29.7	36.7	32.2	28.0	20.6	33.1	14.9	13.0	18.9
Advanced study funds	9.6	9.6	7.2	18.2	19.6	10.8	29.9	37.8	32.3	25.1	18.1	29.8	17.2	14.9	19.9
Old pension funds	3.3	7.9	4.4	3.5	3.8	1.9	9.0	12.8	7.1	78.1	70.4	81.1	6.1	5.1	5.5
New (general) pension funds	6.3	6.9	5.1	16.4	17.1	6.1	30.9	35.6	25.4	29.4	23	45.8	17.0	17.4	17.6
New (comprehensive) pension funds[c]	7.9	10.7	8.3	7.4	9.5	5.1	19.5	21.7	17.8	51.5	44.7	47.6	13.7	13.4	21.2
Mutual funds	17.4	13.4	6.1	14.2	13.3	4.2	14.4	20.1	11.3	29.6	32.1	36.7	24.4	21.1	41.7
Guaranteed-yield insurance plans[d]	1.7	1.8	1.4	1.5	1.5	1.3	7.5	9.3	11	66.6	65.4	66.1	22.7	22.0	20.2
Profit-sharing insurance plans[d]	18.0	19.6	16.3	20.3	19.7	11.2	24.2	27.5	26.7	18.1	14.4	22.9	19.4	18.8	22.9
All institutional investors	9.7	10.9	6.8	12.8	13.3	5.6	19.6	25.1	18.3	41.7	36.5	50.7	16.2	14.2	18.6

[a] Including investments in Israeli securities traded abroad, foreign securities, deposits abroad and mutual funds. Does not include investments in ETFs traded in Tel Aviv that track indices abroad.

[b] *Makam,* indexed and unindexed deposits, loans, mutual fund units, property rights, futures, mortgage portfolios and other assets.

[c] Including the Central Pension Provident Fund.

[d] Investment assets only for life-insurance schemes.

SOURCE: The Capital Market, Insurance and Savings Division of the Ministry of Finance, and returns from the mutual funds to the Bank of Israel.

ii. Problematic aspects of the provident fund industry and the lessons of the crisis

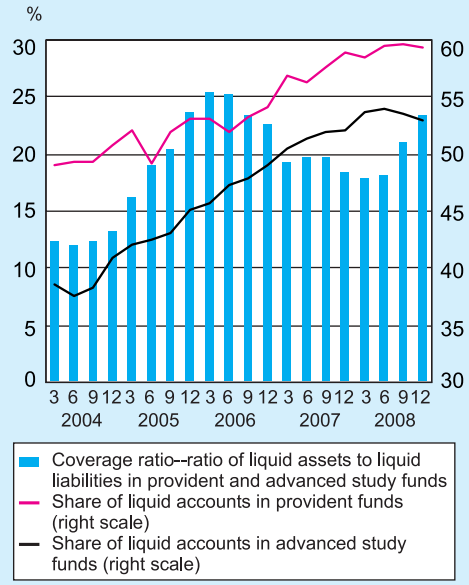
Although the provident fund industry is perceived as a long-term saving instrument, most of the money managed in it can be withdrawn at short notice.

a. Although the provident fund industry is perceived as a long-term saving instrument, most of the money managed in them (nearly 60 percent of the total) can be withdrawn at short notice, at the decision of the member (Figure 4.17). This is the case with money that was deposited in the provident funds in the past, for periods of 15 years (and which can be withdrawn once the funds reach maturity).

As a result, and since yields are published frequently, the funds' investments are managed on the basis of short-term considerations, and the amount of liquid assets which the funds are required to hold is large. Although the reform implemented in 2004, which permits new deposits in the provident funds for retirement age only, does address this problem, its impact is gradual and will take a long time to become fully effective.

b. The age distribution of savers in the provident funds is very broad and savers' preferences vary. The deposits of young members, whose saving horizon is long term, are managed together with the money of members who are approaching retirement age. The present crisis has highlighted the problematic nature of the existing method (which has been known for a long time) and prompted the development of different investment tracks in the funds, as reflected by the growing transfer of money between investment tracks at the same fund manager. However, there is still a very real need for the approval of personal provident funds, which are managed in accordance with the specific mix of investments determined by the member in accordance with his age and preferences.

Figure 4.17
The Share of Liquid Accounts in the Provident and Advanced Study Funds' Liabilities, and their Coverage Ratio, March 2004 to December 2008



SOURCE: Based on data of the Capital Market, Insurance and Savings Division in the Ministry of Finance.

The crisis experienced by the provident fund industry in the past year has led to the question of whether it is necessary to restore part of the restrictions that were previously imposed on the composition of the provident funds' portfolio. This is mainly due to the increased tendency to take risks as a result of the growing competition in the industry. The reform applied in the provident funds' investment regulations in 2002 transferred the responsibility of the management of investments to the fund managers while providing them with complete freedom of action.

The only investment regulations remaining after the reform were stability oriented restrictions,[33] and restrictions concerning the diversification of investments. Recent years' experience however and especially the fact that the provident funds increased their exposure to credit risk in an uncontrolled manner, raises the question of whether the transfer of responsibility for the funds was justified. As an example, the funds increased their exposure to credit to the business sector to nearly 40 percent of their entire portfolio. This was before they managed to develop the professional expertise necessary for managing credit risks. They therefore relied almost completely on the rating companies, without receiving suitable collateral and without diversifying the risks among different sectors.

The provident funds increased their credit to the business sector to nearly 40 percent of their entire portfolio, before they had developed the professional expertise necessary for managing credit risks.

In view of all these developments, it appears necessary to apply the sector-specific restrictions that are imposed on the banking system to all types of institutional investors as well, and to determine differential investment regulations according to the savers' age. In this manner, the closer are savers to retirement age, the lower will be the level of risk which the fund will be allowed to incur. This is in line with a Finance Ministry directive that is due for implementation in 2009.

In 2008 the provident funds were prepared for a larger wave of withdrawals than actually occurred, and managed to cope with the increased amount of withdrawals. Despite the upsurge in withdrawals, the funds succeeded in increasing their liquidity ratio[34] in the second half of the year by boosting their holdings of liquid assets. Although the liquidity ratio increased, it is still low, and a further increase is necessary in view of the higher proportion of corporate bonds, which have relatively low liquidity, in the funds' portfolio during recent years, and in light of the financial instability, and concern over a possible upsurge in withdrawals.

d. The new pension funds

The new pension funds' assets totaled NIS 48.3 billion at the end of 2008 (excluding the assets of central annuity provident funds),[35] a decrease of 3.4 percent compared with the asset balance at the end of 2007. The decrease in the asset balance, like the continued large accruals in the funds (NIS 6.3 billion), resulted from the 11 percent negative yield on investment during 2008.

The new pension funds also increased their exposure to tradable assets since the reform of the industry in 2003.

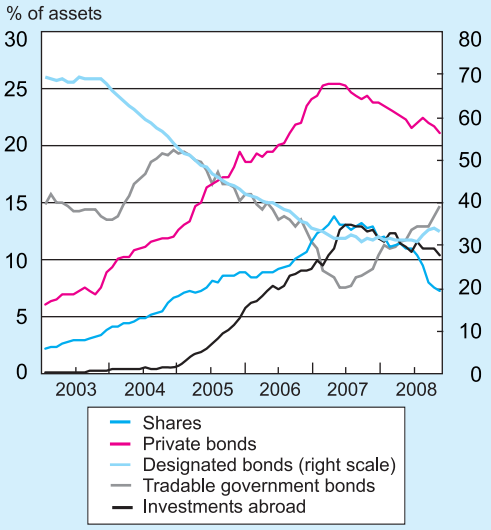
The negative yield on investments derived from the pension funds' increasing exposure to tradable assets since the reform of the industry in 2003. Following the reform, the proportion of designated bonds in the funds' portfolio gradually fell concurrent with a rise in the proportion of tradable assets such as government bonds, corporate bonds, shares and investments abroad (Figure 4.18). But since the pensions funds still benefit from up to a 30 percent holding of designated bonds in their

[33] See footnote 2.

[34] The ratio of liquid assets to liquid liabilities. Liquid assets are cash and current accounts (including foreign curency), *makam*, and tradable assets abroad, excluding forward assets abroad.

[35] Established pension funds exist as well. These are closed to new members, and the asset volume managed by them at the end of 2008 amounted to NIS 230 billion.

Figure 4.18
Composition of the Asset Portfolio of the New Comprehensive Pension Funds,[a] 2003-08



[a] Excluding central pension provident funds.
SOURCE: Bank of Israel.

portfolio, their exposure to volatility in the markets is lower than that of other institutional investors. The negative yields from which they suffered in 2008 were therefore also lower.

As the funds still benefit from a 30 percent holding of designated bonds in their portfolio, their exposure to volatility in the markets is lower than that of other long-term institutional investors.

Two far-reaching changes were applied in the long-term savings industry during 2008. These changes are expected to have a long-term impact on the volume and the structure of long-term saving. The first change was the application of the Compulsory Pension Law, which should increase the volume of long-term saving. The second change was the application of uniform investment regulations and identical tax benefits for all saving instruments. This is expected to create uniformity among all forms of savings. As a result, selection of the savings track will be free of extraneous considerations and will be based solely on yield, level of risk, quality of service and level of management fees. It is important that any future change will retain these principles.

A compulsory pension law was applied for the first time in 2008, and uniform regulations were determined for all forms of long-term saving.

Most of the pension funds' assets, 98 percent, are managed by the insurance companies. The concentration in the industry is still very high: Just two funds managed nearly 70 percent of the industry's assets.

5. THE FINANCIAL MARKETS

a. The shekel/foreign currency market

i. Development of the exchange rate

The exchange rate of the shekel[36] appreciated by 2 percent against the dollar in 2008 and by 8 percent against the effective currency basket, which is calculated in accordance with the weightings of Israel's foreign trade (Figure 4.19).

The development of the shekel against the dollar was not uniform during the year, and was affected by global factors–principally the worsening of the global financial crisis–and by such local factors as the economy's good fundamentals and the Bank of Israel's foreign currency purchases (Figure 4.20).

The development of the shekel against the dollar was not uniform during the year.

[36] Throughout this section the reference is to the representative rate of the dollar, unless stated otherwise.

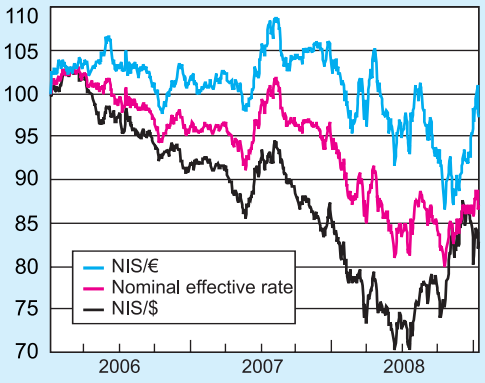
Two principal periods, differing from each other in the exchange rate trend, can be discerned in the development of the shekel against the dollar:

The first half of the year—This period saw a nominal appreciation of 16 percent against the dollar and an appreciation of 14 percent in the effective nominal exchange rate. This means that apart from strengthening against the dollar, the shekel stregthened against other currencies as well.[37] The appreciation, which began back at the beginning of 2006, increased in August 2007 due to the worldwide weakening of the dollar after the announcement of the heavy losses of large investment banks in the USA on mortgage backed financial instruments.

The second half of the year—This period saw a nominal depreciation of 16 percent against the dollar and a depreciation of 7 percent in effective nominal exchange rates. Accordingly, most of the depreciation against the dollar derived from the worldwide strengthening of the dollar.

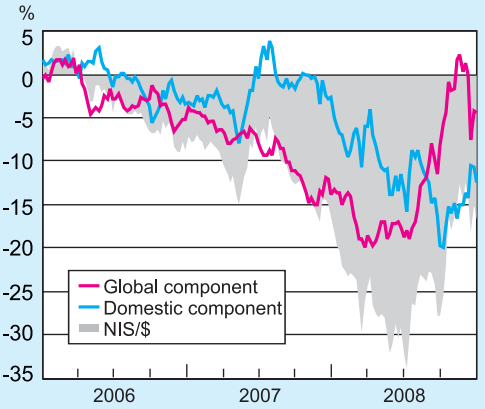
Unlike the appreciation trend in the fourth quarter of 2007, in the first half of 2008 the strengthening of the shekel against the dollar derived mainly from local factors[38] and only partly from global factors. This is apparent from the development of the dollar against the currencies of both the developing and developed countries (Figure 4.21): It transpires that the dollar weakened against other currencies as well during

Figure 4.19
Indices of the NIS/$ and NIS/€ Exchange Rates and of the Nominal Effective Exchange Rate
(1 January 2006 = 100)



SOURCE: Bank of Israel.

Figure 4.20
The Global and Domestic Components of the Cumulative Changes in the NIS/$ Exchange Rate, 2006-08
(based on weekly rates of change)

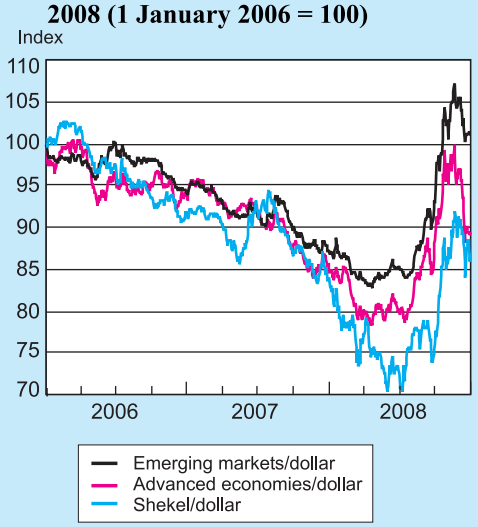


SOURCE: Bank of Israel.

[37] Regarding the manner of calculating the nominal exchange rate, see Y. Sofer (2005), "The Real Exchange Rate Index in Israel and its Effects on Exports and Imports," Foreign Currency Issues, Bank of Israel.

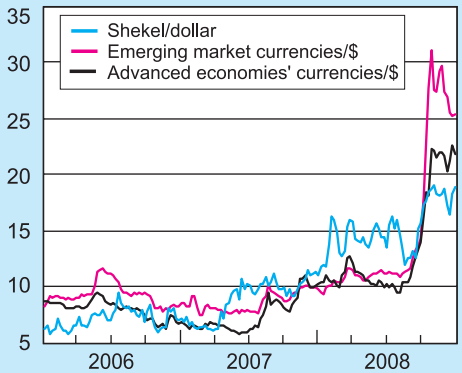
[38] The change which we attribute to the local rate of the dollar is calculated as that part of the change in the rate of the shekel against the dollar which cannot be explained by the change in cross rates.

Figure 4.21
Indices of the Exchange Rates of the Shekel, Emerging Market Currencies, and Advanced Economies' Currencies against the Dollar, January 2006 to December 2008 (1 January 2006 = 100)



SOURCE: Bank of Israel.

Figure 4.22
Implied Volatility of Shekel/Dollar Options on the TASE[a] compared with that of Options of Advanced Economies' and Emerging Markets' Currencies against the Dollar (weekly data)



[a] Tel Aviv Stock Exchange.
SOURCE: Bank of Israel.

that period, although to a lesser extent than in Israel.

Among the main reasons for the strengthening of the shekel against the dollar and against other currencies during this period are:

(1) The continued improvement in the economy's fundamentals as reflected by an increase in Israel's credit rating by Standard and Poor's in November 2007 and by Fitch in February 2008, and by the OECD's decision to initiate the process for accepting Israel to the organization. Accordingly, nonresidents continued to make portfolio investments in Israel despite the global crisis. In addition, the growth in activity in the Israeli economy continued during the first half of 2008, reaching an annualized growth rate of 5.3 percent. This was in contrast to the developed and developing countries, which experienced a slower pace of growth. As a result of these developments, the shekel became an attractive currency for investment.

Among the reasons for the strengthening of the shekel against the dollar in the first half of 2008 were Israel's strong economic fundamentals and the continued growth in activity.

From the end of 2007 and until April 2008, the US central bank cut the interest rate by a cumulative 2.25 percent, including two consecutive rate cuts in January at a cumulative rate of 1.25 percent, in order to cope with the credit crunch that developed as a result of the financial crisis. During the same period, the Bank of Israel interest rate was cut by only half a percent. The interest rate differentials in favor of the shekel increased the demand for it in the short term, and thereby contributed to its strengthening.

The Bank of Israel's foreign currency purchases were among the factors that moderated the appreciation of the shekel.[39] (See Chapter 3 for details of the Bank of Israel's foreign currency purchases.)

The second half of the year was notable for a strengthening of the dollar, a worsening of the real crisis in the rest of the world, and large interest rate cuts in the developed and the developing countries down to a low interest rate environment. This was in order to cope with the credit crunch and support aggregate demand. During this period, global factors were mainly responsible for the depreciation of the shekel against the dollar. The principal factors were:

In the second half of 2008 the shekel weakened against the dollar as the dollar strengthened world wide, and due to the Bank of Israel's program of foreign currency purchases.

(1) The worsening of the real crisis in the rest of the world and the low inflation environment, which led to large interest rate cuts worldwide and in Israel, with further rate cuts expected.

(2) A change in the scale of the Bank of Israel's foreign currency purchases. On July 10, the Bank of Israel announced an adjustment to the foreign currency purchase program, whereby from that day it would purchase dollars at a daily amount of $ 100 million.

(3) Foreign investors' large redemptions in the equities market, and Israeli residents' continued investment in equities markets abroad.

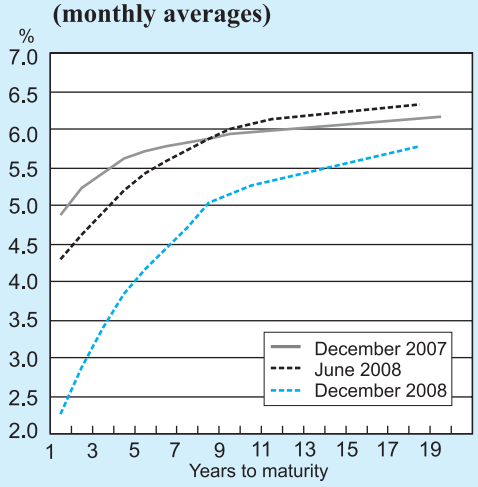
ii. Exchange rate risk

The level of currency risk increased in Israel and worldwide during 2008. The risks expected in the exchange rate, as measured by the implied volatility of shekel/dollar options in the stock market, rose and reached record levels during the year, amounting to an average of 15 percent, an upsurge of 7 percentage points compared with 2007. A multiyear analysis of worldwide volatility shows that the upturn began back in April 2007. Implied volatility rose continually during 2008, peaking towards the middle of February. This upturn conformed to the large appreciation of the shekel which developed in the same period, and reflected the high levels of exchange rate risk as perceived by the players in the market. An analysis of the probabilities of a large appreciation/depreciation of over 3 percent, which were also derived from options in that period, shows that individuals changed their assessment regarding the levels of risk of a sharp fluctuation in the exchange rate (sum of the probabilities of a depreciation and appreciation of over 3 percent). This reached a level of over 40 percent compared with average levels of 10 percent in recent years.

The risk increased again in October, and reached record levels in November and December. The increase in exchange rate risk during that period matched the rise in exchange rate risk in the developing and developed countries (Figure 4.22).

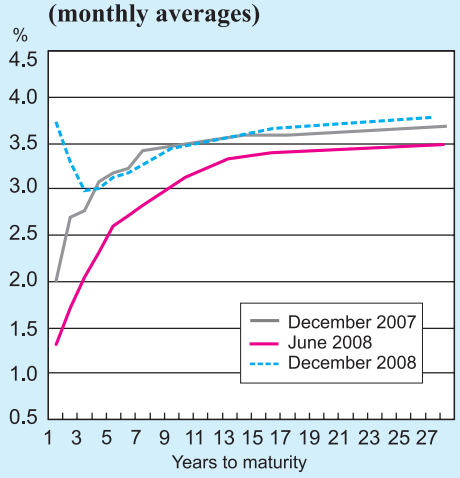
[39] On March 13 and 14, the Bank of Israel issued (at the end of the trading day) a press release stating that it had purchased dollars at a cumulative amount of $ 600 million (the amount was published at the end of the month). On March 20 (in the middle of the trading day), the Bank of Israel announced a program for increasing the foreign exchange reserves, whereby from March 24 it would purchase dollars at a daily amount of $ 25 million.

Figure 4.23a
Yield Curve of Unindexed, Fixed Interest Government Bonds, December 2007 to December 2008 (monthly averages)



SOURCE: Bank of Israel.

Figure 4.23b
Yield Curve of CPI-Indexed Government Bonds, December 2007 to December 2008 (monthly averages)



SOURCE: Bank of Israel.

During 2008 the average daily bid-ask spread in the shekel/dollar market expanded by 15 percent to 0.4 agora, due to the increased uncertainty and risk in foreign currency investments during the year. This is not surprising, because in conditions of uncertainty, market makers increase their spreads in order to compensate for uncertainty. The development of bid-ask spreads was not uniform in the course of the year. As an example, large increases in the spreads were observed towards the end of 2008 concurrent with a rise in implied volatility.

b. Government bonds

The market value of marketable government bonds reached NIS 300 billion at the end of 2008 (Table 4.9), and they were one of the few forms of investment that yielded a positive and large return during the year: 5 percent among CPI-indexed bonds and 12 percent among unindexed shekel bonds. The positive returns on government bonds resulted from a growth in demand for relatively low risk investment instruments, and from the Bank of Israel's rapid rate cuts in the last third of the year which produced capital gains for investors (Figure 4.23).

Israeli residents' growth in demand for investment in bonds was accompanied by nonresidents' offloading. This greatly reduced the latter's holdings of fixed rate unindexed bonds, from 12.8 percent of the stock in mid-2007 to 3.1 percent at the end of 2008. Due however to Israeli residents' increased demand for bonds, nonresidents' offloading did not hinder the downturn in yields.

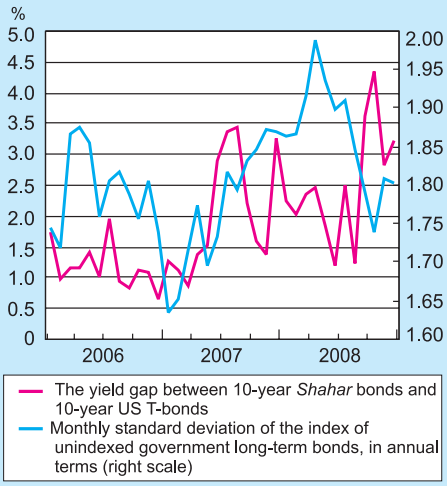
Despite the decline in yields, risks increased in the government bond market as well during 2008. The increase was reflected by a rise in volatility, although this

The rapid growth in government bond turnover ceased in 2008 because of foreign investors' reduced activity in them as a result of the global crisis.

was far more moderate than in corporate bonds, and by an expansion in the spread between the yields on Israel Government bonds and US government bonds. In the last third of the year, this spread reached the highest level for years (Figure 4.24).

Trading turnover in government bonds rose to a moderate extent in 2008 following a large increase in 2007, and reached a daily average of NIS 3.4 billion. The increase was centered among mixed and floating rate unindexed bonds. A large decrease was recorded in the trading turnover in the MTS system[40] as the result of reduced activity by foreign investors. Trading turnover in the MTS thereby became marginal relative to total turnover in government bonds, and amounted to only 10 percent (Table 4.6).

Figure 4.24
Yield Gap Between 10-Year Unindexed Israeli Government Bonds and 10-Year US T-Bonds, and the Standard Deviation of Unindexed Government Bonds, 2006-08 (annual data)



SOURCE: Bank of Israel.

Table 4.9
Total Market Value of Securities Traded on the Tel Aviv Stock Exchange, 2004–08

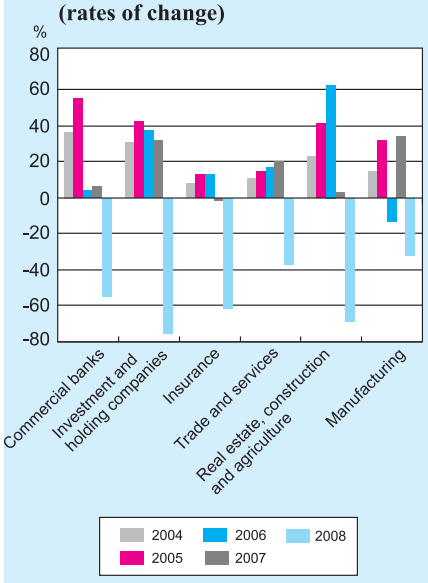
	2004	2005	2006	2007	2008
	(NIS billion, at current prices)				
Total	**667.6**	**834.7**	**981.2**	**1175.2**	**904.8**
Percent of GDP	118.4	139.6	153.1	174.5	126.7
Shares and convertibles	284.7	379.6	472.3	591.4	301.4
Government bonds, total	252.9	261.4	265.1	269.4	312.9
Makam	75.4	87.2	96.9	77.5	72.0
Corporate bonds	29.4	58.0	84.8	152.2	134.7
Convertibles	6.0	11.1	9.7	8.4	3.9
Structured bonds and CDs	12.8	29.1	37.6	49.4	55.3
ETFs[a]	5.1	7.0	13.1	25.7	23.2
Futures contracts	1.4	1.4	1.7	1.3	1.4
Composition of government bonds by indexation base			(percent)		
CPI indexed	44.6	42.0	42.6	41.7	42.0
Foreign currency indexed	0.1	0.1	0.1	0.1	0.1
Unindexed fixed interest	32.7	36.0	38.9	39.5	42.8
Unindexed variable interest	22.6	22.0	18.4	18.7	15.2
Composition of corporate bonds by indexation base			(percent)		
CPI indexed	85.8	91.8	93.0	90.1	88.2
Foreign currency indexed	6.6	4.7	1.2	5.2	4.6
Unindexed	7.6	3.5	5.8	4.7	7.2

[a] Exchange traded funds.
SOURCE: Based on Tel Aviv Stock Exchange data and direct reports to the Bank of Israel by issuers of ETFs.

[40] A separate trading system intended only for market makers in government bonds appointed by the Finance Ministry.

c. The share market

Figure 4.25
Prices of Shares and Convertibles in Selected Industries, 2004-08 (rates of change)



SOURCE: Based on Tel Aviv Stock Exchange data.

The Tel Aviv 100 index plummeted by 50 percent in 2008, after rising for five years by a cumulative 245 percent.

Share prices[41] plummeted by 50 percent in 2008 after rising by an annual average of 28 percent for five consecutive years (a cumulative increase of 245 percent). The price slide began at the very start of the year after reaching record levels in December 2007. In the first quarter of 2008, shares lost 20 percent of their value. Following an upturn of 6 percent in the second quarter, the downtrend resumed and lasted for the next two quarters, when share prices fell by 18 percent and 25 percent respectively.

The heavy price slide was all-embracing, and included shares in different market value groups and in different industries (Figure 4.25). Particularly notable were real estate companies, whose shares fell by 80 percent following the bursting of the real estate bubble in the USA and a number of other countries, and high-tech companies whose value dropped by 60 percent due to expectations of reduced profitability as the nonfinancial crisis worsened and world demand slumped. Smaller losses were posted among commerce and services companies and manufacturing companies, whose shares fell by 30 percent. These negative developments in the local market matched global trends in both the emerging markets and the developed markets, and reflected expectations of a large decline in companies' profitability and a much slower pace of global growth (Figure 4.26).

The correlation between the Israeli share index and share indices in the rest of the world increased considerably in 2008.

The correlation between the Israeli share index and share indices in the rest of the world increased considerably. This shows that the trends in the local equities markets were influenced almost entirely by external forces. Such a phenomenon is not unique to the Israeli market and is one of the dominant characteristics of the present crisis, making it difficult for investors to diversify their investments in order to reduce risk.

Continuing the trend that began in the fourth quarter of 2007 with the onset of the global economic crisis, daily volatility rose to new record levels.[42] Average volatility in 2008 amounted to 37 percent compared with 19 percent in 2007, and reached a record level in the last quarter of 2008 as uncertainty and the level of risk increased,

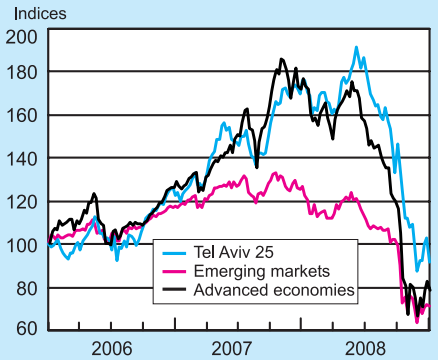
[41] The change refers to the Tel Aviv 100 Index.

[42] Volatility is measured as the actual implied volatility in the daily changes in the Tel Aviv 100 Index for a period of 30 days, and is calculated in annual terms.

Daily volatility of share prices rose to 37 percent in 2008 compared with 19 percent in 2007.

and as the crisis worsened.[43] As a result, the implied volatility calculated from the forecast distribution of the Maof Index, which is the future implied volatility expected by investors and reflects the future level risk in the market, reached particularly high levels. The upturn in implied volatility began in September and peaked in November. This trend matched the trend in the American market, as reflected by the VIX Index, which like implied volatility, measures the levels of risk in the market and is also indicative of the correlation and contagion prevailing in the financial markets.

Figure 4.26
Share Price Indices in Israel and Abroad, 2006 to 2008
(31 December 2005 = 100)

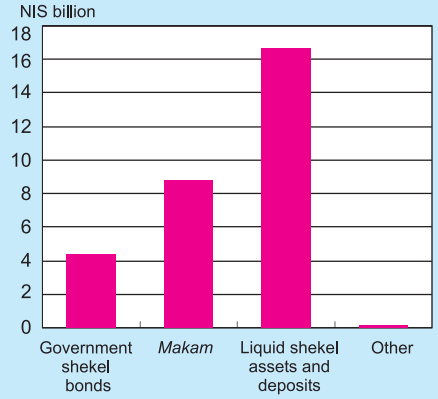


SOURCE: Bank of Israel.

The large downturns in the equities markets were also reflected by a steep decline in the volume of issues in the markets. The amount of capital raised from the public in the local market totaled NIS 3.1 billion in 2008 compared with NIS 14 billion in 2007. Moreover, because of the difficulties in obtaining credit many companies resorted to raising capital by means of rights issues, and in 2008 these issues accounted for 64 percent of total issues compared with only 10 percent in 2007. A large decrease was recorded in the number of IPOs in the equities market. In fact, only one company floated an IPO of shares, at an amount of NIS 36 million, compared with 2007 when these IPOs totaled NIS 10 billion and accounted for 70 percent of total issues.

The amount of capital raised from the public by share issues in the local market totaled NIS 3.1 billion in 2008 compared with NIS 14 billion in 2007.

Figure 4.27
Composition of the Assets of the Money Market Funds, December 2008



SOURCE: Bank of Israel.

Average daily turnover in the stock market fell slightly in 2008, for the first time in five years, and amounted to NIS 2 billion compared with NIS 2.1 billion in 2007. A large decrease in turnover was recorded in the fourth quarter of the year, to a daily average of NIS 1.6 billion compared with NIS 2.3 billion in the fourth quarter of 2007.

[43] As an example, during the four trading days between November 20 and November 25, the Tel Aviv 100 Index fell by 12 percent in the first two days and during the next two days, rose again by 11 percent.