From oil to equities

Address by Knut N. Kjær, Executive Director of the Norwegian Pension Fund - Global, at the Norwegian Polytechnic Society on 2 November 2006

The text below is translated from Norwegian and may differ slightly from the actual presentation.

A little more than ten years ago the first two billions were invested in the Government Petroleum Fund, which is now called the Government Pension Fund - Global. I would like to thank you for the opportunity to reflect together with you on the experiences gained so far. There are three questions I would like to discuss in particular. What is the financial logic in transferring oil wealth to a portfolio of international financial assets? What portion of the Fund should be invested in equities and how much should be allocated to other assets? What are the conditions necessary for ensuring that the operational implementation of management provides a positive contribution to return?

I will show that the transition from oil in the ground to a broad portfolio of international equities probably contributes both to increasing the expected return on government wealth and reducing the associated risk. Furthermore, I will argue that the fixed-income allocation of 60 per cent is not consistent with an investment time horizon of many generations. The last theme may give rise to further discussion when I maintain that investment management is an activity that quite frequently destroys rather than creates values. It is often better to buy the market return for a low management fee than to pay a high price for active, analysis-based management.

I will also describe how Norges Bank has managed the assets and the results achieved so far. In the conclusion, I will explain why I believe that it is a mistake to consider capital as a commodity on a par with oil.[1]

We would not be discussing the Fund's investments here today if it had not been for a courageous and highly efficient Norwegian petroleum sector, which has generated enormous values for more than 40 years. Norway has managed to convert resources under the seabed into large annual export earnings. The authorities have succeeded to a further extent than in most other countries in controlling and safeguarding the bulk of the economic rent without losing private companies' willingness to participate and take risk. The government itself has taken considerable risks by investing in the fields. Oil companies have earned substantial profits thanks to their efficiency and ever-innovative development and use of new technology.

I take all these aspects for granted in my address, but those of us who are engaged in investing the Fund in international markets are frequently reminded of how well Norway in particular has managed its petroleum resources. This is a good source of inspiration for the next stage of the chain - investing with the aim of transforming oil wealth into a more permanent flow of capital income for many generations to come.

My address will contain a number of simplifications, which will be further explained in footnotes and references.

Geologists and engineers have their formulae and models. This is also the case in finance. My line of reasoning in this address will be based on basic financial theory. The most important one is the capital asset pricing model (CAPM). Jan Mossin, who was professor at the Norwegian School of Economics and Business Administration, is one of three economists credited with developing this model. Mossin passed away in 1987 at the early age of 51.[2] In 1990, William Sharpe, one of the other two economists, was awarded the Nobel Prize in economics.

The CAPM is based on the efficient markets assumption, i.e. that all economic agents can invest in all assets at no cost and with full information. It is not unreasonable to apply this assumption in long-term analyses. The market efficiency assumption often holds also in the short run. It may be wise to approach the markets with deep respect as they are often smarter than we think. Investors should be prudent, as Mossin argued. In equilibrium, the representative investor will hold a diversified portfolio of all assets. In the model, deviating from the asset class mix that follows from the market portfolio will result in a less favourable trade-off between return and risk.

Return and risk are intertwined. It is of little interest to discuss and comment on return without assessing the associated risk. In the CAPM, return cannot be increased without increasing risk when the portfolio is fully diversified.

1. From oil to equities

What does this imply for the management of petroleum wealth? Chart 1 shows the estimated size of the government share of petroleum wealth at year-end broken down on the discounted value of net cash flows, the Government Pension Fund - Global and the equity and fixed-income portfolios.[3] Petroleum still accounts for more than half of the wealth.

In Chart 2, we look at "Value at Risk" for petroleum wealth.[4] Here we include risk measured as the standard deviation of the return in the years 1900 to 2005.[5] We see that the risk associated with the remaining portion of petroleum wealth is more than seven times higher than for the Fund. The reason for this is that oil price volatility has historically been far larger than the variations in the return on equities and fixed-income instruments. The risk is (historically) more than twice as high as that associated with a well diversified portfolio of international equities.

Chart 3 shows the real return on oil, equities, bonds and money market instruments from 1900 to 2005. One dollar invested in equities in 1900 is worth USD 376 at end-2005. For oil, the value increases to only USD 2, while the value for fixed-income instruments increases to almost USD 6.

Let us make a simple assumption that petroleum is an asset on a par with equities and fixed-income instruments and that the government as investor can easily choose between them, i.e. for example that the government can exchange oil for equities. Under this assumption, we can make some simple, fairly indicative arguments based on the CAPM.

In Chart 4, we first look only at the choice between oil and equities. The dimensions shown are risk and real return. The starting point is the lower point in the right-hand corner - all the wealth is invested as oil in the ground. The transition from oil to equities means moving left and upwards in the chart; risk moves downwards and return upwards, i.e. an obvious improvement. This occurs until the line changes from blue to red - from which point we no longer have our cake and eat it too. The portfolio is composed of 30 per cent oil and 70 per cent equities. From this point up to the point where the entire wealth is held in equities, return must be assessed in relation to risk - the choice is not obvious. The optimal trade-off between return and risk is attained when the oil portion is down to 15-20 per cent.

This illustration is subject to many reservations. History does not repeat itself. In the past 106 years, the premium on equities has probably been far higher than it will be over the next 100 years. Oil shortages may be greater than they have been.[6] Nevertheless - I probably stand on solid ground when I argue that a far larger share of wealth should be held in equities than in petroleum.[7] But I would like to impose a constraint - that we in fact understand the difference between wealth and income and do not draw on the principal.

By buying equities we transfer wealth from petroleum to ownership interests in international companies. We exchange oil barrels for interests in production in more than 3000 companies worldwide. Chart 5 illustrates how the trade-off - oil barrels versus ownership interests - has evolved since the first equity purchases were made in 1998. Compared to 1998 we now receive five times ownership interest per barrel of oil according to this chart.

2. Not only equities

The first two oil billions that were transferred to an account in Norges Bank in May 1996 were invested in foreign denominated fixed-income instruments, fully in line with the Bank's foreign exchange reserves. The NOK 48 billion that were transferred at the end of the year followed the same procedure. In autumn 1997, the Ministry of Finance decided that 40 per cent of the Fund should be invested in equities. Norges Bank developed a new management organisation, which started the investment transition from bonds to equities in January 1998. In early June 1998, the equity portion had reached 40 per cent. The value of the Fund stood at NOK 121 billion at that time. The transition to equities occurred over a period and also by using futures markets to minimise market impact. It is precisely this, i.e. investing large amounts in capital markets without making an unnecessary "footprint", that is a very important part of our work and where we have acquired considerable experience. New technology is used to the furthest extent possible. By way of example, the past year's equity purchases have to a large extent been made using direct electronic links to stock exchanges. This also reduces direct transaction costs. Since 1996, Norges Bank has invested more than NOK 1 300 billion of the oil revenues in international capital markets.

Let us now revert to management strategy. It is the Ministry of Finance that makes the most important decisions, eg. the share of the fund that shall be allocated to equities. The decisions are always subject to the approval of the Storting (Norwegian parliament). In spring 1997, Norges Bank recommended investing in equities. This was deliberated on two occasions in the Storting, based on extensive documentation from the Ministry of Finance and Norges Bank. Risk and uncertainty were an important component of the information. There was broad political agreement to move into equities, which has also been the case for the main decisions taken thereafter.

The decision to invest in equities might have seemed bold at that time. But was it really so? I have already demonstrated that equities much more so than petroleum safeguard the capital saved. Moreover, equities are real assets in that we acquire a stake in the world's production capacity. Fixed-income instruments generate a reasonably stable return in the short term compared with equities. However, over a 100-year time horizon, which we must apply in this context, fixed-income instruments do not provide an absolute protection of real values. Norway has already experienced this in connection with the State Reserve Fund, which the Storting established in 1904. Half of the capital, which was invested in foreign bank deposits and first-class British, German and French government bonds, was lost when the Fund was unwound in 1925. The capital was eroded by inflation.[8]

Let us now apply financial theory again and assume that the government has three alternatives for investing the wealth: Petroleum, equities and fixed-income instruments. Chart 6 shows the possibilities offered by fixed-income instruments compared with a choice only between equities and fixed-income instruments. In a nutshell, fixed-income instruments only make a contribution in that they offer the possibility of reducing risk. As expected, the possibilities for a higher return are not increased. Nor is there an improvement in the trade-off between risk and return by including fixed-income instruments.

The intersecting point between the line and the curve shows the point with the highest trade-off between risk and return. The proportions here are around 80 per cent in equities, 18 per cent in oil and only 2 per cent in fixed-income instruments. According to theory, an investor should choose one point or another on the line, depending on the investor's risk-willingness. The investor should maintain a portfolio with the weights indicated at the point, but should in addition hold a portfolio of risk-free assets. The lower the degree of risk-willingness, the greater the weight of the portfolio of risk-free assets should be.

Today there is a broad spectrum of investment alternatives in international capital markets, including real estate and private equity. The Fund should thus have a far broader investment profile than is the case today. This will not necessarily increase the return, but will improve the trade-off between risk and return. The most relevant candidates for inclusion in the Fund's strategy are real estate and private equity. These are the largest remaining asset classes. They have the common feature of being less liquid than those invested in today. Compensation for low liquidity is a natural income source for a long-term investor such as the Fund. Norges Bank will submit recommendations to the Ministry of Finance this autumn to include property and private equity in the management strategy.

We have now performed the easiest part of the job of clarifying the long-term management strategy for the Fund - maintain a broadly diversified portfolio of many assets in many countries. The most difficult and important question remains: What risk level should the government apply in management? By risk in this context I mean return variability - the type of risk that the investor is paid to take - and that has to be taken in order to achieve higher returns.[9]

An important premise for answering the question is clarified in the fiscal rule. The Fund's capital shall be maintained for the infinite future and only the real return shall be spent. Since it is set as a long-term average, independently of what is actually achieved in one given year, swings in actual returns have minimal implications for the amount that can be spent over the budget from one year to the next.

It is somewhat paradoxical that oil wealth fluctuates enormously - without prompting frequent media headline coverage - while it only takes small changes in the Fund's balance to draw headline coverage and questions. On the path from oil to equities, values become visible in that an unrecorded asset is converted into a portfolio that has a current value that can be gauged. The paradox is that the fluctuations that are commented on are considerably smaller than those that do not receive the same degree of attention. Even if the entire Fund were composed of equities, the degree of risk would, as I have shown here, be markedly lower than for oil and gas in the ground.

Norges Bank has recently advised the Ministry of Finance to increase the allocation to equities. The Strategy Council of independent experts appointed by the Ministry of Finance has now proposed increasing the allocation to equities to 60 per cent. This is a demanding decision for the government authorities. The biggest mistake that can be made is to assume a level of investment risk that cannot be sustained in the face of market adversity. It is precisely in such a situation that the big losses may be incurred. The Fund fared very well when equity markets took a nosedive in 2001 and 2002. The equity portion was maintained. The lion's share of the new petroleum revenues were used to buy equities in order to sustain growth in a falling market. The Fund therefore swam against the market current and paved the way for highly favourable returns in the following years. The many other investors that did not ride out the market probably lost more than they would have if they had not been overly bold when they laid their strategy.

The choice of risk level means weighing the displeasure associated with a decline in values in some periods compared to gains that lie several generations ahead. This worked very well when the Fund's strategy was challenged four to five years ago. The next time we can point to this experience. Perhaps, we may have become accustomed to a 100-year investment horizon for the Fund as we have learned to live so comfortably with the risk involved in the petroleum industry? The oil fund, which is one of the global funds with the longest investment horizon, has a much higher allocation to fixed-income instruments and a lower allocation to equities and other real assets than other large funds with a considerably shorter horizon and less leeway.

I will let this stand as a challenge to everyone who believes they are well-versed in financial management and who step forward in the debate when markets fluctuate. We must be level-headed and realistic when returns skyrocket in some years, and keep our calm and adhere to the strategy when markets show a steep decline. It is precisely during the difficult periods that that the stage tends to be set for good investments. It is after all fluctuations that explain why equities yield a higher return in the long term.

3. Difference between alpha and beta

In the final part of my address, I will discuss management itself or what we as operators engage in daily in Norges Bank. We have an important job and we are replete with prudence and realism. We know that our choices only account for a smaller share of overall risk and the expected return on the Fund. The largest share is determined by the owner's choice of strategy, cf. the questions I have discussed so far in this address.

I will now discuss the conditions that must be satisfied for a manager to generate value in excess of that created by the owner through the owner's choice of risk level and strategic portfolio. Most managers do not generate value - on the contrary they destroy values for their customers. Financial theory offers a good explanation for why it can be so difficult to succeed in active management. The key lies in understanding the distinction between the risk that is priced in the market and the risk that one is not normally "paid" to take.

Risk that is not priced in the market is, for example, the risk of holding a concentrated portfolio of a few equities. All investors can easily diversify away from such a risk, which means that there is no general "reward" for concentrating the portfolio.[10] An investor cannot diversify away from the risk of holding a broad equity portfolio, which is why a general risk premium is earned for this. For example, there is also a premium for taking credit risk and foregoing liquidity.

This is reflected in the division of tasks in investment management. The owner's role is to extract such priced risk factors by defining a "strategic allocation" for the Fund, i.e. a specification of how management should be broken down on different asset classes. The size of holdings in the highest-risk assets is determined by the degree of risk-willingness.

The owner's strategy can be implemented at a very reasonable cost. A large staff of well remunerated analysts and managers are not necessary to buy broad market exposures. Such management, i.e. index management, costs a fraction of active management. For example, even without using external managers, Norges Bank can manage the double of the current value of the Fund with fewer than 100 persons at a cost of less than 0.03 per cent of the capital. This management product would in fact have been more profitable than most of those delivered in the international market for investment management.

Hence, there are enormous economies of scale in this part of asset management. Large amounts of capital can be managed in a fairly simple manner. The systems and skills, the direct links to stock exchanges and all other infrastructure for managing portfolios, can handle NOK 5 000 billion almost as easily as NOK 2 500. Let us bear this point in mind when we discuss the possibilities offered by the Fund for further developing the investment management industry in Norway.

In the financial profession, management with broad market exposures is often referred to as beta management. It gives the owner the return required in relation to the owner's own risk - in a very cost-effective manner. The return can in no way be attributed to the manager's aptitude to anticipate good and bad investment decisions.

However, some managers may have this aptitude, and they should then also be given various degrees of freedom to deviate from the broad market exposures. The return they achieve in excess of the return associated with the owner's own risk is commonly referred to as "alpha". The aim of most managers worldwide, as in Norway, is to deliver alpha to customers. As mentioned, research and empirical studies unequivocally show that a minority of managers succeed in delivering alpha consistently over time.

Unfortunately, most management products are delivered as an unclear mix of beta and alpha exposures. Even in the hedge fund industry, which has expanded sharply over the past ten years, many of the products are more like disguised beta exposures than pure alpha exposures. Customers pay an unnecessarily high price for a product that they could easily have managed themselves or bought as an index product. The same applies to many equity funds, money market and bond funds.

Alpha management is about taking risk that the investor is often not paid to take. It is worth taking when the investor has a specialist skill. Remember that I started by saying that the markets tend to be much smarter than we think. For each investment considered, there are perhaps many thousand eyes around the world that are looking at the same one. The gravitation in real time of a plethora of information and assessments is given in listed markets.

There are wide differences between markets. Some feature a higher degree of rationality in pricing than other markets. Low liquidity in some markets may reflect periods of incorrect pricing. A lack of information in markets may create more opportunities for investors who are skilled in procuring information.

For Norges Bank, alpha management performance is measured against the return that the Ministry of Finance itself could have achieved by buying the market portfolio in the most cost-effective manner. The benchmark is composed of broad and recognised indices for equity and fixed-income markets. The Ministry of Finance has defined an upper limit for the expected deviations from the benchmark portfolio. This is a clear case of performance accountability. The focus on results is reinforced by the large degree of transparency surrounding our management strategy. Every quarter we publish reports and press conferences are held where we describe our performance in relation to a benchmark. Moreover, we communicate how management has been carried out, what it has cost and how high the risk level has been.

For those of us in Norges Bank Investment Management, financial theory has been an important source of inspiration since we started active management. It has endowed us with humility and discipline. Respect for the market is a good starting point. Every time we deviate from the intended equilibrium solution, we must do so with full awareness.

The likelihood of success did not seem that great when started up, as most managers do not succeed in generating excess returns consistently over time. We started out cautiously, but have increased the scale of active management as we have gradually seen the results achieved. Both internal and external management have been expanded considerably farther in that direction. Our results (against benchmark) score very favourably in an international comparison. The excess return has been at 0.5 percentage point as an annual average and we have generated net "extra" values of more than NOK 25 billion. This has been achieved without increasing the overall risk for the Fund and with an information ratio of around 1.3.[11]

The quest to outperform the benchmark - and the very visible environment in which we are operating - entails a strong focus on performance in NBIM. We are operating on the basis of pure commercial principles. Anyone who makes an investment decision, also those who choose external managers, are remunerated based on the quantifiable results they deliver. The Fund consists of more than 100 sub-portfolios. An important part of our strategy for achieving excess return is precisely to specialise management. We have little faith in the notion that managers (external and internal) can operate broadly, and without having concrete skills and advantages in certain market segments. Specialisation is achieved by extensive delegation of responsibility to individuals. Each individual has a clear and delimited investment mandate, and is subject to continuous compliance monitoring.

In NBIM there is no overriding committee structure that blurs responsibility. Clear delegation of responsibility seems to be an important motivational factor and partly explains why we have kept our most talented internal managers so far. Risk and resources are managed based on performance expectations. This also applies to the fundamental questions relating to external or internal management. Return requirements are at least just as strict for our internal managers as for the management products that we buy in the market.

It is difficult to provide a concrete prescription for achieving consistent alpha. We have seen that an absolute precondition for success is particularly talented individuals. Large organisations with substantial resources, good systems, etc., are of little use without individuals with highly specialised skills and qualities. Another precondition is that the talented individuals are surrounded by resources and people who can support and challenge them.

Our quest for alpha is thus to a large extent a search for talent. This partly involves recruitment via external managers. We buy access to talented managers who remain in the employ of other companies. We also recruit talents that we employ in our organisation at our offices in Oslo, London, New York and soon in Shanghai. For us, understanding the individual's importance is so essential that we frequently terminate management agreements with external managers the very same day key persons resign.

In some respects, our business can be illustrated as a hub. We have a core of beta managers and efficient investment operations for large capital transfers, which offer substantial economies of scale. The hub also comprises the necessary risk management to ensure optimal allocation to many specialist mandates and to ensure that the overall portfolio is always within the limits set by the Ministry of Finance. Radiating from the hub are an array of alpha sources, which point in many different directions and cover as much of the investment universe as independently of each other as possible. They consist of talents employed in entities outside NBIM and they consist of talents employed in NBIM. Whether they are external or internal is not our primary concern; the main challenge is to find a sufficient number of talents and establish an effective platform from which they can operate.

4. Capital - a commodity?

Every so often, the oil fund debate in Norway is spiced up by the view that capital is a commodity on a par with oil and that we can develop capital into a comparative advantage. By way of conclusion, I will further explore these contentions.

First, we can look at the size of the capital in the Government Pension Fund - Global compared with the overall global capital market. Estimations made by McKinsey show that the world equity and fixed-income markets came to USD 86 000 billion in 2004. The value of the Government Pension Fund - Global is 0.3 per cent of this.[12]

If we define capital as a "bulk good", index management is the most pertinent management product. Can we on the basis of large amounts of capital produce internationally competitive index products? Perhaps we could, but it is important to realise that even with a two- or threefold increase in the Fund over the next decade, the capital in the Fund will still be modest in relation to that of the largest index managers in the world. The three largest had more than USD 3 900 billion under management last year, i.e. around 15 times the current size of the Fund.[13] As indicated, such products are easy to produce, margins are low and employment bears no comparison to, for example, that created by the development of the oil industry in Norway.

This example shows that capital abundance in Norway does not necessarily lead to new industry opportunities. The same question can be looked at from another angle, i.e. there is no shortage of capital in the world today. Even a rapidly expanding developing country such as China is a large net exporter of capital. The US is the recipient and has a saving deficit in the public and household sectors. However, for the first time in history US companies are paying shareholders more in dividends and stock buy-backs than they need to finance their investments.

I believe it is more fruitful to focus on the function and quality of capital than on volume. The recently published book "Hvem eier Norge?" (Who Owns Norway?) includes a good analysis and description of the owners' role in achieving value-generating ownership.[14] The four main function categories are: The supply of capital, the selection of capital from unprofitable to profitable uses, governance in order to ensure that management maximises the company's value and the supply of complementary resources to the enterprises, i.e. skills, relations and other resources required to succeed in the market.

Capital has its price in the market. It varies partly with the investor's assessment of expected profits and risk. A financial investor may, as I have described in this address, diversify his portfolio and extract the return the market provides. If an investor has specialist skills in various "alpha areas", a somewhat higher return can be achieved.

A strategic investor who takes large ownership positions and participates more actively in the management of a company can under certain conditions earn a higher return than the normal market return. The book provides a good description of what is required in this context. In summary, distinctive ownership skills are indispensable.

The scarcity factor in international capital markets is not capital per se (what the authors call fuel, capital supply), but ownership skills that make it possible to earn more profits than provided by general market investments.

Through the years, we have seen proposals that Norway through the oil fund should take strategic ownership positions in important foreign enterprises. Banks and IT companies have been mentioned. The Fund might be sufficiently large to buy one to three of the largest companies. An important objection to this, in addition obviously to the substantial increase in risk, is that we could probably not have provided ownership skills that would have been superior to that already established in the enterprise.* If we confine ourselves to medium-sized enterprises and can buy for example 20 of them, the risk is more diversified, but finding sufficiently competent owner representatives is all the more difficult. Nor have large pension funds and national reserve funds in other countries chosen strategic ownership as a means of achieving their optimal return against risk profile.[15]

To summarise, in a world where enterprises are paying capital back to their owners, we in Norway should be cautious in arguing that our 0.3 per cent share of the international capital market represents an advantage. Enterprises do not deserve more capital than they can defend at any given time in the market (through competitive returns). The supply of capital only generates value when it is combined with specific ownership skills.

When we convert values from oil in the ground into international securities through the oil fund, we as financial investors demand our rights as owners and extract the return provided in the market. If we are competent in active management, we can extract a little more, and if we keep costs at a low level, we can achieve a reasonably good net return in the long run. To argue that our investments support international business and industry is reversing the sign. We require a return on the capital invested.

As financial investor, we have three main tasks: Invest new oil billions as efficiently as possible in capital markets (transition), invest the capital broadly in markets in accordance with the strategy that is defined by the Ministry of Finance and endorsed by the Storting (beta management) and achieve a somewhat higher return where markets provide opportunities for this and where we have an advantage in terms of specialist skills (alpha management). There are economies of scale in the first two functions, and I believe that there are good reasons why they should, as is the case today, lie in one place.

In active management there are no comparable economies of scale. On the contrary, the excess return potential is reduced measured as a percentage of increased capital because there is a higher degree of market impact. As I have shown, success in active management requires distinctive skills and talents. There is little basis for arguing that all this activity should lie within Norges Bank.[16] More than half of our active management is carried out by buying access to talents in external organisations.

Why are so few of them Norwegian? This may de related to the clearly defined pure alpha requirement, which must be underpinned by specialist skills that generally require a specialist focus. In other words, we look for niche products. The same general premise that applies to enterprises on the world market also applies to managers, i.e. there is generally little to be achieved by offering general products.

I am convinced that they can be competitive internationally in areas where Norwegian managers build up niche skills - including knowledge within certain sectors where we have good industry environments.

We are very interested in having a larger environment around international investment management in Norway and want to be a positive factor. My colleagues make a very active contribution to financial education at universities and financial specialist seminars and have a good direct dialogue with various environments. We are part of the Norwegian labour market and the flow of skills goes both ways. Perhaps, we can do even more, and there may be some proposals to this effect in the following debate. However, the framework must be realistic. We are to operate on a commercial basis and are measured by results - and the EEA imposes certain constraints.

One alternative that is hardly viable is to require that our external managers be established in Norway. To the extent this can be implemented within the framework of international competition regulation, it will most likely imply lower returns. There is no shortage of managers, and there are certainly some of them who are willing to assume the added cost of being established in Norway. What we lack, and which is an ever greater challenge as the capital under management increases, are good and talented managers who with a reasonable degree of likelihood can deliver excess return. Some of our best external managers decline offers of more capital under management from us (cf. the relationship between capital and transaction costs). If we require establishment in Oslo perhaps they will refuse the assignment.

5. Conclusion

The Government Pension Fund - Global is a unique instrument for diversifying government wealth and transforming income from temporary petroleum resources into a permanent flow of investment income. Financial theory offers a useful framework for both assessing the strategic future composition of wealth and for organising the operational implementation of management.

What can really benefit future generations is that Norway succeeds in continuing the transformation/diversification of wealth into foreign financial assets. This increases the expected return and reduces the overall risk associated with the assets. There are very good reasons for increasing the allocation to equities, but this requires that we are able to adhere to the strategy under shifting market conditions.

As financial investor, Norway earns the return provided by broad investment portfolios in the market. In this part of management there are substantial economies of scale, and under the present framework Norges Bank can handle a considerably larger volume of capital. What is demanding is that active management must also consistently generate added value. This activity is talent-based. In this respect, we are a global operator constantly searching for talents. We are less concerned about whether they are employed by external managements companies or whether they are employees of NBIM.

A challenge that I could also have discussed at length is our task of acting as a demanding owner vis-à-vis the more than 3000 companies in which we have an equity stake. So far this year, for example, we have voted on 23,363 issues in 2,189 companies. We have high ambitions with regard to playing a leading role internationally in fostering corporate governance and we are subject to a demanding requirement from the Ministry of Finance to take particular account of an investment horizon that spans many generations ahead. This implies imposing ethical requirements on companies.

We would be more than willing to return and discuss our experiences in this area at a later date.

Thank you for your attention.

Footnotes

[1]In the address, I apply as a given that petroleum wealth is to be saved for future generations, i.e. that the theme is wealth diversification rather than whether the principal should be spent now. When wealth is transferred from petroleum to an account of international securities in the Fund, the cash flows go via the central government budget and appear as revenues like other revenues. When this item is not seen in connection with its corollary in the form of a reduction in the government's share of petroleum wealth, it distorts the picture of developments in the government's financial position.

[2]Jan Mossin would have been 70 years of age in 2006 and this was recently commemorated at a conference at the Norwegian School of Economics and Business Administration where he was professor. His article "Equilibrium in a Capital Asset Market" in Econometrica in 1966 is regarded as one of the three main contributions to the capital asset pricing model (CAPM). The two other main contributions came independently and were provided by J. Lintner and W. Sharpe.

[3]In the National Budget for 2007, the present value of government future annual cash flows from petroleum activities is estimated at NOK 3660bn at 2007 values. The chart is also based on the estimated year-end value of the Government Pension Fund in the National Budget, which is put at NOK 1756bn.

[4]Defined as one standard deviation in NOK millions.

[5]The data used here are based on the work of three professors at the London Business School, E. Dimson, P. Marsh and M. Stauntun. Historical data from 16 countries are presented in the book "Triumph of the Optimists" published in 2002. The data set is updated and broadened in "Global Annual Return Yearbook" published together with ABN Amro.

[6]A further objection is to regard oil wealth as a liquid asset class. But to realise the wealth rapidly, i.e. selling oil in the ground is hardly practical or financially feasible.

[7]Professor Rögnvaldur Hannesson provides in his book "Investing for Sustainability - The Management of Mineral Wealth" (2001) a good overview of the theoretical background for - and practical experience in - transferring non-renewable natural resources to sustainable assets.

[9]This is well described by Professor Aanund Hylland: "Statens reservefond 1904-1925. Et forsøk på å binde politisk handlefrihet?" (The state reserve fund 1904-1925. An attempt to restrain political freedom of action) Penger og Kreditt 3/2005, Norges Bank.

[10]Risks that one is not paid to take are different types of operational risks such as losses due to shortcomings in systems, lack of skills, inadequate monitoring of suppliers, etc. More about systematic versus unsystematic risk later.

[11]This observation can readily be applied to financial investors, but does not necessarily hold for strategic owners whose management skills might be diluted by spreading operations across several activities. These owners are also faced with the basic choice of what degree of equity-specific risk it is appropriate to take.

[12]The information ratio is a common if not a fully exhaustive expression of quality of active management. It expresses the relationship between excess return and the excess risk associated with achieving it. The results are discussed further in a feature article in the Government Pension Fund - Global Annual Report 2005.

[13]Source: Mapping the global capital markets. The McKinsey Quarterly 2005 special edition.

[14]Barclays Global Investors, State Street Global and Vanguard Group, source Pensions & Investments and Watson Wyatt Global 500 survey.

[15]Hvem eier Norge? (Who owns Norway?) L.A. Grünfeld and E.W. Jakobsen, Universitetsforlaget 2006.

[16]There is some overlapping, particularly when investing in private equity. The allocation to this type of investment in a portfolio tends to be low. Strategic ownership positions in companies are normally taken via funds (such as private equity funds), i.e. ownership skills are bought outside the company.

[17]One reason is cost. Internal active management costs a fifth to a tenth of externally bought services.