Internal equity management

This article summarises our experience of internal equity management for the Government Pension Fund – Global over the last five years, with emphasis on active global sector management. Norges Bank has had favourable experience of its internal management strategies, and they have made a major contribution to the Fund's excess return. As can be seen from the article, internal equity management as a whole has produced an information ratio (risk-adjusted excess return) of 1.2 based on the actual risk in the portfolios. The total excess return generated by these mandates is in excess of NOK 7.3 billion.

History

Three main tasks

Norges Bank has three main tasks in the management of the Government Pension Fund's equity investments. The first is acquiring the market exposure in equities that the Ministry of Finance decides that the Pension Fund should have. This task involves both phasing in new capital and rebalancing, and was discussed in an article published in connection with the 2002 Annual Report. The Fund began investing in the equity market in January 1998. In the first year, a 40 per cent allocation to equities was phased in, while management was outsourced to external managers in the form of index mandates. Internal management was limited during this first year to rebalancing and phasing in through trading in index futures contracts.

The second main task is to manage the equity exposure decided on by the Ministry. This implies investing in a portfolio close to the client's wishes as expressed in the specified benchmark index. For the Pension Fund, this indexing task means purchasing an equal ownership stake in all of the companies included in the Ministry of Finance's benchmark index. The task includes exercising ownership rights. Norges Bank Investment Management (NBIM) decided in 1999 to manage the index portfolios itself, and the last external index mandates were phased out in 2001. The implementation of this transfer, and the reasons for managing these mandates internally, were discussed in an article published in connection with the 2001 Annual Report. At the end of 2006, Norges Bank managed a total of NOK 441 billion in index portfolios for the Pension Fund. Corporate governance has been given greater attention over the last two years, as the Ministry of Finance revised the primary objective for the exercise of ownership rights in November 2004. Two articles on this topic can be found in the present Annual Report.

The third main task is generating excess return for the client over and above the return that would come from holding an equal ownership stake in all of the companies in the client's benchmark portfolio. The first active external equity mandates were allocated funds in December 1998. The size of the externally managed portfolio almost doubled each year until 2003, and has since grown in line with the Fund by around 25 per cent a year. Our experience with these external active equity mandates was discussed in an article published in connection with the 2003 Annual Report. Internal management has been built up at an equivalent pace, but three years after external management. The importance of the internal active investment strategies has grown substantially in recent years, and this article discusses the investment strategy and experience to date.

Investment strategy, organisation and risk

Investment strategy

The investment strategy behind our internal active equity management is based on NBIM's overarching investment philosophy, as discussed in an article published in connection with the 1999 Annual Report. One important element in this strategy is *diversification* across numerous independent investments. This is achieved both through different types of investment strategies in different investment units (and mandates) and through a large number of different individual investments. Another element is *specialisation.* The idea is for specialist expertise to provide the competitive edge needed in a near efficient market.[1)]

[1)] Note: Underlying the strategy is what is often referred to as the Fundamental Law of Active Management – that the risk-adjusted return (information ratio) increases proportionally with skill (information coefficient) and with the square root of the number of positions.

Different investment strategies

Our internal equity management employs three main groups of strategies. Firstly, NBIM has built up an investment strategy based on analysis of the financial statements and corporate strategies of individual companies *(global sector strategy).* The aim for this investment strategy is to look for information on company-specific factors rather than broad analyses of the market. This management area has been built up around independent investment teams which invest globally in their respective industry sectors.

Since 2001, NBIM has built up investment teams in the financial services, telecommunications, energy (oil & gas and utilities) and consumer services sectors. From 2005, the energy team was expanded to include analysis and investment in the basic materials industry (paper, chemicals, steel and mining), and the consumer services team to include consumer goods. Each team is free to develop its own investment strategy, process and systems. There is also considerable freedom within each team for the individual to further develop his or her own investment style, methodology and tools. The different managers in each team may have independent or overlapping investment universes, and they may on occasion invest in the same companies at different times, or with opposing positions.

Another investment unit specialises in *relative value strategies*. These are based on special situations in the markets and do not attempt to analyse individual companies' fundamentals. These strategies include enhanced indexing strategies (discussed in an article published in connection with the 2001 Annual Report) and various quantitative strategies. The strategies used may relate to mergers and acquisitions, share issuance, index inclusion, listing on additional exchanges, and so on. These situations may affect the supply and demand for a share disregarding changes in future earnings or other aspects of the companies' finances.

A third group of strategies look at broad groups of shares in the market *(equity strategy).* The fundamental analysis of companies in the global sector strategies and the situation-dependent analysis of company-specific factors in the relative value strategies both focus on the analysis of individual companies. The strategies in this third group are based on the analysis of shares with a common denominator or the analysis of entire segments of the market, such as all shares in a particular industry sector or country.

Specialisation

The majority of our internal active management is made up of global sector mandates. This investment activity is built around industry teams but with independent investment mandates for the different managers within each team. The individual portfolio manager can invest in any country in our investment universe, but is restricted to a specific industry sector. We believe in the value of giving managers the opportunity to invest globally, but aim to retain the focus and accumulation of specialist expertise that go with each individual manager concentrating on a single industry sector.

Relative value management is also highly specialised. Typically each manager will monitor only a few of the different types of special situation that may arise. A manager who regularly takes positions in takeover situations will have a good understanding of the particular issues in these.

The internal investment mandates are generally specialist mandates awarded to individuals for small parts of the investment universe. NBIM has been careful about building up investment strategies covering broad parts or aspects of the market. It is difficult to build up specialist expertise in the third type of strategy mentioned above, and the risk taken in these strategies has been limited. Nevertheless, the results have been far better than anticipated.

Large number of independent positions

The more numerous and the more independent the investments in the overall portfolio, the better the balance between risk and return. This is the key difference between individual investments and portfolio management. NBIM has attached importance to building up a highly diversified portfolio of relatively independent investments.

An investment strategy based on the analysis of individual companies will result in more independent positions in each individual portfolio than a strategy where stock-picking is based on a small number of factors affecting the entire market. A portfolio with many different shares will not necessarily provide any real

diversification if the investments are based on a single theme or factors that could impact on all of the investments, such as macroeconomic developments, raw material prices, or interest rate and credit conditions.

The focus on individual investments, and to build up specialist expertise in them, implies that we do not want the individual manager to invest in too many different companies. However, a mandate structure based on a subdivided investment universe – such as a structure of global mandates in different industry sectors – will, in most cases, result in more independent positions than broad overlapping mandates. Thus we obtain a large number of positions by having many different specialist mandates rather than having a large number of investments per manager. By having the managers invest in different industry sectors, their portfolios will overlap only to a limited extent, provided that they are not based on the same assessments of factors affecting the whole market.

Thus we are looking for an investment strategy based on the analysis of individual companies, with a small number of investments per manager, divided into a variety of specialist mandates, in different segments of the market. This is the same strategy as underlies the structure of our external management mandates.

Organisation

The investment strategy has shaped the organisation. Investments are based on teams which are given freedom to develop their investment process in order to ensure real independence between strategies. There is not a desire to establish a common investment process for the entire organisation.. Nor have we attempted to cover all industries, focusing instead on building up a cluster of expertise in selected industries.

NBIM's investment organisation does not divide the role between analysts and portfolio managers. We want the people who know the companies best to take the actual investment decisions. The majority of the managers have previous experience as analysts, rather than as portfolio managers. The focus has been on individual investments, and we have established few organisational structures to obtain broad market information. Contact with corporate management has been given great emphasis. A performance orientation means full delegation of investment decisions to individuals and remuneration based largely on individual results.

Risk profile

Number of positions

At the end of 2006, internal management was divided into 15 global sector mandates, five relative value mandates and four equity strategy mandates. In addition, NBIM had four managers responsible for the internal index portfolios.

At the end of 2006, the 24 internal managers working on NBIM's active strategies had invested a total of NOK 62.1 billion in around 1 200 positions (and sold a corresponding number). The average position was therefore relatively modest in relation to the overall size of the fund at just over NOK 50 million. The average position in the global sector mandates was NOK 126 million, and that for the relative value strategies was NOK 60 million. The portfolio managers in the global sector teams each had an average of 17 long positions (and 19 shorts), of which the five largest accounted for an average of 61 per cent of risk exposure. A total of 45 out of 234 stocks (and 50 out of 265 shorts) were held by more than one manager. The relative value and equity strategy managers had far more positions, as can be seen from Table 1.

Overall risk

The risk (measured using the standard deviation of weekly returns) in the overall internally managed portfolio was NOK 1 861 million at the end of 2006. Statistically, it can be expected that at least this amount will be either lost or gained in one out of three years. However, the sum of the risk in each of the individual mandates was NOK 5 274 million. In other words, the overall risk was around 35 per cent of that for all of the mandates added together.

The reduction of risk through diversification is achieved with a mandate structure of independent mandates with different investment strategies and positions. In the overall portfolio of external mandates, NBIM has found that around 55 per cent of the risk in each individual mandate is reduced through diversification. This is slightly less than with the internal mandates, even though at the end of 2006 there were 45 external mandates and only 24 internal mandates.

Table 1: Number of positions in internal management at the end of 2006.

Year-end 2006	Consumer	Telecom	Energy	Finance	Strategy	Rel. value	Total
No. of managers	5	3	5	2	4	5	24
No. of long/short positions	52/59	35/14	52/84	50/58	821/867	225/209	1 196/1241
Position. average (NOKm)	104.1	163.8	156.3	128.3	27.3	59.9	52.0
Exposure per manager. average (NOKm)	1 082.8	1 911.0	1 625.4	3 207.5	5 605.3	2 696.8	2 589.0

Table 2: Risk profile for internal management at the end of 2006.

Year-end 2006	Consumer	Telecom	Energy	Finance	Strategy	Rel. value	Total
Sum of realised risk (NOKm)	468.6	597.4	1 670.5	521.9	1 375.8	640.0	5 274.2
Overall estimated risk (NOKm)	268.0	441.0	757.0	348.0	1 074.0	418.0	1 679.7
Diversification, estimated risk	55 %	80 %	56 %	84 %	64 %	53 %	35 %
Mandate correlation, average	0.21	0.44	0.25	0.005	0.46	(0.02)	0.24

There was also considerable diversification within each of the internal strategies. The model-estimated risk for each group together was, as can be seen from Table 2, between 53 and 84 per cent of the sum of the risk in the mandates. The diversification was even greater in the realised return figures for all of the investment teams in 2006: between 35 and 67 per cent.

None of the 20 individual mandates within the global sector and relative value strategies accounted for more than 16 per cent of the overall risk for of these two management strategies. The five mandates with the greatest risk exposure within these strategies accounted for 49 per cent of overall risk exposure at the end of 2006.

Diversification

There is always a risk of managers in the same investment organisation being influenced by one another's views, and of investments becoming too similar in the sense that they will outperform or underperform the market at the same time. The average correlation between the internal mandates was 0.24 in 2006.

Recent years' results have shown a slightly higher correlation between the results for internal management than between those for the external mandates. Over the last five years, the correlation between the internal mandates has been 0.23. In the three groups of regional external mandates (Americas, Europe and Asia), the correlation has been 0.18, 0.15 and 0.15 respectively, and the correlation between external sector mandates has been 0.12.

The internal mandates have also had very limited factor risk. This is the risk associated with exposure to equities with similarities in valuation, momentum and so on. While around a quarter of the external mandates' risk can be attributed to this type of risk, the figure for the internal mandates has been less than 10 per cent. This suggests that the risks taken in internal management relate to company-specific factors rather than factors that move many different shares in the market.

Table 3: Risk profile for internal management 2002-06.

	2002	2003	2004	2005	2006	Total
Sum of realised risk (NOKm)	801.1	848.5	1 434.7	3 474.4	5 274.2	3 480.8
Overall realised risk (NOKm)*	485.0	446.8	733.9	2 327.0	1 860.8	1 116.0
Diversification	61 %	53 %	51 %	67 %	35 %	32 %
Mandate correlation, average	0.37	0.33	0.28	0.38	0.24	0.23
Information ratio	0.29	1.62	1.28	1.00	1.79	1.20

* After diversification

Experience 2002-06

Developments in risk exposure

Internal management has been expanded considerably in recent years. Since the end of 2002, overall risk exposure has risen from NOK 485 million to NOK 1 861 million, while the sum of the risks in individual mandates has risen from NOK 801 million to NOK 5 274 million. This is a trend that we expect to continue in the years ahead.

Diversification gains have risen over time from a 39 per cent reduction of risk in 2002 to 65 per cent in 2006 in line with the increase in the number of managers. During the period 2002-06, the correlation between the internal mandates fell gradually, from 0.4 to almost 0.2.

At the end of 2006, these mandates had an average exposure of NOK 2.6 billion, but with relatively large variations. The largest mandate was NOK 13.2 billion and the smallest NOK 200 million. These variations are due partly to the assessment of the individual managers' experience and ability to generate excess return, but also to the risk profile of the particular portfolio and the overall market capitalisation of its investment universe.

Results of strategies and mandates 2002-06

On the whole, the internal mandates have performed very well from the outset, with an excess return for all of the investment strategies every single year. They have generated an excess return of almost NOK 12 billion, a very high figure relative to the level of risk.

The global sector mandates have made the greatest contribution, with a total excess return of NOK 5 095 million, while the relative value mandates have contributed NOK 1 305 million. The excess return from the equity strategy mandates of NOK 3 748 million includes positions taken by selling shares other than those in the benchmark index in connection with the allocation to external mandates. This excess return of

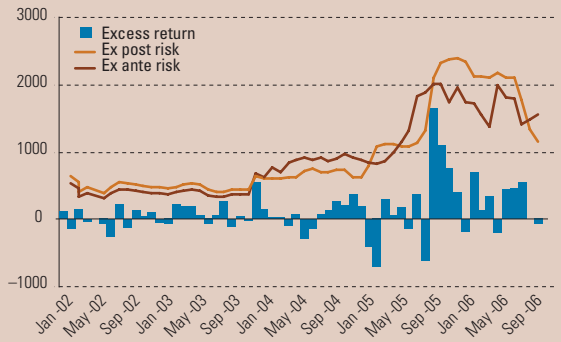

Chart 1: Results for internal management 2002-06. NOK million.

NOK 2 815 million is allocated to the external mandates in the Annual Report, although it is not a result of investment decisions made in these mandates. Net of this, the excess return from the equity strategy mandates is NOK 933 million.

The results have also been consistent across the strategies, with approximately the same excess return for each of the strategy types when taking into account the number of managers. The 20 mandates under the global sector and relative value strategies have contributed NOK 6 400 million, which is just over NOK 320 million per manager or NOK 8.4 million for each month in which each manager has held a mandate. We are pleased with this performance given the gradual build-up of risk exposure. The equity strategy mandates had few managers prior to 2006.

Excluding the return from allocation positions in the equity strategy mandates and the internal enhanced indexing strategies, the overall excess return from internal management was NOK 7 333 million.

Evaluation of results

It is customary to evaluate portfolio returns relative to risk. The most widely used measure is the information ratio – the excess return during a period divided by the standard deviation of the return series during that period.

All of the strategies in NBIM's internal equity management have generated an information ratio in excess of 1. Global sector management has produced an information ratio of 1.2 based on actual variations in returns, and 1.4 based on model-estimated risk. The relative value strategies have generated a higher information ratio of 1.8. This is due largely to the difference in the types of position taken.

The target for the individual internal mandates is an information ratio (risk-adjusted excess return) of 0.25 after costs. However, the cost of the internal mandates is so low that the net information ratio is not materially affected by costs. To date, NBIM has had a higher risk-adjusted excess return than expected from almost all of the individual mandates. The average information ratio for the managers has trended upwards over the last five years, as can be seen from Table 5. The risk in each individual mandate has risen gradually, while the excess return has grown at a more rapid rate. We do not expect this to continue. The information ratio will fall with higher risk exposure in NOK terms, as the positions will either be taken in larger companies or face higher liquidity costs.

Table 4: Excess return from the different internal management strategies 2002-06. NOK million

	2002	2003	2004	2005	2006	Total
Global sector	29.6	566.5	543.0	1 494.3	2 461.3	5 094.5
Relative value	113.5	163.7	402.8	252.4	372.9	1 305.2
Equity strategy	248.4	428.6	333.2	1 046.1	1 691.3	3 747.6
Indexing	–	–	184.6	526.9	1 066.0	1 777.5
Total	391.4	1 158.7	1 463.6	3 319.7	5 591.5	11 924.9

Table 5: Results for individual mandates in internal management 2002-06.

	2002	2003	2004	2005	2006	Total
No. of managers	10	13	20	22	24	
Managers with positive return	50 %	62 %	75 %	82 %	88 %	88 %
Manager-months w. pos. return	53 %	57 %	59 %	58 %	62 %	58 %
Realised risk, average (NOKm)	79.6	62.7	100.0	143.4	132.2	139.2
Excess return, average (NOKm)	14.3	55.8	45.6	91.4	107.5	285.6
Information ratio, avg. manager	0.14	0.43	0.65	0.71	0.91	0.24

FEATURE ARTICLE 1

Future strategy

Choice between internal and external management

NBIM has had good results from both the internally managed mandates and those outsourced to other management organisations. One obvious question is how we choose between internal and external management. However, the way that management is organised means that no such decision is necessary. This is because internal active management is not allocated any part of the portfolio for management, but takes positions by borrowing shares which are sold in the market in order to finance purchases of other equities. These loans of equities will normally be made from the internal index portfolio. If there is no such holding, the internal managers will borrow from the externally managed portfolios or, where necessary, from other investors in the market.

NBIM will continue to outsource to external managers whenever we expect such managers to produce a better return after management fees than would be generated by index management. The positions taken in internal active management do not affect the proportion of the portfolio allocated to external management mandates. Even if the portfolio were outsourced to external managers in its entirety, the level of internal investment activity would be as today.

Further expansion of internal management

In recent years, the internal mandates have accounted for around 20 per cent of the overall risk in the Pension Fund's equity portfolio. During the second half of 2005, however, this risk exposure increased substantially, and the internal equity mandates accounted for around 30 per cent of risk at the end of the year. The internal mandates accounted for 26 per cent of the sum of the risk in all internal and external mandates at the end of 2006. However, the marginal contribution – the increase in risk with or without the internal mandates – has only been around 20 per cent. At the end of 2006, for example, the Pension Fund would have had a risk of 60 bp from a combination of external mandates and internal index management, and this rose by only 12 bp or NOK 870 million as a result of the internal active mandates. A combination of internal and external mandates therefore offers good diversification. It is worth noting that the internal mandates in NOK terms have made a greater contribution to excess return than the external mandates, both over the last five years and from the outset, given the relatively lower percentage of risk for which they have accounted.

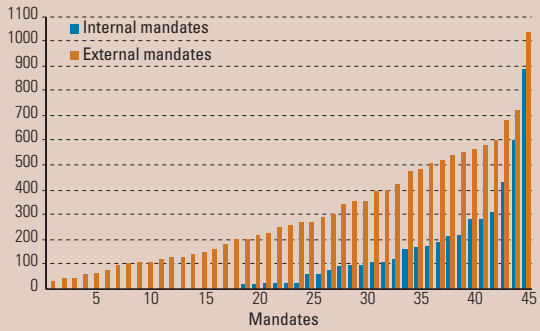

Chart 2: Distribution of risk between internal and external mandates. NOK million.

In the coming years, NBIM will be increasing the number of internal mandates and the risk in each of these mandates so as to bring the risk profile of internal and external management more closely into line. This means almost twice as many internal mandates as today, and more than doubling the risk in each mandate. See Chart 2.

However the external mandates fare in the future, the importance of the internal active investment strategies will grow in the years ahead. NBIM will be intensifying its work in this area.