# TRANSFERRING THE MANAGEMENT OF THE PROVIDENT AND MUTUAL FUNDS FROM THE BANKS

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The paper reviews the performance of bank and non-bank mutual funds in Israel. The issue is of particular interest because of legislation (the Bachar Reforms) that required the banks to divest the mutual funds under their control. The legislation was designed to reduce the banks' influence in the local capital market and introduce new additional intermediaries in these markets. It was also understood, that the legislation would tend to reduce conflicts of interests and bring about better returns for investors. The banks sold off their mutual fund holdings, in fact quite a bit ahead of schedule and in that sense the reforms can be viewed as a success.

On the other hand, the data indicate that the relative performance over time of the non-bank funds has been poor and no better than bank fund performance. The published data on non-bank performance tends, however, to (mistakenly) show otherwise, in part because of survivor-bias problems - i.e. the surviving funds perform better than the funds that close and for which returns are no longer reported. In sum, the performance data as well as the fact that these funds are required to pay the banks additional marketing fees as well as costly regulatory requirements in Israel raise doubts as to whether the non-bank funds will be able to provide satisfactory returns over time.

## 1. THE BACKGROUND TO THE RECOMMENDATIONS OF THE BACHAR COMMITTEE REGARDING THE PROVIDENT AND MUTUAL FUNDS

The Bachar Committee recommended that the commercial banks in Israel should not be allowed to manage provident and mutual funds. Even though the banks were given several years in which to sell these funds, the recommendations regarding the mutual funds have already been implemented and the commercial banks have sold their mutual funds to outside parties, mainly to companies abroad and insurance firms. The instructions regarding the sale of the provident funds are also in the process of being implemented. Prior to these

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changes the commercial banks managed about 80 percent of the public's money, which was invested in the provident and mutual funds.

The decision to take the provident and mutual funds away from the banks was intended (as stated in the law) "to establish a competitive structure in Israel's capital market, improve its efficiency and working methods, and increase public welfare, primarily by reducing concentration and minimizing conflicts of interest in the entities operating within it, expanding the supervision and regulation of these entities and of those who control and own them."

The importance of these objectives is indicated, inter alia, by the numerous research studies published in Israel on these subjects. Blass, Yafeh and Yosha (1998) found that one of the first reforms undertaken in the late 1980s and early 1990s—the government's decision to send (earmarked) credit—acted to strengthen the position and power of the commercial banks because they controlled the provident and mutual funds: had it not been for this control these funds could have served as a nonbank source of finance. Many articles have pointed to the inadequate performance of the provident and mutual funds controlled by the banks (see Blei, 2003; Blass, 1996, Fiszman, 1994). Another problem involved the relatively high administration fees charged (relative to performance). The policymakers also estimated that the concentration in the capital market was not efficient, and even harmful to economic development (Blass and Yosha, 2001). Other studies (see Ber, Yafeh and Yosha) addressed another issue—conflicts of interest between the management of money by the banks for the investing public and the banks' traditional function of extending credit to the business sector. Yosha (1995) found that if the provident funds were to be sold to a third party, the adverse effect on efficiency (due to the loss of economies of scale) would be far less than the improvement in general welfare as a result of the increase in competition.

All the above—banking concentration, the banks' control of and concentration in the provident and mutual funds, the inadequate performance of the funds, and the conflicts of interest—caused researchers to conclude, joined eventually by the lawmakers, that it was necessary to reduce the connection between the commercial banks and the provident and mutual funds.

Although the commercial banks are supposed to have stopped managing money in the framework of the provident and mutual funds, under the Bachar reform they may still serve as investment advisors. The Committee recommended that payment for investment advice should be received directly from customers and not from the new managers of the provident and mutual funds. The banks claimed that it would be more efficient to charge the provident and mutual funds directly. A compromise arrangement was eventually reached under which the banks will charge the provident and mutual funds an annual fee of between 0.25 percent (for local-currency funds) and 0.8 percent (for share funds) directly.

In Section 2 we give a brief account of developments since the submission of the Bachar Committee Report regarding the sale of the provident and mutual funds and the returns that have been recorded. In Section 3 we describe the relative performance of mutual funds managed by banks and by private entities, including 'survivor bias,' and show that funds returns are considerably below the relevant benchmarks; we also examine the factors affecting relative performance. In Section 4 we review the relatively high management fees. In Section 5 we show that there is no 'persistence' of performance, and the probability that a

fund which succeeded in a given year will continue to do so in the next is not particularly high. In Section 6 we address provident fund performance and show that they too tend to underperform, albeit the magnitude of such underperformance is low relative to the mutual funds (including the bond funds). Section 7 contains our conclusions.


## 2. DEVELOPMENTS SINCE THE BACHAR REFORM

Once the reforms were implemented most of the banks' mutual funds were sold to new administrators (Table 1). The assets held by the funds that were sold amounted to about NIS 96 billion. The initial sales brought in about 4 percent of asset value, while later divestitures brought in only about 2 percent.

**Table 1**
**Sales of Mutual Funds**

| Selling bank | Funds | Buying entity | Total assets at end-2005 (NIS billion) |
| --- | --- | --- | --- |
| Total | | | <u>96.3</u> |
| Hapoalim | Pecan/Lahak | Markstone (abroad) | 38.2 |
| Leumi | Pie | Harel (insurance) | 14.8 |
| Leumi | Psagot | York (abroad) | 16.5 |
| Discount | Ilanot | Clal (insurance) | 14.0 |
| Mizrahi | Emda | Menora-Mivtahim (mainly) | 4.2 |
| Mizrahi | Afikim | Migdal (insurance) | 2.7 |
| First International | Dikla | Migdal (insurance) | 4.1 |
| Jerusalem | Jerusalem | Meitav (private) | 0.6 |
| Massad | Massad-Yahav | Yashir Investment House | 1.2 |

SOURCE: Based on the Praedicta system.

After the funds were sold, investors redeemed their holdings in record amounts. Redemptions were especially large in the Pecan funds, but also in Psagot, Harel-Pie, Ilanot-Discount, and Menora. Total redemptions in these five alone amounted to about NIS 30 billion in 2006 (Table 2).

**Table 2**
**Redemptions in Mutual Funds from November 2005**

| Selling bank | Funds | Buying entity | Net redemptions in 2006 (NIS billion) |
| --- | --- | --- | --- |
| Total | | | 30.0 |
| Hapoalim | Pecan | Markstone (abroad) | 16.9 |
| Leumi | Pie | Harel (insurance) | 2.1 |
| Leumi | Psagot | York (abroad) | 4.7 |
| Discount | Ilanot | Clal | 4.6 |
| Mizrahi | Emda | Menora-Mivtahim | 1.7 |

SOURCE: Based on Golden Funds and information received from the funds.

This extent of these redemptions has been unprecedented, and particularly during a boom on the stock market. There were apprehensions that the commercial banks had exploited their position as advisors and recommended that their customers liquidate their accounts in the funds that had just been sold, buying instead regular deposits or structured deposits *plus* CPI-indexed certificates from the banks. The extent of redemptions appears to have been checked in recent months.

With regard to the provident funds, to date mainly the provident funds of Bank Leumi have been sold to the Prisma (Markstone) Group, and in the last few months Bank Hapoalim's Gadish Fund and the funds of the First International Bank have been sold.

It can be said that one of the principal aims of the Bachar Committee, the reduction of concentration, has been attained. Not only have the banks sold or are in the process of selling their funds, but the new owners include entities located abroad that were not previously active in Israel's capital market.

Nevertheless, the redemptions of mutual funds (despite the boom in the stock market) and the return of these funds to the commercial banks erodes this success. Furthermore, a similar phenomenon may occur over time after the sale of the provident funds, if the banks are allowed to offer alternative products (pensions and life insurance).

Over and above this, the extent of success will depend, inter alia, on the degree to which private entities manage to obtain adequate returns for savers. With this in mind, we address two issues:

1. Is the performance of the nonbank financial intermediaries expected to be systematically better, on the basis of past experience, than that of the banking intermediaries?

2. What are the trends in the management fees of the new entities in relation to the bank charges?

An important assumption underlying the Bachar reforms and previous studies was that the performance of the funds would improve after they had been taken away from the banks. This assumption was based on studies showing that the returns in the funds managed by banks were relatively low, as well as on research indicating that the performance of the bank funds was inferior to that of private funds.

In this study, we examine on the basis of the past whether it is reasonable to expect the performance of different managers to be better. Note in this context that the conclusions that may emerge from comparing published indices of performance are likely to ignore the problem of 'survivor bias.'

This phenomenon, which has been examined extensively abroad (Blake, Elton and Gruber, 2001; Blake and Timmerman, 1998), leads to the conclusion that the average reported return on existing funds over-estimates actual performance of the funds as a group (or of a given manager) because some of the funds have been closed over time and their returns are not included in the averages calculated. Since it is actually the less successful funds, whose returns were lower, that tended to be closed, the result is that the relatively low returns of these funds are not included in the average.

In order to illustrate this point, assume that a new manager opens two funds of similar size. The returns on one were 25 percent and on the other 5 percent. Assume, too, that towards the end of the year the second, less successful fund is combined with the first one.

At the end of the year the data will indicate that the manager in question had only one fund which yielded a return of 25 percent. In fact, however, the investors who invested their money with this manager did not obtain a return of 25 percent on average, but obtained only 15 percent (half of them gained 25 percent while the other half gained only 5 percent).

Note that the extent of the bias need not necessarily be identical between the various entities: the more active a manager is in opening and closing funds, and the greater the variance between the funds he manages, the greater will be the bias. Consequently, reports about the connection between the relative performance of various entities may not actually reflect  true performance differences.

Additional bias (which is apparently less relevant abroad, and to the best of our understanding has not been identified there) relates to the fact that reports about funds in Israel do not include data (and especially returns) about funds which changed their reported category of concentration or track  (e.g., switched from a 'flexible' track to one based on stocks). If the performance of the funds which changed track is inferior to that of those which did not, this could also contribute to the fact that the average reported returns will be biased downward.

With regard to fees, even if it is found that certain managers are expected to attain (significantly) better results, the level of fees could depress net returns (after fees).

## 3. RELATIVE PERFORMANCE AND THE PROBLEM OF 'SURVIVOR BIAS' IN MUTUAL FUNDS

In order to undertake a thorough examination of the subject of the relative performance of the mutual funds, we purchased data from the Praedicta company which relate to the funds which have been active since 1993, including those that have ceased to be active or have changed their purpose.

The data provided by Praedicta include the name and original serial number of the fund as well as data about returns, Sharpe Index, standard deviation, composition of investments, value of assets, management fees, etc.

Altogether there are data about some 1,100 funds in the period from 1994 to 2005. We had to undertake several operations with regard to the database:

1.   Managed by bank or privately. The owners registered in the file are the new owners as of today. As a result, it was necessary to correct the names of the managers in those instances where the funds had been sold.

2.   Removing "taxable" funds that owed tax. In order to create a uniform basis for comparison we relate only to those funds that are 'tax exempt' and not to those that are 'taxable' in which taxes are deducted at the source ( that is charged directly to the mutual fund) in some years.

3.   Reducing the sample to defined groups of investments. We relate here to three track groups of funds: stock funds (of all kinds, except for those operating in foreign stock markets), 'flexible' funds, which allow  managers a relatively extensive amount of judgment regarding the fund's investment policy, and government bond funds (but not short term paper or

foreign-currency ones). After the adjustments were made we were left with data for 249 funds and 1,670 observations (a fund in a given year constitutes an observation) (Table 3).

The data in Table 3 show that private entities tend to specialize in 'flexible' funds, and private bond funds tend to be smaller than those of banks.

**Table 3**
**Funds, Observations, and Amount of Assets, by Type of Management**

|  | All funds | Flexible | Stock | Bonds |
|---|---|---|---|---|
|  | No. of funds | | | |
| Total | 249 | 43 | 135 | 71 |
| Bank | 131 | 16 | 78 | 37 |
| Private | 118 | 27 | 57 | 34 |
|  | No. of observations | | | |
| Total | 1,670 | 319 | 958 | 393 |
| Bank | 962 | 140 | 625 | 197 |
| Private | 708 | 179 | 333 | 196 |
|  | Average size of fund in 2005 (NIS million) | | | |
| Total | 152.8 | 84.3 | 61.7 | 344.4 |
| Bank | 169.9 | 90.8 | 56.8 | 430.5 |
| Private | 131.5 | 80.7 | 69.4 | 249.9 |

SOURCE: Based on data from Praedicta.

We compare the performance of the funds with the base indices of the assets in which they are invested: the stock funds with the general share price index, the bond funds with the general bond price index, and the flexible funds with a weighted average reflecting the composition of the average actual investments over time—the general share price index (75 percent) and the general bond price index (25 percent). Note, too, that since 2003 the mutual funds have been exempt and do not pay tax—neither on dividends and capital gains nor on the interest on bonds—and these taxes are deferred until the fund is sold by the investor. On the other hand, the share price index and the bond price index are indices which include dividends and interest *after* tax. Hence, in order to create a uniform basis for the comparison we added to the general share price index and the general bond price index respectively the relative tax deductions in these channels as of 2003.

We first relate (Table 4) to funds which persisted and survived until the end of 2005 and also did not change their investment track. In all the groups (shares, flexible, bonds) and with all kinds of management the funds attained gross average returns (before deducting fees) which were lower than the relevant benchmark. The gap is 0.8 percentage points a year for the bond funds, 2.1 percentage points a year for the flexible funds, and 2.8 percentage points a year for the share funds. When the average is weighted by fund size (in each year) the differences are even greater: 0.9 percentage points in the bond funds, 2.6 percentage points in the flexible funds, and 3.2 percentage points in the share funds. Moreover, the standard deviation of the annual averages is higher in all the groups than that of the relevant benchmark. The average return in the private share and flexible funds which survived until 2005 is 1.5 percentage points higher than that in the bank funds. On the other and, the return in the private bond funds is 0.7 percentage points lower than in the bank bond funds.[1]

[1] On a weighted basis, the difference increases by 2.5 percentage points in the share and flexible funds while there is no difference in the bond funds.

**Table 4**
**Returns in Funds (which survived to 2005 and did not change track)**

| | | Bond funds | | | Bond price index | Flexible funds | | | Flexible index | Share funds | | | Share price index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Private | Bank | Total | | Private | Bank | Total | | Private | Bank | Total | |
| 1994 | Yield | -0.164 | -0.054 | -0.088 | **0.092** | -0.268 | -0.302 | -0.288 | **-0.268** | -0.390 | -0.354 | -0.361 | **-0.388** |
| | N | 5 | 11 | 16 | | 6 | 8 | 14 | | 8 | 32 | 40 | |
| | S.D | 0.062 | 0.065 | 0.082 | | 0.205 | 0.060 | 0.143 | | 0.048 | 0.077 | 0.073 | |
| 1995 | Yield | 0.077 | 0.099 | 0.091 | **0.093** | 0.127 | 0.089 | 0.107 | **0.131** | 0.047 | 0.118 | 0.100 | **0.144** |
| | N | 7 | 11 | 18 | | 7 | 8 | 15 | | 11 | 32 | 43 | 7 |
| | S.D | 0.038 | 0.036 | 0.039 | | 0.040 | 0.044 | 0.046 | | 0.047 | 0.073 | 0.074 | 0.038 |
| 1996 | Yield | 0.136 | 0.117 | 0.125 | **0.131** | -0.032 | 0.012 | -0.009 | **0.030** | -0.016 | -0.011 | -0.012 | **-0.004** |
| | N | 8 | 11 | 19 | | 7 | 8 | 15 | | 12 | 33 | 45 | |
| | S.D | 0.070 | 0.059 | 0.065 | | 0.118 | 0.066 | 0.097 | | 0.059 | 0.063 | 0.062 | |
| 1997 | Yield | 0.185 | 0.188 | 0.187 | **0.125** | 0.327 | 0.277 | 0.301 | **0.300** | 0.324 | 0.335 | 0.332 | **0.358** |
| | N | 9 | 11 | 20 | | 7 | 8 | 15 | | 12 | 33 | 45 | |
| | S.D | 0.037 | 0.066 | 0.055 | | 0.115 | 0.061 | 0.094 | | 0.051 | 0.079 | 0.072 | |
| 1998 | Yield | 0.083 | 0.086 | 0.084 | **0.091** | 0.065 | 0.055 | 0.060 | **0.056** | 0.067 | 0.003 | 0.022 | **0.045** |
| | N | 9 | 11 | 20 | | 9 | 8 | 17 | | 14 | 33 | 47 | |
| | S.D | 0.074 | 0.035 | 0.056 | | 0.087 | 0.058 | 0.075 | | 0.087 | 0.064 | 0.077 | |
| 1999 | Yield | 0.192 | 0.181 | 0.186 | **0.064** | 0.527 | 0.621 | 0.571 | **0.507** | 0.693 | 0.655 | 0.666 | **0.654** |
| | N | 10 | 12 | 22 | | 9 | 8 | 17 | | 14 | 35 | 49 | |
| | S.D | 0.075 | 0.098 | 0.088 | | 0.258 | 0.118 | 0.210 | | 0.186 | 0.128 | 0.148 | |
| 2000 | Yield | -0.008 | -0.006 | -0.007 | **0.045** | -0.087 | -0.162 | -0.122 | **0.018** | -0.132 | -0.120 | -0.123 | **0.009** |
| | N | 11 | 12 | 23 | | 9 | 8 | 17 | | 15 | 39 | 54 | |
| | S.D | 0.045 | 0.038 | 0.042 | | 0.124 | 0.032 | 0.100 | | 0.080 | 0.109 | 0.102 | |

**Table 4 (cont.)**

| | | Bond funds | | | | Flexible funds | | | | Share funds | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Private | Bank | Total | Bond price index | Private | Bank | Total | Flexible index | Private | Bank | Total | Share price index |
| 2001 | Yield | 0.050 | 0.073 | 0.061 | **0.132** | -0.106 | -0.133 | -0.118 | **-0.013** | -0.102 | -0.140 | -0.128 | **-0.062** |
| | N | 12 | 12 | 24 | | 10 | 8 | 18 | | 19 | 41 | 60 | |
| | S.D | 0.046 | 0.051 | 0.050 | | 0.130 | 0.072 | 0.109 | | 0.096 | 0.071 | 0.082 | |
| 2002 | Yield | -0.038 | -0.083 | -0.059 | **0.000** | -0.160 | -0.245 | -0.194 | **-0.147** | -0.255 | -0.282 | -0.273 | **-0.196** |
| | N | 14 | 13 | 27 | | 12 | 8 | 20 | | 21 | 45 | 66 | |
| | S.D | 0.054 | 0.068 | 0.065 | | 0.115 | 0.100 | 0.117 | | 0.043 | 0.081 | 0.072 | |
| 2003 | Yield | 0.204 | 0.217 | 0.210 | **0.142** | 0.570 | 0.467 | 0.529 | **0.455** | 0.713 | 0.605 | 0.639 | **0.559** |
| | N | 14 | 13 | 27 | | 12 | 8 | 20 | | 21 | 46 | 67 | |
| | S.D | 0.079 | 0.102 | 0.091 | | 0.221 | 0.207 | 0.222 | | 0.182 | 0.175 | 0.184 | |
| 2004 | Yield | 0.084 | 0.074 | 0.079 | **0.062** | 0.202 | 0.168 | 0.189 | **0.154** | 0.195 | 0.193 | 0.194 | **0.185** |
| | N | 15 | 13 | 28 | | 12 | 8 | 20 | | 23 | 50 | 73 | |
| | S.D | 0.023 | 0.036 | 0.030 | | 0.086 | 0.090 | 0.089 | | 0.041 | 0.063 | 0.057 | |
| 2005 | Yield | 0.087 | 0.079 | 0.083 | **0.066** | 0.223 | 0.192 | 0.212 | **0.269** | 0.259 | 0.245 | 0.250 | **0.337** |
| | N | 24 | 24 | 48 | | 15 | 8 | 23 | | 32 | 55 | 87 | |
| | S.D | 0.034 | 0.018 | 0.028 | | 0.084 | 0.061 | 0.078 | | 0.082 | 0.099 | 0.093 | |
| Average | Yield | **0.074** | **0.081** | **0.079** | **0.087** | **0.116** | **0.087** | **0.103** | **0.124** | **0.117** | **0.104** | **0.109** | **0.137** |
| | N | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** |
| | S.D | **0.031** | **0.027** | **0.027** | **0.012** | **0.077** | **0.081** | **0.079** | **0.066** | **0.099** | **0.092** | **0.094** | **0.087** |

SOUR SOURCE: Based on Praedicta data.

**Table 5**
**Returns in Funds (all funds)**

| | | Bond funds | | | | Flexible funds | | | | Share funds | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Private | Bank | Total | Bond price index | Private | Bank | Total | Flexible index | Private | Bank | Total | Share price index |
| 1994 | Yield | -0.136 | -0.063 | -0.091 | **0.092** | -0.265 | -0.280 | -0.272 | **-0.268** | -0.394 | -0.355 | -0.364 | **-0.388** |
| | N | 8 | 13 | 21 | | 13 | 11 | 24 | | 13 | 39 | 52 | |
| | S.D | 0.096 | 0.064 | 0.085 | | 0.143 | 0.086 | 0.120 | | 0.067 | 0.090 | 0.086 | |
| 1995 | Yield | 0.075 | 0.091 | 0.084 | **0.093** | 0.082 | 0.087 | 0.084 | **0.131** | 0.045 | 0.101 | 0.083 | **0.144** |
| | N | 11 | 13 | 24 | | 15 | 11 | 26 | | 18 | 40 | 58 | |
| | S.D | 0.052 | 0.038 | 0.046 | | 0.074 | 0.058 | 0.068 | | 0.082 | 0.078 | 0.083 | |
| 1996 | Yield | 0.143 | 0.120 | 0.131 | **0.131** | -0.046 | 0.000 | -0.026 | **0.030** | -0.011 | -0.014 | -0.013 | **-0.004** |
| | N | 12 | 13 | 25 | | 15 | 12 | 27 | | 20 | 42 | 62 | |
| | S.D | 0.060 | 0.056 | 0.059 | | 0.096 | 0.122 | 0.111 | | 0.063 | 0.072 | 0.069 | |
| 1997 | Yield | 0.175 | 0.175 | 0.175 | **0.125** | 0.175 | 0.292 | 0.227 | **0.300** | 0.277 | 0.328 | 0.312 | **0.358** |
| | N | 13 | 13 | 26 | | 15 | 12 | 27 | | 20 | 43 | 63 | |
| | S.D | 0.036 | 0.070 | 0.056 | | 0.296 | 0.074 | 0.233 | | 0.121 | 0.084 | 0.100 | |
| 1998 | Yield | 0.080 | 0.078 | 0.079 | **0.091** | 0.013 | 0.046 | 0.027 | **0.056** | 0.035 | -0.002 | 0.012 | **0.045** |
| | N | 13 | 13 | 26 | | 16 | 13 | 29 | | 25 | 44 | 69 | |
| | S.D | 0.065 | 0.038 | 0.053 | | 0.130 | 0.061 | 0.106 | | 0.119 | 0.068 | 0.092 | |
| 1999 | Yield | 0.187 | 0.183 | 0.185 | **0.064** | 0.535 | 0.601 | 0.567 | **0.507** | 0.623 | 0.638 | 0.632 | **0.654** |
| | N | 15 | 14 | 29 | | 14 | 13 | 27 | | 26 | 46 | 72 | |
| | S.D | 0.068 | 0.091 | 0.080 | | 0.257 | 0.154 | 0.216 | | 0.209 | 0.142 | 0.169 | |
| 2000 | Yield | -0.005 | -0.016 | -0.010 | **0.045** | -0.137 | -0.125 | -0.131 | **0.018** | -0.144 | -0.130 | -0.135 | **0.009** |
| | N | 16 | 16 | 32 | | 14 | 13 | 27 | | 26 | 53 | 79 | |
| | S.D | 0.045 | 0.057 | 0.052 | | 0.138 | 0.067 | 0.110 | | 0.095 | 0.117 | 0.110 | |

**Table 5 (cont.)**

| | | Bond funds | | | | Flexible funds | | | | Share funds | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Private | Bank | Total | Bond price index | Private | Bank | Total | Flexible index | Private | Bank | Total | Share price index |
| 2001 | Yield | 0.056 | 0.056 | 0.056 | 0.132 | -0.111 | -0.124 | -0.117 | -0.013 | -0.118 | -0.137 | -0.130 | -0.062 |
| | N | 17 | 16 | 33 | | 16 | 13 | 29 | | 32 | 59 | 91 | |
| | S.D | 0.041 | 0.061 | 0.052 | | 0.133 | 0.075 | 0.111 | | 0.089 | 0.077 | 0.082 | |
| 2002 | Yield | -0.033 | -0.113 | -0.073 | 0.000 | -0.163 | -0.222 | -0.188 | -0.147 | -0.252 | -0.291 | -0.277 | -0.196 |
| | N | 17 | 17 | 34 | | 16 | 12 | 28 | | 36 | 64 | 100 | |
| | S.D | 0.066 | 0.088 | 0.087 | | 0.110 | 0.088 | 0.105 | | 0.041 | 0.086 | 0.076 | |
| 2003 | Yield | 0.184 | 0.203 | 0.193 | 0.142 | 0.508 | 0.441 | 0.480 | 0.455 | 0.701 | 0.614 | 0.648 | 0.559 |
| | N | 20 | 17 | 37 | | 16 | 12 | 28 | | 35 | 54 | 89 | |
| | S.D | 0.078 | 0.100 | 0.090 | | 0.220 | 0.184 | 0.208 | | 0.187 | 0.174 | 0.184 | |
| 2004 | Yield | 0.082 | 0.074 | 0.078 | 0.062 | 0.195 | 0.142 | 0.173 | 0.154 | 0.195 | 0.185 | 0.188 | 0.185 |
| | N | 23 | 18 | 41 | | 13 | 9 | 22 | | 36 | 69 | 105 | |
| | S.D | 0.023 | 0.032 | 0.028 | | 0.086 | 0.113 | 0.102 | | 0.049 | 0.071 | 0.064 | |
| 2005 | Yield | 0.092 | 0.078 | 0.084 | 0.066 | 0.219 | 0.186 | 0.207 | 0.269 | 0.274 | 0.250 | 0.260 | 0.337 |
| | N | 31 | 34 | 65 | | 16 | 9 | 25 | | 46 | 72 | 118 | |
| | S.D | 0.036 | 0.022 | 0.031 | | 0.083 | 0.060 | 0.077 | | 0.084 | 0.111 | 0.102 | |
| Average | Yield | 0.075 | 0.072 | 0.074 | 0.087 | 0.084 | 0.087 | 0.086 | 0.124 | 0.103 | 0.099 | 0.101 | 0.137 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| | S.D | 0.028 | 0.028 | 0.027 | 0.012 | 0.074 | 0.077 | 0.075 | 0.066 | 0.095 | 0.092 | 0.093 | 0.087 |

SOURCE : Based on Praedicta data.

When not only the return on the funds that survived until 2005 is included but also that on those which ceased to operate as well as those which changed track, it transpires that the average return falls (Table 5). In the share and flexible funds the average return falls by 0.8 and 1.7 percentage points respectively.[2] In the bond funds, too, the return falls by about 0.5 percentage points. These differences constitute an estimate of the extent of survivor bias in Israel, and the bias stems from the fact that the returns on the funds that were closed (or changed track) were relatively low.

The bias we measured is relatively large in the private funds, and was 1.4 and 3.2 percentage points respectively in the share and flexible funds, while the bias in the bank funds was small—only 0.5 percentage points in the share funds, 0.9 percentage points in the bond funds, and 0 in the flexible funds. After adjusting for the bias there is no real difference between the average return in the private and the bank funds. However, if the weighted (by size) average return of the private funds is compared with that of the bank funds the difference remains (in favor of the private funds) and is between 1.5 and 2.5 percentage points in the flexible and share funds.

As a result of adjusting for the bias the average performance is even lower relative to the bond price and share price indices: the gap in the flexible and share funds is 3.6—3.8 percentage points, before deducting fees.[3] The difference increases because the under-performance of the funds that were closed amounts to 5 percentage points in the bond funds and more than 10 percentage points in the share and flexible funds.

Note that there is no change in the results when the performance of the funds is examined in different periods, and in any event their relative performance does not improve over time. Thus, for example, the worst years (relative to the performance indices) of the share funds were 1997, 2000, and 2005.

In order to examine the factors which operate to cause a fund to be closed we ran a Probit regression in which the dependent variable was closure/non-closure of a fund in a given year. The data indicate that the net return after management fees in the year prior to the closure (relative to the relevant index) tends to be significant (at the 10 percent significance level) in the negative direction. The larger the fund and the greater the quantity of assets managed by the management group, the less is the probability of closure. Similarly, all thing equal,  the probability of that  a private fund will be closed (relative to that of a bank fund) is larger and statistically significant.

In order to examine whether management by a bank has an adverse or beneficial effect on a fund's performance, after taking other factors into consideration, we ran regressions on the panel of returns (Table 7). Note that the analysis below is based on the methodology for examining the relative performance of funds which has become accepted since Jensen's study (1967). According to this methodology, the excess return in a fund, relative to risk-free interest, is a function of excess return in the market and other variables.

In our model, in columns 1 and 2 we analyze the excess return of each fund in each year as a function of bank management, the excess return in the share market (and the interaction

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[2] On a weighted basis, the difference is 0.1 and 0.3 percentage points in the flexible and share funds.

[3] And slightly less on a weighted basis—between 2.9 and 3.3 percentage points.

with the excess return in the case of flexible or bond funds), the excess return of the residual shares, the size of the fund, the size of the managing group, and dummy variables for the bond and flexible funds.[4]

**Table 6**
**Probit Regression for Closure of a Mutual Fund**[1]

| Dependent Variable – closure =1 Ind. Variables | | |
|---|---|---|
| Bank | 0.406* | 0.459* |
| | 2.57 | 2.94 |
| R_bench | -0.636** | |
| | -1.78 | |
| Netr_bench | | -0.578** |
| | | -1.68 |
| Amla | 32.45* | |
| | 3.87 | |
| lrast_l_year | -0.329* | -0.351* |
| | -7.06 | -7.84 |
| Lrman_size_year | -0.138* | -0.155* |
| | -4.27 | -4.87 |
| Constant | -1.201* | -0.208 |
| | -3.94 | -1.35 |
| Log likelihood | -279.9 | -287.7 |
| N | 1,657 | 1,657 |
| Pseudo R² | 0.24 | 0.21 |

[1] The *t* statistic is shown under the coefficient.
* 5% significance level.   ** 10% significance level.
SOURCE: Based on Praedicta data.

The data show that on average bank management has a significant negative effect (column 1). The other findings are that the beta of the share funds is 1.08 while that of the bond funds is 0.28 and that of the flexible funds is 0.85. The size of the fund has a beneficial effect on (gross) returns.

There is a possibility that the risk characteristics of the bank funds as a group differ from those of the private funds. Consequently, we analyze the bond, flexible and share funds separately, assuming for each group that beyond the effect of the excess return in the share market there is also interaction between the bank funds and the excess return. By doing this we enable the average betas of the bank funds to differ from the betas of the other funds.

The data show that here, too, management by banks has a negative effect, expressed in a yield gap of about 0.25 percent a year.

[4] Findings in the US indicate that fund size can have an adverse effect on relative performance (Chen et al., 2004).

**Table 7**
**Results of Regression on Returns of Funds**[1]

| Dep. Variable | Excess Return | Bond | *Flexible* | Stock |
|---|---|---|---|---|
| Ind. Variables | | | | |
| Bank | -0.024* | -0.026* | -0.046** | -0.023** |
| | -2.83 | -2.14 | -1.65 | -1.83 |
| Mrkt_m_risk | 1.08* | 0.266* | 0.816* | 1.116* |
| | 78.6 | 14.4 | 19.76 | 46.33 |
| Dbo_mrkt_m~k | -0.794* | | | |
| | -32.32 | | | |
| Dga_mrkt_m~k | -0.231* | | | |
| | -8.99 | | | |
| Mrkt_m_rst | -0.054* | -0.168* | -0.167 | -0.114 |
| | -1.69 | -3.11 | -1.31 | -1.57 |
| Bank_mrkt_m~k | | 0.018 | 0.065 | -0.055** |
| | | 0.70 | 1.06 | -1.87 |
| Bank_ mrkt_m~t | | 0.075 | 0.213 | 0.138 |
| | | 0.98 | 1.11 | 1.55 |
| lrrast_l_year | 0.007* | 0.003 | 0.009 | 0.007* |
| | 3.00 | 1.11 | 1.29 | 2.22 |
| lrman_size~r | 0.003 | 0.004 | 0.006 | 0.00009 |
| | 1.39 | 1.13 | 1.15 | 0.03 |
| D_bond | -0.0002 | | | |
| | -0.03 | | | |
| D_gamish | -0.004 | | | |
| | -0.45 | | | |
| Constant | -0.063* | -0.050* | -0.078* | -0.045* |
| | -5.35 | -3.13 | -3.25 | -2.53 |
| R² | 0.84 | 0.59 | 0.74 | 0.87 |
| N | 1,657 | 392 | 317 | 948 |

[1] See footnote 1 in Table 6.
*  5% significance level.   ** 10% significance level.
SOURCE: Based on Praedicta data.

## 4. MANAGEMENT FEES IN MUTUAL FUNDS

We have seen that the average returns are poorer than the relevant benchmarks even before fees are paid. We now address the size of the fees.

The data indicate that the average fee is 1.9 percent in the bond funds and about 2.7 percent in the flexible and share funds. These fees are high by international standards. However, after rising in the period from 1994 to 2001, there has been a downward trend in the last few years.

Another finding is that the fees in the private funds are higher than those in the bank funds, the difference being about 0.5 percentage points on average (Table 8). Furthermore, the fees charged by the funds which did not survive were higher than those of the funds which did survive.

**Table 8**
**Management fees in funds (all funds, percent)**

| | | Bond funds | | | | Flexible funds | | | | Share funds | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Private | Bank | Total | Bond price index | Private | Bank | Total | Flexible index | Private | Bank | Total | Share price index |
| 1994 | Yield | 2.13 | 1.73 | 1.88 | 2.87 | 2.38 | 2.65 | 2.81 | 2.25 | 2.39 | 2.13 | 1.73 | 1.88 |
| | N | 8 | 13 | 21 | 13 | 11 | 24 | 13 | 39 | 52 | 8 | 13 | 21 |
| 1995 | Yield | 2.20 | 1.75 | 1.95 | 3.12 | 2.47 | 2.85 | 3.12 | 2.38 | 2.61 | 2.20 | 1.75 | 1.95 |
| | N | 11 | 13 | 24 | 15 | 11 | 26 | 18 | 40 | 58 | 11 | 13 | 24 |
| 1996 | Yield | 2.28 | 1.76 | 2.01 | 3.13 | 2.55 | 2.87 | 3.14 | 2.44 | 2.67 | 2.28 | 1.76 | 2.01 |
| | N | 12 | 13 | 25 | 15 | 12 | 27 | 20 | 42 | 62 | 12 | 13 | 25 |
| 1997 | Yield | 2.30 | 1.80 | 2.05 | 3.14 | 2.65 | 2.93 | 3.20 | 2.48 | 2.70 | 2.30 | 1.80 | 2.05 |
| | N | 13 | 13 | 26 | 15 | 12 | 27 | 20 | 43 | 63 | 13 | 13 | 26 |
| 1998 | Yield | 2.33 | 1.83 | 2.08 | 3.18 | 2.66 | 2.94 | 3.10 | 2.51 | 2.73 | 2.33 | 1.83 | 2.08 |
| | N | 13 | 13 | 26 | 16 | 13 | 29 | 25 | 44 | 69 | 13 | 13 | 26 |
| 1999 | Yield | 2.27 | 1.81 | 2.05 | 3.20 | 2.68 | 2.95 | 2.98 | 2.55 | 2.71 | 2.27 | 1.81 | 2.05 |
| | N | 15 | 14 | 29 | 14 | 13 | 27 | 26 | 46 | 72 | 15 | 14 | 29 |
| 2000 | Yield | 2.21 | 1.85 | 2.03 | 3.26 | 2.68 | 2.98 | 3.01 | 2.61 | 2.74 | 2.21 | 1.85 | 2.03 |
| | N | 16 | 16 | 32 | 14 | 13 | 27 | 26 | 53 | 79 | 16 | 16 | 32 |
| 2001 | Yield | 2.20 | 1.88 | 2.05 | 3.25 | 2.72 | 3.01 | 3.00 | 2.64 | 2.76 | 2.20 | 1.88 | 2.05 |
| | N | 17 | 16 | 33 | 16 | 13 | 29 | 32 | 59 | 91 | 17 | 16 | 33 |
| 2002 | Yield | 2.04 | 1.87 | 1.95 | 3.00 | 2.72 | 2.88 | 2.78 | 2.60 | 2.66 | 2.04 | 1.87 | 1.95 |
| | N | 17 | 17 | 34 | 16 | 12 | 28 | 36 | 64 | 100 | 17 | 17 | 34 |
| 2003 | Yield | 1.90 | 1.67 | 1.79 | 3.02 | 2.23 | 2.68 | 2.82 | 2.55 | 2.66 | 1.90 | 1.67 | 1.79 |
| | N | 20 | 17 | 37 | 16 | 12 | 28 | 35 | 54 | 89 | 20 | 17 | 37 |
| 2004 | Yield | 1.98 | 1.53 | 1.78 | 2.99 | 2.31 | 2.71 | 2.81 | 2.57 | 2.65 | 1.98 | 1.53 | 1.78 |
| | N | 23 | 18 | 41 | 13 | 9 | 22 | 36 | 69 | 105 | 23 | 18 | 41 |
| 2005 | Yield | 1.84 | 1.48 | 1.65 | 2.70 | 2.04 | 2.46 | 2.81 | 2.52 | 2.63 | 1.84 | 1.48 | 1.65 |
| | N | 31 | 34 | 65 | 16 | 9 | 25 | 46 | 72 | 118 | 31 | 34 | 65 |
| Average | Yield | **2.14** | **1.75** | **1.94** | **3.07** | **2.51** | **2.83** | **2.96** | **2.51** | **2.66** | **2.14** | **1.75** | **1.94** |
| | N | **0.047** | **0.037** | **0.039** | **0.048** | **0.064** | **0.048** | **0.044** | **0.032** | **0.028** | **0.047** | **0.037** | **0.039** |

The analysis shows that one of the factors affecting the reduction of fees is management by a bank. Thus, despite the fact that management by a bank serves to reduce the gross return it also acts to reduce fees to a similar extent.

Additional factors affecting the reduction of fees are: the fact that the fund is a bond fund, the size of the fund, and the size of the managing group (Table 9). On the other hand, the relative return attained by the fund does not affect the level of the fees.

**Table 9**
**Results of regression for management fees in funds**[1]

| Dep. Variable Fees | | | |
|---|---|---|---|
| Ind. Variables | | | |
| Bank | -0.0014* | -0.002* | -0.002* |
| | -2.68 | -5.2 | -5.12 |
| Lrast_l_year | -0.0008* | -0.0004* | -0.0004* |
| | -5.96 | -3.81 | -3.88 |
| Lrman_size~r | -0.0005* | -0.0005* | -0.0005* |
| | -4.03 | -4.10 | -4.15 |
| D_bond | | -0.008* | -0.08* |
| | | -20.53 | -20.09 |
| D-gamish | | 0.0002 | 0.0003 |
| | | 0.63 | 0.67 |
| R_bench | | | 0.001 |
| | | | 1.42 |
| Constant | 0.0318* | 0.033* | 0.033* |
| | 49.96 | 53.17 | 53.00 |
| R² | 0.10 | 0.30 | 0.30 |
| N | 1,657 | 1,657 | 1,657 |

[1] See footnote 1 in Table 6.
* 5% significance level.
SOURCE: Based on Praedicta data.

As a result of the high fees, the net return for all the funds (surviving and non-surviving, including those that changed track) falls even lower below the relevant benchmark (Table 10). The average difference is about 6.2 percentage points in the share funds, 6.6 percentage points in the flexible funds, and 3.2 percentage points in the bond funds. The difference from the base weighted by size is slightly lower, 5.8, 5.4, and 2.8 percentage points respectively.

Note that above and beyond management fees, other fees are also included, such as the purchase premium and the custodial fee, so that the net return to the investor is reduced even further.

**Table 10**
**Net yield in funds (all funds)**

| | | Bond funds | | | | Flexible funds | | | | Share funds | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Private | Bank | Total | Bond price index | Private | Bank | Total | Flexible index | Private | Bank | Total | Share price index |
| 1994 | Yield | -0.157 | -0.080 | -0.110 | **0.092** | -0.294 | -0.304 | -0.298 | **-0.268** | -0.422 | -0.377 | -0.388 | -0.157 |
| | N | 8 | 13 | 21 | | 13 | 11 | 24 | | 13 | 39 | 52 | 8 |
| | S.D | 0.096 | 0.068 | 0.088 | | 0.139 | 0.090 | 0.119 | | 0.067 | 0.091 | 0.088 | 0.096 |
| 1995 | Yield | 0.053 | 0.074 | 0.064 | **0.093** | 0.051 | 0.062 | 0.056 | **0.131** | 0.014 | 0.077 | 0.057 | 0.053 |
| | N | 11 | 13 | 24 | | 15 | 11 | 26 | | 18 | 40 | 58 | 11 |
| | S.D | 0.054 | 0.041 | 0.048 | | 0.076 | 0.064 | 0.072 | | 0.083 | 0.080 | 0.086 | 0.054 |
| 1996 | Yield | 0.120 | 0.103 | 0.111 | **0.131** | -0.078 | -0.026 | -0.055 | **0.030** | -0.042 | -0.039 | -0.040 | 0.120 |
| | N | 12 | 13 | 25 | | 15 | 12 | 27 | | 20 | 42 | 62 | 12 |
| | S.D | 0.060 | 0.053 | 0.057 | | 0.096 | 0.124 | 0.112 | | 0.065 | 0.073 | 0.071 | 0.060 |
| 1997 | Yield | 0.152 | 0.157 | 0.154 | **0.125** | 0.144 | 0.265 | 0.198 | **0.300** | 0.245 | 0.303 | 0.285 | 0.152 |
| | N | 13 | 13 | 26 | | 15 | 12 | 27 | | 20 | 43 | 63 | 13 |
| | S.D | 0.036 | 0.072 | 0.057 | | 0.296 | 0.078 | 0.234 | | 0.120 | 0.086 | 0.101 | 0.036 |
| 1998 | Yield | 0.057 | 0.059 | 0.058 | **0.091** | -0.019 | 0.019 | -0.002 | **0.056** | 0.004 | -0.027 | -0.016 | 0.057 |
| | N | 13 | 13 | 26 | | 16 | 13 | 29 | | 25 | 44 | 69 | 13 |
| | S.D | 0.065 | 0.043 | 0.055 | | 0.130 | 0.063 | 0.107 | | 0.119 | 0.070 | 0.092 | 0.065 |
| 1999 | Yield | 0.164 | 0.165 | 0.165 | **0.064** | 0.503 | 0.574 | 0.537 | **0.507** | 0.593 | 0.612 | 0.605 | 0.164 |
| | N | 15 | 14 | 29 | | 14 | 13 | 27 | | 26 | 46 | 72 | 15 |
| | S.D | 0.068 | 0.088 | 0.078 | | 0.257 | 0.153 | 0.216 | | 0.204 | 0.140 | 0.166 | 0.068 |
| 2000 | Yield | -0.027 | -0.034 | -0.031 | **0.045** | -0.170 | -0.152 | -0.161 | **0.018** | -0.174 | -0.156 | -0.162 | -0.027 |
| | N | 16 | 16 | 32 | | 14 | 13 | 27 | | 26 | 53 | 79 | 16 |
| | S.D | 0.048 | 0.062 | 0.055 | | 0.138 | 0.062 | 0.109 | | 0.095 | 0.117 | 0.111 | 0.048 |

**Table 10 (cont.)**

| | | Bond funds | | | Bond price index | Flexible funds | | | Flexible index | Share funds | | | Share price index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Private | Bank | Total | | Private | Bank | Total | | Private | Bank | Total | |
| 2001 | Yield | 0.034 | 0.038 | 0.036 | **0.132** | -0.144 | -0.152 | -0.147 | **-0.013** | -0.148 | -0.163 | -0.158 | **-0.062** |
| | N | 17 | 16 | 33 | | 16 | 13 | 29 | | 32 | 59 | 91 | |
| | S.D | 0.040 | 0.066 | 0.054 | | 0.133 | 0.074 | 0.111 | | 0.088 | 0.078 | 0.082 | |
| 2002 | Yield | -0.053 | -0.131 | -0.092 | **0.000** | -0.193 | -0.249 | -0.217 | **-0.147** | -0.280 | -0.317 | -0.304 | **-0.196** |
| | N | 17 | 17 | 34 | | 16 | 12 | 28 | | 36 | 64 | 100 | |
| | S.D | 0.067 | 0.093 | 0.090 | | 0.110 | 0.088 | 0.105 | | 0.042 | 0.087 | 0.076 | |
| 2003 | Yield | 0.165 | 0.186 | 0.175 | **0.142** | 0.478 | 0.419 | 0.453 | **0.455** | 0.673 | 0.589 | 0.622 | 0.559 |
| | N | 20 | 17 | 37 | | 16 | 12 | 28 | | 35 | 54 | 89 | |
| | S.D | 0.077 | 0.099 | 0.088 | | 0.220 | 0.184 | 0.208 | | 0.184 | 0.174 | 0.183 | |
| 2004 | Yield | 0.062 | 0.058 | 0.060 | **0.062** | 0.165 | 0.119 | 0.146 | **0.154** | 0.167 | 0.159 | 0.162 | **0.185** |
| | N | 23 | 18 | 41 | | 13 | 9 | 22 | | 36 | 69 | 105 | |
| | S.D | 0.021 | 0.030 | 0.025 | | 0.088 | 0.115 | 0.102 | | 0.048 | 0.072 | 0.065 | |
| 2005 | Yield | 0.073 | 0.063 | 0.068 | **0.066** | 0.192 | 0.166 | 0.183 | **0.269** | 0.246 | 0.225 | 0.233 | **0.337** |
| | N | 31 | 34 | 65 | | 16 | 9 | 25 | | 46 | 72 | 118 | |
| | S.D | 0.035 | 0.021 | 0.029 | | 0.083 | 0.054 | 0.075 | | 0.085 | 0.111 | 0.102 | |
| Average | Yield | **0.054** | **0.055** | **0.055** | **0.087** | **0.053** | **0.062** | **0.058** | **0.124** | **0.073** | **0.074** | **0.075** | **0.137** |
| | N | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** | **12** |
| | S.D | **0.028** | **0.028** | **0.027** | **0.012** | **0.074** | **0.077** | **0.075** | **0.066** | **0.095** | **0.092** | **0.093** | **0.087** |

SOURCE: Based on Praedicta data.

5. IS THERE PERSISTENCE IN PERFORMANCE?

Over the years only in 22 percent of the observations (the difference between private and bank funds is negligible) did the net return of stock funds exceed the return in the market. The numbers for the bond and flexible funds were 38 and 26 percent respectively (28 percent in the private funds and 24 percent in the bank funds). There was over-performance in the bond funds in years when the share market rose, apparently because considerable amounts of shares were held by the bond funds.

The question arises whether there is a tendency on the part of funds whose returns were relatively high in a given year to persist and attain a relatively high return in the subsequent year too. If this is so, the probability of over-performance in the two subsequent years will be higher than it would have been if the over-performance was random (i.e., statistically independent events).

The data show that the probability of over-performance in successive years is similar to what would have been obtained under the assumption that the events were independent: the probability that a share fund will beat the index two years in a row is 7 percent in a private fund and 5 percent in a bank fund. Since the probability of over-performance in one year is 22 percent, the probability of it happening in two successive years will be 5 percent. In the flexible funds the probability of over-performance in successive years is 10 and 5 percent (in private and bank funds), compared with probability of 8 and 6 percent assuming independence between the years. In the bond funds it is 16 and 13 percent, similar to the probability that would be obtained if the events were independent.

The figures indicate that the probability that a fund which succeeded in a given year will continue to succeed in the following year is no higher than the probability of any other fund, and that past performance is no indication of the future. Note that similar results regarding non-persistence were also obtained abroad (Bollen and Busse, 2004).[4]

Another question is relates to whether or not,(despite the general conclusion of no persistence), there exist a few funds which may be said to over-perform over time. In order to find the answer to this we calculated the number of years in which each of the 249 funds over-performed in all the years of its existence. The data show that it is not possible to identify any instance, even a narrow one, in which funds or managers are characterized by over-performance over time. This is indicated by the following findings:

1. No fund which has been active for two years or more attained over-performance in every year of its existence.

2. Only eight funds (three bank funds and five private ones) out of 171 funds which have been active for at least four years attained excess return in most of the years of their existence (three over-performed in three out of five years of activity, two over-performed in three out of four years of activity, and the others over-performed in four out of seven years, seven out of twelve years, and six out of ten years of activity respectively).

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[4] It does not necessarily follow that non-persistence indicates that there are no quality differences between managers. Similarly, it also does not indicate that collecting data about performance is wasteful as far as social welfare is concerned (see Berk and Green, 2004).

3. The eight funds are not concentrated in individual management groups and belong to seven different such groups, with only the Analyst group comprising two funds which over-performed in most years. However, the Analyst group has five other funds which under-performed in most years.

## 6. PERFORMANCE OF PROVIDENT FUNDS

The source of the data for examining the relative performance of the provident funds was the (check their exact English name on the MOF website) Capital Market Department on the Ministry of Finance's website. The data indicate that the share of private (nonbank) provident funds has risen in recent years (Table 11), even though until the end of 2005, before the implementation of the Bachar reform, the private funds accounted for only 19 percent.

**Table 11**
**Share of Assets of Provident Funds Only for Benefits**

|                              | 1993 | 1997 | 2001  | 2005  |
|------------------------------|------|------|-------|-------|
| Total Provident Funds Assets | 76.8 | 89.4 | 101.7 | 138.8 |
| Bank                         | 68.5 | 77.4 | 87.1  | 112.1 |
| Private                      | 8.2  | 12.0 | 14.6  | 26.7  |

SOURCE: Ministry of Finance.

The previously described phenomenon of funds which are closed each year is also evident among provident funds. Thus, according to the annual reports of the Capital Market Department of the Ministry of Finance, 42 funds were closed between 2000 and 2005. However, from the data published on the Ministry of Finance website it is not possible to identify 42 funds that have closed. Thus, for example, according to the Ministry of Finance's publications, 19 funds closed in 2003, but there are only three on its website with yield data for 2002 and without yield data for the whole of 2003.

**Table 12**
**Distribution Provident Fund Assets be Asset Class (in percent)**

|                              | 1997 | | 2001 | | 2005 | |
|------------------------------|---------|------|---------|------|---------|------|
|                              | Private | Bank | Private | Bank | Private | Bank |
| Cash                         | 10 | 3  | 9  | 8  | 12 | 4  |
| Government bonds             | 43 | 44 | 45 | 44 | 24 | 35 |
| Corporate bonds              | 4  | 3  | 7  | 4  | 17 | 11 |
| Convertible bonds and shares | 14 | 13 | 18 | 15 | 21 | 18 |
| Nontradable assets           | 28 | 35 | 18 | 28 | 22 | 28 |
| Other                        | 1  | 1  | 3  | 1  | 4  | 4  |

SOURCE: Ministry of Finance.

Because of the way the Ministry of Finance's data are presented it is impossible to examine the subject of bias. Hence, it is possible that the average yields could be higher than those that also include the funds which did not survive, particularly where nonbank funds are concerned. More generally, the quality of the data published in connection with the provident funds is inferior to that of the mutual funds. Thus, for example, the tracking funds of a given group are presented as if they were a single fund.

Consequently, we can relate solely to the data as they exist on the Ministry of Finance website. We will refer to the benefit funds[5] with assets of over NIS 10 million (at the beginning of the year). These data have been available on the Ministry of Finance's website since 2000. The data show that there were 153 such funds in 2005, compared with 94 in 2000 (Table 13).

**Table 13**
**Funds in the Sample**

|       | Private | Bank |
|-------|---------|------|
| 2000  | 20      | 74   |
| 2001  | 22      | 83   |
| 2002  | 24      | 86   |
| 2003  | 27      | 93   |
| 2004  | 32      | 102  |
| 2005  | 38      | 115  |

SOURCE: Based on Ministry of Finance data.

Previous studies have shown that the performance of the bank provident funds was poor relative to that of the assets in which they were invested. This finding continues to apply to the funds. If the funds had invested in accordance with a simple formula of 20 percent shares and 80 percent bonds, the total return would have been higher than was actually attained (Table 14).[6]

The data also show that the returns in the private funds tend to be higher (Tables 14-16).[7] However, after deducting management fees the difference narrows, and the under-performance of the bank funds is 1.9 percentage points, compared with 1.0 percent in the private funds. The data also indicate that the annual return of the funds goes up by about one quarter of a percent for each one percent increase in the share price index.

[5] Namely, not to the main advanced study funds or severance pay funds.

[6] Here, too, we add taxes deducted to the share price and bond price indices because the provident funds do not pay taxes on dividends and interest.

[7] The data published on the Capital Market Department's site also show that the performance of the private funds is better before fees. According to the Capital Market Department, this is due to the additional risk, although it is problematic to compare risks because of the policy of pricing nontradable assets.

**Table 14**
**Gross Returns in Provident Funds**

|  |  | 15% shares | 20% shares | Bank | Private |
|---|---|---|---|---|---|
| 2000 | Average | 0.052 | 0.049 | 0.037 | 0.041 |
|  | No. of observations |  |  | 74 | 20 |
|  | Standard deviation |  |  | 0.022 | 0.039 |
| 2001 | Average | 0.115 | 0.104 | 0.087 | 0.082 |
|  | No. of observations |  |  | 83 | 22 |
|  | Standard deviation |  |  | 0.030 | 0.026 |
| 2002 | Average | -0.017 | -0.027 | -0.007 | 0.006 |
|  | No. of observations |  |  | 86 | 24 |
|  | Standard deviation |  |  | 0.047 | 0.026 |
| 2003 | Average | 0.205 | 0.226 | 0.162 | 0.193 |
|  | No. of observations |  |  | 93 | 27 |
|  | Standard deviation |  |  | 0.077 | 0.079 |
| 2004 | Average | 0.080 | 0.087 | 0.086 | 0.107 |
|  | No. of observations |  |  | 102 | 32 |
|  | Standard deviation |  |  | 0.032 | 0.047 |
| 2005 | Average | 0.107 | 0.120 | 0.124 | 0.132 |
|  | No. of observations |  |  | 115 | 38 |
|  | Standard deviation |  |  | 0.054 | 0.042 |
| Average return |  | 0.090 | 0.093 | 0.082 | 0.094 |
| Total no. of observations |  | 6 | 6 | 6 | 6 |
| S.D. of average |  | 0.030 | 0.034 | 0.025 | 0.027 |

SOURCE: Based on Ministry of Finance data.

In common with the findings for the bond funds, only 33 percent of the bank funds and 44 percent of the private funds attain a return in a given year that is higher than the relevant benchmark (20 percent shares, 80 percent bonds). As was the case with the findings regarding the funds, there is no persistence of over-performance, and the probability of over-performance in two successive years is 12 percent for the bank funds and 16 percent for the private funds.

**Table 15**
**Results of Regressions on Funds' Gross Returns**[1]

| Dep. Variable Funds gross returns | | |
|---|---|---|
| Ind. Variables | | |
| Bank | -0.016* | -0.012* |
|  | -3.21 | -2.24 |
| Mrkt_m_risk | 0.24* | 0.27* |
|  | 31.3 | 16.41 |
| Mrkt_m_rst | -0.177* | -0.154* |
|  | -7.01 | -2.87 |
| Bank_mrkt_ ~k |  | -0.037* |
|  |  | -2.03 |
| Bank_mrkt_ ~t |  | -0.031 |
|  |  | -0.51 |
| lreal_val_~r | 0.0007 | 0.0006 |
|  | 0.58 | 0.50 |
| Constant | 0.012** | 0.009 |
|  | 1.86 | 1.39 |
| R² | 0.61 | 0.62 |
| N | 649 | 649 |

[1] See footnote 1 in Table 6.
*  5% significance level.   ** 10% significance level.
SOURCE: Based on Praedicta data.

**Table 16**
**Results of Regressions on Funds' Net Returns**[1]

| Dep. Variable Net excess return | | |
|---|---|---|
| Ind. Variables | | |
| Bank | -0.013* | -0.009** |
|  | -2.63 | -1.75 |
| Mrkt_m_risk | 0.24* | 0.267* |
|  | 31.4 | 16.32 |
| Mrkt_m_rst | -0.177* | -0.154* |
|  | -7.05 | -2.90 |
| Bank_mrkt_ ~k |  | -0.035** |
|  |  | -1.89 |
| Bank_mrkt_ ~t |  | -0.030 |
|  |  | -0.51 |
| lreal_val~r | 0.0007 | 0.0006 |
|  | 0.58 | 0.51 |
| Constant | 0.001 | -0.001 |
|  | 0.19 | -0.21 |
| R² | 0.61 | 0.61 |
| N | 649 | 649 |

[1] See footnote 1 in Table 6.
*  5% significance level.   ** 10% significance level.
SOURCE: Based on Praedicta data.

6. CONCLUSION

The recommendations of the Bachar Committee were implemented: the funds were removed from the banks, even though the increased revenues of the initial months after the sale eroded the success.

But the performance of the mutual funds, and especially the fact that the private funds did not have any notable advantage (after fees) over those managed by the banks prior to the changes, raises questions regarding the ability of the private domestic entities which bought the funds and were also active previously in the market to attain better results than those when the funds were managed by the banks.

This problem is accentuated in the context of the additional costs now imposed on the private funds—payment of distribution fees to the banks, relatively strict regulatory requirements (by international standards), and the need to use the fees to finance the cost of buying the funds from the banks.

Another question raised by our study is, why does the general public continue to invest in channels whose performance over time falls below accepted standards? As far as the provident funds are concerned, the tax benefits given to investors in these channels (or others enjoying tax benefits) are likely to serve as an incentive. In other words, the public cannot obtain a higher return (after tax) by investing directly in financial assets because in that case it would have to pay additional taxes, and by investing in channels with tax benefits such as provident funds it is exempt from these taxes.

This explanation is not particularly relevant in connection with investment in the mutual funds, which do not enjoy tax benefits. A partial answer to the 'mystery' could stem from the fact that the Israeli investor does not have an alternative way of obtaining the market return. Thus, for example, according to our calculations, if an investor invests NIS 100,000 a year in a share portfolio comprising 25 shares from the Tel-Aviv Leading Share Index (of 25 shares, in each of which he invests NIS 4,000), he would have to pay NIS 2,874 in fees (which amount to 2.9 percent of his original investment), as follows:

    a. Purchase and sale commission:  NIS 1,692
    b. Management/safeguard fee       NIS   750
    c. Commission on dividend        NIS   313
    d. Bank charges                 NIS   119

In other words, the relevant benchmark for an investor is not the market return but the market return *minus* fees and commissions.[8] Evidently, the lower the investment and the shorter the investment period, the greater will be the share of the fees and commissions while the lower will be the relevant benchmark—the return *less* fees and commissions. Looked at this way, the relative performance of the funds is not all that bad (from the investor's point of view).

Note that even an individual who invests in CPI-indexed bonds is required to pay fees and commissions amounting to a not inconsiderable 2.0 percent a year, consisting mainly of

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[8] Against this, purchase and sale commissions, if they exist, and safeguard fees should be deducted from the returns of the mutual funds.

purchase and sale commissions and safeguard fees. Thus, it is not possible to attain anything close to the market return by means of CPI-indexed certificates either.

Be that as it may, the question that still remains unanswered is, why are institutional investors unable to attain an adequate return before deducting fees and commissions?

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