Management of the Government Petroleum Fund
Report for the third quarter 2002

Summary

In the third quarter of 2002, the return on the Government Petroleum Fund, including the Environmental Fund, was -5.13 per cent measured by the currency basket that corresponds to the composition of the Fund's benchmark portfolio. The overall return for the first three quarters of 2002 was -7.36 per cent.

The currency basket in which the Petroleum Fund is invested depreciated by approximately 1 per cent against the Norwegian krone in the third quarter. Measured in NOK, the return in the third quarter was therefore somewhat more negative, at -6.29 per cent. Following a substantial appreciation of the krone in the second quarter, the combined return for the first three quarters, measured in NOK, was -18.49 per cent. However, changes in the value of the krone have no effect on the international purchasing power of the Fund.

The third quarter return on the ordinary equity portfolio (excluding the Environmental Fund) was -19.72 per cent measured by the benchmark portfolio's currency basket. This reflects the sharp fall through the quarter of share prices in the three main markets, the US, Europe and Japan. Following the fall in interest rates in the US and the euro area in particular, a positive return of 4.72 per cent, measured in terms of the currency basket, was recorded for the fixed income portfolio.

The return on the Petroleum Fund's ordinary portfolio in the third quarter of 2002 was 0.14 percentage point lower than the return on the benchmark portfolio defined by the Ministry of Finance. The actual return recorded for the first three quarters of the year as a whole was 0.08 percentage point higher than the benchmark return.

The return on Environmental Fund in the third quarter was -19.07 per cent measured in terms of the benchmark portfolio currency basket, and -20.07 per cent measured in NOK. The combined return for the first three quarters of 2002 was -28.17 per cent measured in terms of the currency basket and -36.81 per cent measured in NOK.

In the third quarter, capital equivalent to NOK 37.6 billion was transferred to the Petroleum Fund's equity and fixed income portfolios. The market value in NOK of the Fund's combined securities portfolio was NOK 603.6 billion at the end of the third quarter. This is slightly down on the beginning of the quarter, and is largely due to the strongly negative return on the equity portfolio.

1. Key figures

The return on the Government Petroleum Fund in the third quarter of 2002 was -5.13 per cent measured in terms of the currency basket corresponding to the composition of the Fund's benchmark portfolio. Chart 1 shows that the quarter was the second weakest since the Petroleum Fund first invested in equities in 1998. Only the third quarter of 2001 has shown a lower return.

Chart 1: Quarterly return on the Petroleum Fund since 1998 measured by the Fund's currency basket

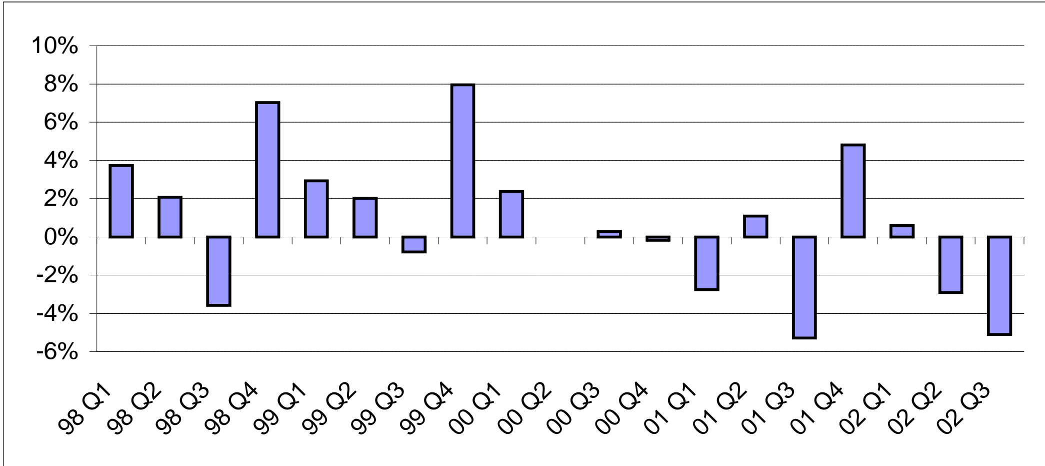
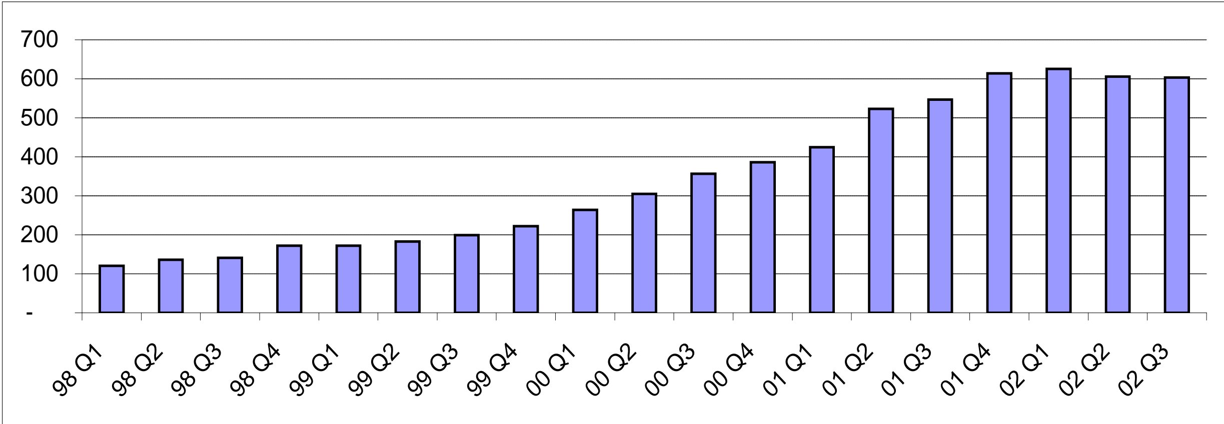


Chart 2 shows that the Petroleum Fund contained NOK 613.7 billion at end-2001, but that by the end of the third quarter of 2002 the value of the Fund in NOK had dipped to NOK 603.6 billion. The decline has taken place despite the transfer by the Ministry of Finance of a total of NOK 115.4 billion in new capital so far in 2002. Remuneration for management in 2001 amounted to NOK 0.4 billion, while the actual decline in market value is NOK 125.2 billion. Of this, NOK 46.0 billion is due to negative returns in securities markets, while NOK 79.2 billion is due to the depreciation of the currencies in which the Fund is invested by almost 10 per cent against NOK. The objective of the management of the Petroleum Fund is to achieve the highest possible international purchasing power, and the appreciation of the krone is irrelevant in this respect. With an unchanged krone exchange rate since the beginning of 2002, the market value of the Fund would have increased by some NOK 70 billion.

Chart 2: The market value of the Petroleum Fund 1998-2002, measured in billions of NOK



Since January 1998, the annual net real return on the Petroleum Fund (after deductions for management costs and price inflation) has been 1.2 per cent. Table 1 shows the real return up to the end of the third quarter of 2002, calculated as an annual rate from 1 January of 1998, 1999, 2000 and 2001, respectively. The price inflation is a weighted average of the price inflation rates in the countries in the benchmark portfolio.

The right column in the table shows excess return. This is the difference between the return Norges Bank actually achieved, and the return on the benchmark. A positive excess return indicates that Norges Bank creates added value through its management. Since January 1998, the annual excess return has averaged 0.34 percentage point.

Table 1: Annual rates of return up to the end of the third quarter of 2002, measured against the benchmark portfolio's currency basket. Per cent

	Nominal annual return	Annual price inflation	Annual management costs	Annual net real return	Annual excess return
From 01.01.98	2.77	1.46	0.08	1.23	0.34
From 01.01.99	1.11	1.58	0.09	-0.56	0.38
From 01.01.00	-2.72	1.64	0.09	-4.45	0.11
From 01.01.00	-5.58	1.40	0.08	-7.06	0.06

Chart 3 shows cumulative rates of return from 1 January 1998 for the fixed income and equity portfolios. During these 19 quarters, there has been a cumulative nominal return on equity investments of -11.5 per cent and a nominal return on bonds and other fixed income instruments of 32.8 per cent.

Chart 3: Index for accumulated return on subportfolios in the Petroleum Fund 1998-2002. The Fund's currency basket at 31 December 1997=100

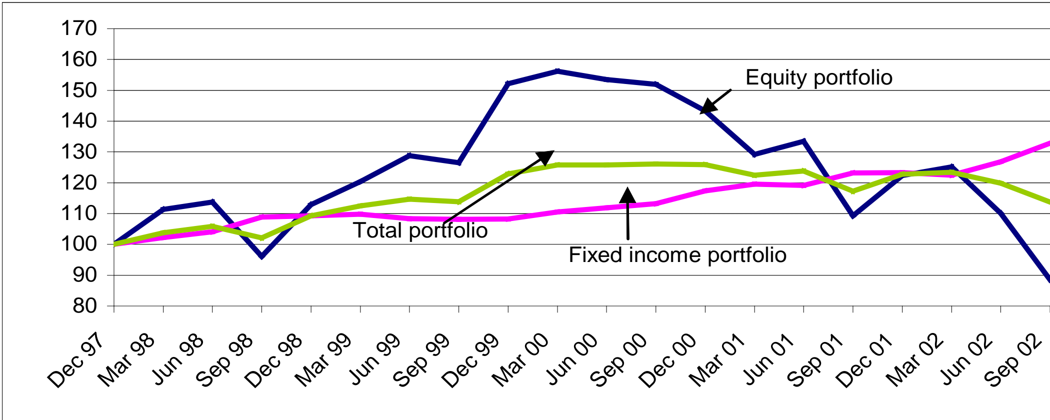


Chart 4 shows the cumulative return on the Petroleum Fund as a whole since 1 January 1998. The return up to the end of the third quarter of 2002 was 13.9 per cent. During the same period, the return on the benchmark was 12.1 per cent. The difference between the actual return and the return on the benchmark is the excess return achieved by Norges Bank. The cumulative excess return since 1998 is 1.8 percentage points. The chart also shows that the excess return has fluctuated considerably from one quarter to the next.

Chart 4: Index for cumulative return on the actual portfolio and on the benchmark portfolio, 1998-2002 (left-hand scale, the currency basket for the Fund at 31 December 1997=100). Quarterly excess return (right-hand scale).

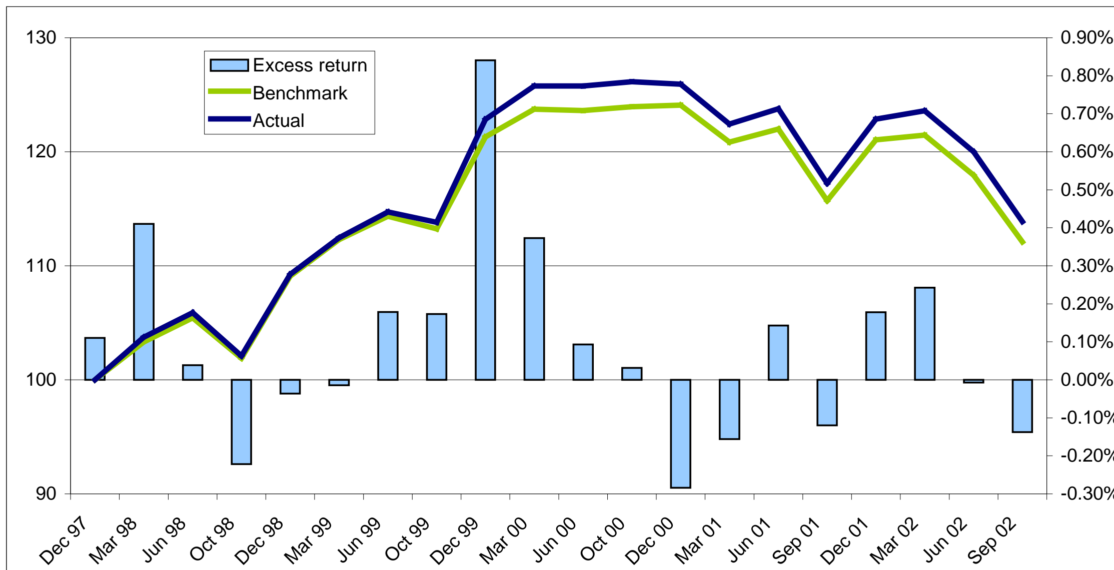
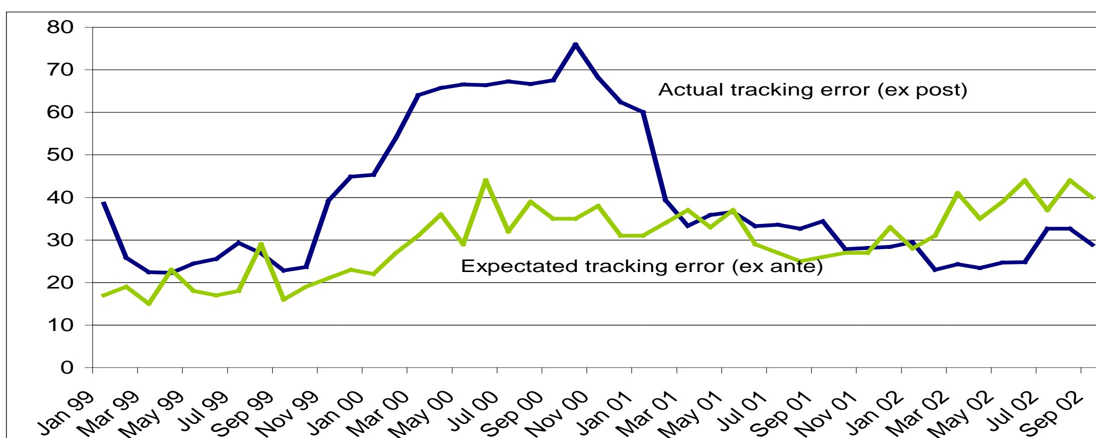


Chart 5 shows developments in relative market risk from December 1998, measured in two different ways. In the guidelines from the Ministry of Finance, expected tracking error (often called relative or active risk – the concept is explained in Chapter 6 below) is used as an upper limit to how far Norges Bank can deviate from the benchmark portfolio. Ex post we can use the variation in the excess return, i.e. the difference between the return on the actual portfolio and on the benchmark portfolio, as a measure of the risk Norges Bank has taken in its management in relation to the benchmark portfolio. In Chart 5, this actual tracking error is calculated as an annualised rate using 12-month moving windows.

Chart 5: Relative market risk at the end of each month, measured ex ante by expected tracking error and ex post by calculated tracking error on the return differential for the past 12 months. Figures in basis points (hundredths of a percentage point)



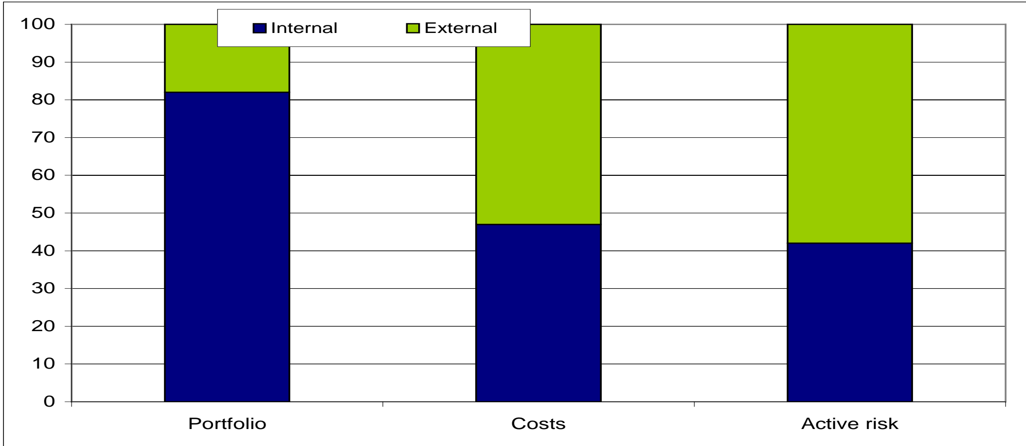
Up to 2001, the actual variation in monthly excess return was quite considerably higher than the expected tracking error. Since then, the figures have been close to one another. Both

expected and actual tracking error may fluctuate widely, even if the degree of actual management is not changed. This is because the measures are influenced by various market developments, such as changes in correlations between the various asset classes and securities. Expected tracking error has been well below the 1.5 percentage point limit set by the Ministry of Finance for the relative market risk in the Petroleum Fund's portfolio.

The information ratio is a widely used measure of the skill of operational managers. It is the ratio between the excess return for the year and relative market risk (measured here as actual tracking error). The average information ratio for the Fund from the first quarter of 1998 to the third quarter of 2002 has been 0.76, measured as an annualised ratio. The management objective is to achieve an information ratio of at least 0.2-0.3.

Chart 6 shows some key figures associated with the distribution of external and internal management. It shows that at the end of the third quarter, 18 per cent of the Petroleum Fund was managed by external managers. At the same time, expenses associated with external management accounted for 53 per cent of total management costs. The active risk associated with external management accounted for about 58 per cent of the total risk associated with active management.

Chart 6: Distribution of portfolios, management costs and active risk* between internal and external management. Per cent



* There is no absolutely correct way to calculate the distribution of active risk. The distribution in the chart is based on a summation of the risk (Value at Risk) associated with each mandate, irrespective of the correlation between the mandates.

Active management costs appreciably more than index management, and this is one reason that unit costs are much higher for external management than for internal management. An additional explanation is that economies of scale in capital management can make internal management of large portfolios cost-effective compared with buying management services in the market. Norges Bank's strategy is to allow external managers with specialist expertise to be responsible for a significant proportion of the overall active management. Please refer to the article on this subject published on Norges Bank's website, and the Bank's submission of 5 September 2000 to the Ministry of Finance.

2. Mandate

Norges Bank manages the Government Petroleum Fund pursuant to a regulation issued by the Ministry of Finance on 3 October 1997, last amended on 16 January 2002. The Petroleum Fund consists of an ordinary portfolio of equity and fixed income instruments and a separate Environmental Fund which is invested only in equity instruments.

The Ministry of Finance has defined a benchmark portfolio for the Petroleum Fund pursuant to the Petroleum Fund Regulation. The benchmark for the ordinary portfolio is composed of the shares in the FTSE equity indices in 27 countries and of the bonds in the Lehman Global Aggregate bond indices in the currencies of the 22 countries that are approved for fixed income investments. As from 28 February 2002, the fixed income benchmark contains not only government bonds, but also other bonds issued by the public sector, bonds issued by international organisations, corporate bonds and mortgage-backed bonds.

Equities shall account for 40 per cent of the benchmark portfolio for the Petroleum Fund excluding the Environmental Fund, and fixed income instruments shall account for 60 per cent. The equity portion of the benchmark consists of securities listed in Europe (50 per cent) the Americas (30 per cent) and Asia/Oceania (20 per cent). These regions have shares of 55, 35 and 10 per cent, respectively, in the fixed income benchmark.

Asset class and regional weights in the benchmark portfolio change daily as a result of changes in the market prices of the securities in the portfolio. New capital is normally transferred to the Petroleum Fund at the end of each month. This capital is used to restore the asset class and regional weightings in the benchmark as closely as possible to the original weightings, providing this does not necessitate selling anything in the actual portfolio. Thus there may be minor differences between the weightings in the strategic benchmark described above and those in the actual benchmark, even after the transfer of new capital. It is the actual benchmark that provides the basis for managing risk and measuring the performance of the Petroleum Fund. The weightings in both the strategic and the actual benchmark at end-September 2002 are shown in Table 2. The weightings in the fixed income benchmark apply to the currency in which the bonds are issued, and euro weighting are therefore not listed for individual euro area countries.

The separate Environmental Fund is an equity portfolio with the same regional distribution as the ordinary equity portfolio, and may be invested in the same countries, with the exception of the emerging markets of Brazil, South Korea, Mexico, Taiwan and Turkey. Only companies that fill environmental reporting requirements or have an environmental management system are included in the benchmark portfolio for the Environmental Fund. The environmental requirements are stipulated by the Ministry of Finance, which also decides which companies the portfolio may be invested in.

The Ministry of Finance has set an upper limit to how far the Petroleum Fund's actual portfolio may deviate from the benchmark portfolio. In the ordinary portfolio, relative market risk, measured as expected tracking error, shall always be less than 1.5 percentage points. The limit for the Environmental Fund is 1 percentage point. The concept of tracking error is explained in Chapter 6.

Table 2: The benchmark portfolio at 30 September 2002 for the Petroleum Fund's ordinary portfolio (excluding the Environmental Fund). Per cent

	Equities		**Fixed income**	
Country for equity benchmark. Currency for fixed income benchmark	Strategic benchmark	Actual benchmark	Strategic benchmark	Actual benchmark
Weightings asset classes	**40.0**	**36.3**	**60.0**	**63.7**
Austria		0.1		
Belgium		0.7		
Finland		1.1		
France		6.6		
Greece		0.4		
Ireland		0.5		
Italy		2.9		
Netherlands		3.7		
Portugal		0.3		
Spain		2.2		
Germany		4.3		
Euro area countries (EUR)		*22.9*		47.7
UK (GBP)		19.2		6.2
Denmark (DKK)		0.5		1.2
Switzerland (CHF)		5.6		0.7
Sweden (SEK)		1.4		1.0
Turkey		0.1		
Total Europe	**50.0**	**49.7**	**55.0**	**56.8**
US (USD)		28.3		30.7
Brazil		0.1		
Canada (CAD)		1.1		3.0
Mexico		0.2		
Total America	**30.0**	**29.8**	**35.0**	**33.8**
Australia (AUD)		2.6		0.5
Hong Kong		1.5		
Japan (JPY)		13.3		8.4
New Zealand (NZD)		0.1		0.1
Singapore (SGD)		0.5		0.3
South Korea		1.2		
Taiwan		1.3		
Total Asia and Oceania	**20.0**	**20.5**	**10.0**	**9.4**

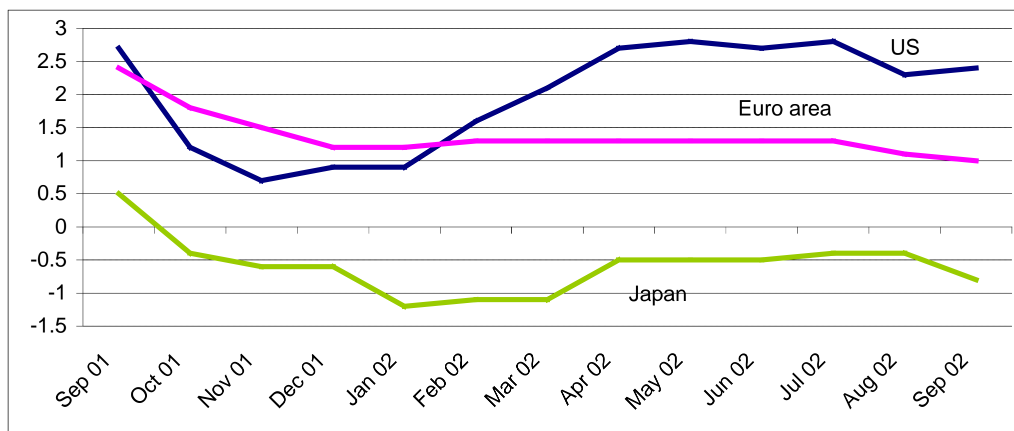
3. Market trends

3.1 Main features

Chart 7 shows how analysts' expectations concerning economic growth in 2002 have changed over the past twelve months. Expectations regarding growth in the US rose during the first half of 2002, and have since remained relatively high. One important reason is that consumer demand has been far stronger than predicted by many economists at the start of the downturn. This has been possible because interest rates have been sharply reduced, while US fiscal policy has become more expansionary. Lower interest rates have prompted a rise in house prices, which in turn has made it possible for households to borrow more with property as collateral. Household disposable income has also risen as a result of lower taxes.

In Japan and a number of the large economies in Europe, demand has not been stimulated in the same way. Expectations concerning economic growth in 2002 are appreciably lower than for the US, and a decline in GDP is expected for Japan.

Chart 7: Expected GDP growth in 2002 in the euro area, the US and Japan, measured at various times in 2001-2002. Per cent



Source: Consensus Economics Inc.

Neither the household nor the enterprise sector in Japan appears disposed to increase demand for goods and services. At the same time, the state has incurred such high debt that the Japanese Government feels compelled to reduce the central government budget deficit. The situation in the rest of South-East Asia is brighter. Investment and consumer demand are increasing far more in this region than in the rest of the world. Weak currencies have stimulated exports and new investment in increased production capacity. This, combined with much easier access to credit, has also stimulated domestic consumer demand.

Developments in domestic demand in Europe were especially weak in the third quarter. For the past couple of years, demand has not been stimulated by interest rate cuts, as it has in the US. Nor has fiscal policy contributed to buoying up demand. Part of the reason for this is the EU Stability Pact, which imposes an upper limit on government budget deficits. A number of big countries are at this limit.

In sum, the sluggish developments in the global economy largely reflect lower demand for investment and inventories. Both inventories and investment in new production capacity have

been substantially reduced this year, particularly in the large industrial countries. Actual order and production figures show that activity in these economies is weaker than it was a few months ago.

Oil prices remained high in the third quarter. One important reason for the high oil price is the tense situation between Iraq and the US. The financial markets fear that a war might also affect oil production outside Iraq. This increases uncertainty regarding the outlook for the global economy.

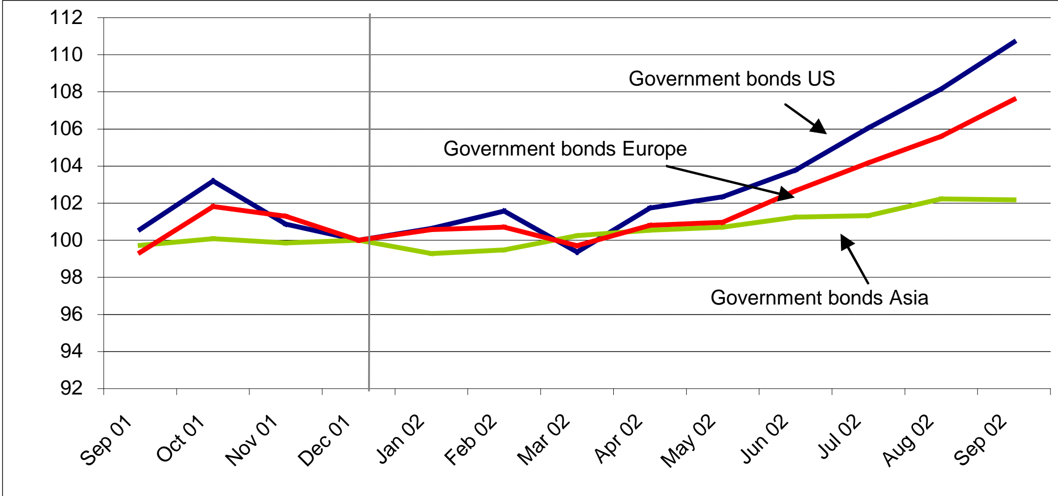
The many discoveries of misleading accounting figures in large international companies have resulted in a more widespread lack of confidence in the informational value of accounts figures. Consumers and business leaders all over the world have become more pessimistic about the outlook for the world economy in the immediate future. A number of indicators for future macroeconomic developments have been weak, not only in the US, but also in Japan and Europe. Various surveys show that businesses and consumers expect little growth in the economy in the near future.

3.2 Fixed income markets

Yields on 10-year government bonds fell in the US, Europe and Japan in the third quarter. The fall was sharpest in the US, where yields dropped from about 4.8 per cent at the beginning of the quarter to about 3.6 per cent at the end. Chart 8 shows similarly that returns in the US government bond index in the third quarter were higher than returns in corresponding indices in Europe and Japan. A return of 6.7 per cent, measured using the Lehman index, was recorded for US government paper, while corresponding figures for the euro area and Japan were 4.8 per cent and 0.9 per cent.

There are probably two main reasons for the decline in yields. One reason is the sharp fall in equity prices through most of the third quarter. Another important reason for the fall in long government bond yields is investors' expectations of more sluggish economic growth in the period ahead, as discussed above.

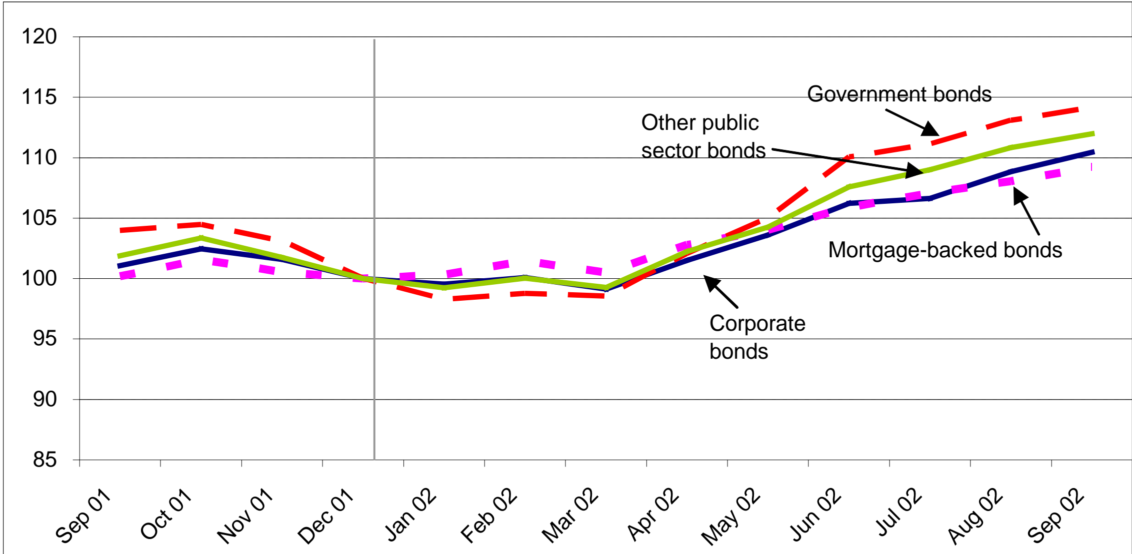
Chart 8: Movements in Lehman Global Aggregate government bond indices in the main markets from September 2001 to September 2002 (31.12.01=100)



In the markets for non-government-guaranteed bonds (bonds with credit risk), the spread between the yields for these bonds and for government bonds widened through the quarter, particularly in the US. Returns on bonds with the lowest credit rating were particularly low. The background to this is the many downgradings from credit rating companies. The downgradings are a response to steadily declining earnings coupled with companies' failure to reduce debt at the promised rate.

Despite this, Chart 9 shows roughly the same return on bonds with credit risk as on government bonds in the third quarter. The explanation is different currency weightings in the sub-indices. Japan, in particular, has a far higher weighting in the government bond index.

Chart 9: Movements in Lehman Global Aggregate indices for bonds with credit risk from September 2001 to September 2002 (31.12.01=100)



3.3 Equity markets

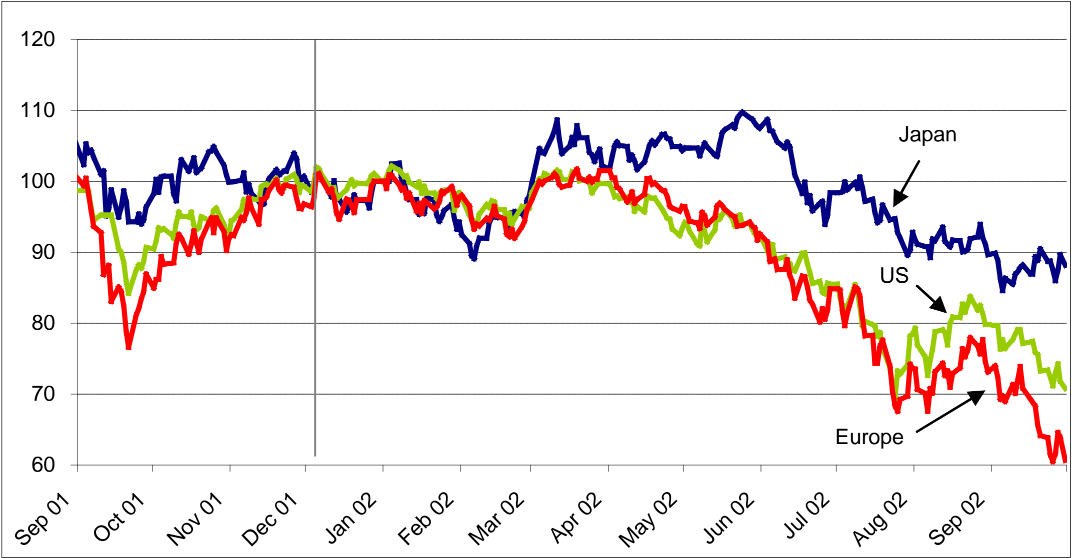
Prices in the most important equity markets fell in the third quarter. Stock markets in the US and Europe touched a temporary bottom at end-July. Prices then rallied until the end of August, only to fall again up to the end of the third quarter. Overall, European equity markets fell most sharply in the third quarter, by 28.5 per cent measured by the FTSE index. In the US the price fall through the quarter was 17.5 per cent, while in Japan it was 10.4 per cent.

Previously, the TMT sectors (telecommunications, media and technology) have fallen most sharply. These sectors were also among the weakest in the third quarter, particularly suppliers to the telecommunications and semi-conductor industries. Chart 11 shows developments in TMT and non-TMT sectors in the global index. We see that after the sharp upturn in the late 1990s, TMT shares have consistently shown a poorer performance than the market as a whole.

Share price movements in the banking and insurance sector were also weak during the third quarter (Table 3). The earnings of the big investment banks have been poor as a result of the low level of activity in financial markets. They have also been presented with large claims for compensation relating to past activities. These concern conflicts of interest between banking

and consulting activities, for example preferential allocation of shares in IPOs and recommendations to buy in enterprises that the same analysts have expressed a negative attitude to in internal memos. In general, the banking and insurance sector has felt the impact of steadily deteriorating security for its lending portfolios, while life insurance companies in particular have been affected by high annual return guarantees. A steadily falling equity market and less secure lending portfolios have eroded capital adequacy, and there has been speculation as to whether some financial institutions need more equity capital.

Chart 10: Developments in FTSE equity indices for the main markets from September 2001 to September 2002 (31.12.01 = 100)



The equity market has been strongly influenced by expectations of more sluggish macroeconomic developments. The negative trend in the equity market has also increased the focus on enterprises' pension costs. As a result of the lower value of enterprises' pension assets, coupled with the low interest rate level, enterprises have to spend more of their future earnings on ensuring that they can meet their pension obligations. Investors will then be left with reduced earnings.

Chart 11: The FTSE All-World Equity Index, 1999-2002: Total and for the TMT sectors, technology, media and telecommunications (31.12.98 = 100)

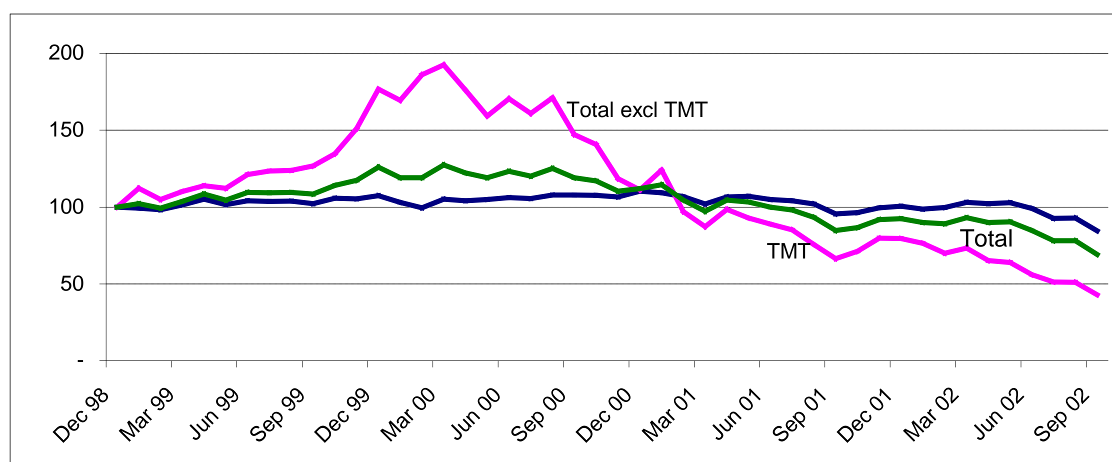


Table 3: Performance of the FTSE World Index in the first quarter of 2002, measured in USD and in terms of the Fund's currency basket

Sector	USD	Currency basket
Resources	**-18.11**	**-18.13**
- of which oil and gas	-18.89	-18.91
Basic industry	**-22.77**	**-22.79**
General industrials	**-20.23**	**-20,24**
- of which diversified industrials	-15.89	-15.91
Cyclical consumer goods	**-17.41**	**-17.43**
Non-cyclical consumer goods	**-8.88**	**-8.90**
Cyclical services	**-17.36**	**-17.38**
- of which general retailers	-17.68	-17.70
Non-cyclical consumer services	**-20.07**	**-20.09**
- of which telecommunication services	-19.46	-19.48
Utilities	**-15.09**	**-15.11**
Financial services	**-20.55**	**-20,56**
- of which banks	-19.06	-19.08
- of which insurance companies	-25.95	-25.97
- of which specialty and other finance	-18.33	-18.35
Information technology	**-27.06**	**-27.08**
- of which information technology hardware	-28.98	-29.00
- of which software and computer services	-24.13	-24.15

4. The management process

The market value of the Petroleum Fund's currency portfolio at the end of the second quarter of 2002 was NOK 605.4 billion. In the third quarter, the Ministry of Finance transferred new capital to the Fund in the amounts of NOK 15.5 billion on 31 July, NOK 12.5 billion on 30 August and NOK 9.6 billion on 30 September. On the same dates, equivalent amounts in foreign currency were transferred to the securities portfolio. Total transfers to the Petroleum Fund's portfolio of international securities in the third quarter thus amounted to NOK 37.6 billion. Nevertheless, at the end of the quarter, the market value of the Petroleum Fund's combined securities portfolio had dropped to NOK 603.6 billion. The decrease was mainly due to falling prices in equity markets. At the same time, the currencies in which the Petroleum Fund is invested depreciated by approximately 1 per cent against the Norwegian krone. This factor has no effect on the international purchasing power of the Fund.

Table 4: Market value of the Petroleum Fund's subportfolios. In millions of NOK

	Ordinary equities portfolio	**Fixed income portfolio**	**TAA portfolio***	**Environmenta l Fund**	**Petroleum Fund total**
30 Sept 01	215 644	327 754	2 833	721	546 952
31 Dec 01	245 796	362 945	4 153	792	613 686
31 Mar 02	258 179	360 718	4 341	1 794	625 032
30 Jun 02	231 742	371 145	1 039	1 438	605 363
31 Jul 02	228 656	380 506	689	1 328	611 180
31 Aug 02	238 953	382 681	228	1 314	623 176
30 Sept 02	**218 443**	**383 911**	**52**	**1 149**	**603 556**

* The TAA portfolio contains both equity and fixed income instruments.

4.1. Management of the fixed income portfolio

Between the end of the second and the end of the third quarter, the market value of the fixed income portfolio increased from NOK 371.1 billion to NOK 383.9 billion. The increase was due to the return on the portfolio. No new capital was transferred to the fixed income portfolio in the third quarter.

The bulk of the portfolio is managed internally in Norges Bank by means of both enhanced indexing, where the main purpose is to achieve the same market exposure as the benchmark, and active strategies designed to outperform the benchmark.

Since 28 February 2002 the benchmark portfolio has contained both government-guaranteed and non-government guaranteed bonds. Since this date, all sub-indices for investment grade bonds in the Lehman Global Aggregate index have had positive weightings in the benchmark, and the weightings will gradually be changed until they reach the market capitalisation weightings in each region. Non-government-guaranteed bonds comprise bonds issued by international institutions or public institutions other than the government, corporate bonds and mortgage-backed bonds.

The phasing of non-government-guaranteed bonds into both the benchmark and the actual portfolio was continued in the third quarter, according to plan. The volatility in markets for corporate bonds was high in the third quarter. This provided major challenges in connection

with both the actual phase-in and the management of the index portfolio of non-government-guaranteed bonds.

The work of reviewing applications for the new external management mandates that were announced with a deadline of 15 January 2002 continued in the third quarter. Capital was not transferred to external mandates during the quarter.

4.2. Management of the equity and tactical asset allocation portfolio

New capital in the amount of NOK 15.5 billion was transferred to the ordinary equity portfolio on 31 July, NOK 12.5 billion on 30 August, and a further NOK 9.6 billion on 30 September. The market value of the portfolio at the end of the third quarter was NOK 218.4 billion.

At the end of the quarter, about 68 per cent of the equity portfolio was being managed internally in Norges Bank. About 22 percentage points of this is enhanced index management (or active indexing), in which various techniques are used to take advantage of special pricing situations. About 20 percentage points is sector management, which has low risk and is not very different from index management, while about 23 percentage points is active management in selected sectors. In addition come portfolios that are kept internally until they are transferred to external active managers. The total risk-taking associated with internal equity management only amounts to about one third of the total risk-taking associated with the equity portfolio.

Two third of the risk-taking is associated with the external equity portfolios, which account for about 32 per cent of the equity portfolio, measured by market value. More than 60 per cent of this is active management in regional mandates, while about a quarter is external management in sector mandates. The remainder of the external portfolio is managed by external index managers with active strategies (enhanced indexing).

In the third quarter of 2002, one new external manager was funded. This was Wellington Management Company, which has a management mandate for the utilities sector.

The scope of tactical asset allocation was further reduced during the quarter.

5. The return on the Fund

In the third quarter of 2002 the Petroleum Fund, including the Environmental Fund, had a return of -5.13 per cent, measured in terms of the benchmark currency basket. Measured in NOK, the total return in the third quarter was -6.29 per cent. The difference is due to the appreciation of the krone during the quarter, so that the currency basket depreciated 1.1 per cent against the krone. However, this has no effect on the international purchasing power of the Fund.

Table 5 shows that the Petroleum Fund’s ordinary portfolio (excluding the Environmental Fund) had a third quarter return of -5.10 per cent. The return was positive in August, but negative in both July and September. Table 6 shows the performance of the equity and fixed income portions of the ordinary portfolio separately. In terms of the currency basket, the

equity portfolio had a negative return of -19.72 per cent in the quarter, while the return on the fixed income portfolio was positive at 4.72 per cent. There is a pattern that was also seen in the previous quarter and year, with the fixed income portfolio performing strongly in quarters with a particularly weak equity performance.

Table 5: Return on the Petroleum Fund's ordinary portfolio. Actual and benchmark portfolios, third quarter 2002. Per cent

	Measured in terms of the Fund's currency basket		**Measured in NOK**		
	Actual portfolio	Benchmark portfolio	Actual portfolio	Benchmark portfolio	Difference
Whole of 2001	-2.43	-2.45	-5.31	-5.33	0.02
First quarter	0.59	0.34	-2.05	-2.30	0.24
Second quarter	-2.90	-2.90	-11.17	-11.16	-0.01
July	-2.87	-2.69	-1.58	-1.40	-0.18
August	1.03	1.04	-0.08	-0.07	-0.01
September	-3.29	-3.34	-4.68	-4.73	0.05
Third quarter	-5.10	-4.96	-6.26	-6.12	-0.14
So far this year	-7.31	-7.40	-18.44	-18.52	0.08
After adjustment items			*-18.44*	*-18.58*	*0.14*

Table 6 also shows the return figures for the total portfolio (including the Environmental Fund) measured in USD, EUR and against an import-weighted currency basket. Since exchange rate changes were small in the third quarter, the figures are fairly similar.

Table 6: Return on the Petroleum Fund's total portfolio in the third quarter of 2002 measured against various benchmark currencies. Per cent

	Equities incl. TAA	**Fixed income**	**Environmental Fund**	**Total**
Currency basket for the Fund	-19.72	4.72	-19.07	-5.13
Import-weighted currency basket	-19.93	4.44	-19.29	-5.38
USD	-19.70	4.74	-19.06	-5.11
EUR	-19.76	4.67	-19.11	-5.18
NOK	-20.71	3.44	-20.07	-6.29

In the third quarter the ordinary portfolio underperformed the benchmark portfolio by 0.14 per cent. The underperformance was attributable to both internal and external equity management as well as tactical asset allocation, which all contributed more or less equally. There was a positive excess return for the quarter on the fixed income portfolio.

When calculating the actual return figures in Tables 5 and 6, deductions were made for a number of costs which are not deducted when the return on the benchmark is calculated. In the third quarter of 2002, these were primarily direct transaction and tax costs in connection with the phasing of bonds with credit risk into the fixed income portfolio. Costs also include transaction and tax costs in connection with the investment of new capital in equity markets, and tax on dividends in some countries. If these cost components are also taken into account

for the benchmark, the underperformance in the third quarter will be 0.02 percentage point lower.

The actual return figures take account of income from securities lending, while the benchmark return does not. This income consists of short-term lending to counterparties that not only have high credit ratings but also supply full collateral for the value of the securities they borrow. Lending income in the third quarter was NOK 50 million, amounting to just under 0.01 percentage point of the average total portfolio. If this is added to the benchmark return, net adjustment items in the third quarter of 2002 will be about 0.01 percentage point of the Fund's average total portfolio. The corresponding figure in the first half of the year was 0.06 percentage point. The last line in Table 5 shows that Norges Bank's contribution to excess return so far this year has thus been 0.14 percentage point.

Table 7 shows that in the third quarter the Environmental Fund had a return of -19.07 per cent measured in terms of the currency basket and -20.07 per cent measured in NOK. The actual return was 0.08 percentage point higher than the benchmark return. For the first three quarters of 2002 combined, the benchmark return for the Environmental Fund was 0.68 percentage point lower than the return on a similar benchmark portfolio from which no companies had been removed for failing to meet environmental criteria.

Table 7: Return on the Environmental Fund in the third quarter of 2002. Per cent

	Measured in terms of the Fund's currency basket		**Measured in NOK**		
	Actual portfolio	Benchmark portfolio	Actual portfolio	Benchmark portfolio	Difference
Whole of 2001	-18.94	-18.90	-20.83	-20.79	-0.04
First quarter	1.30	1.32	-1.36	-1.35	-0.02
Second quarter	-12.39	-12.39	-19.85	-19.85	0.00
July	-8.86	-8.89	-7.66	-7.68	0.03
August	0.08	0.07	-1.02	-1.02	0.01
September	-11.27	-11.32	-12.55	-12.60	0.05
Third quarter	-19.07	-19.15	-20.07	-20.14	0.08
So far this year	-28.17	-28.24	-36.81	-36.86	0.05
Memorandum: Ordinary benchmark with country weights as in the Environmental Fund		-27.47		-36.18	

6. Risk exposure

The Ministry of Finance has set a limit to the market risk associated with the actual portfolio relative to the benchmark. This relative market risk shall always be less than 1.5 percentage points (150 basis points) expected tracking error. Chart 12 shows that in the third quarter of 2002, relative market risk remained well below the upper limit. At the end of the quarter, expected tracking error for the total portfolio was approximately 40 basis points.

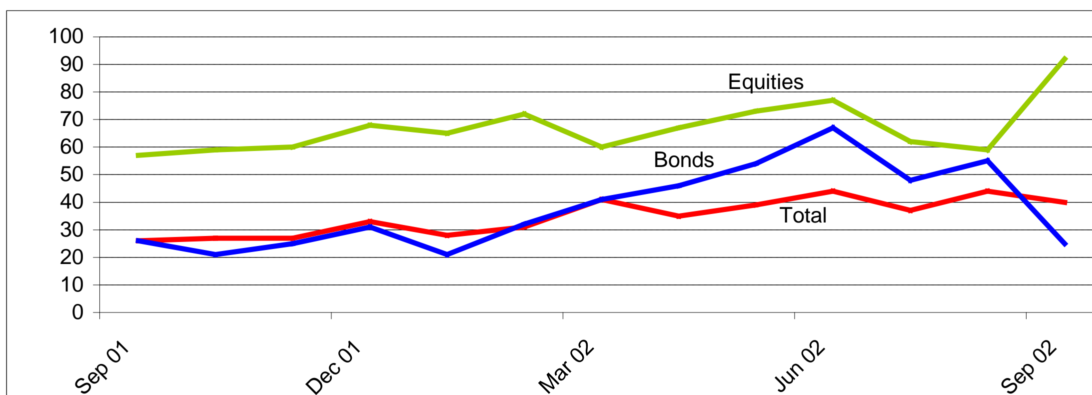
RiskManager

Since September 2002, expected tracking error is being measured by means of the risk model RiskManager from Riskmetrics. This model replaces the BARRA model, which has been used up to now. The decision to replace BARRA was taken by the Ministry of Finance on the advice of Norges Bank, because BARRA does not adequately cover all the financial instruments now being used in Fund management. This applies in particular to the mortgage-backed bonds which are being included in the Petroleum Fund benchmark portfolio from 2002.
The two models differ in that BARRA models the risk associated with each security by means of a set of factors, whereas RiskManager makes direct use of security price series to estimate a covariance matrix. However, both models are based on historical return figures, with somewhat more weight on new figures than on older ones. The two models produce approximatey the same figure for the expected tracking error of the Petroleum Fund's total portfolio, but there may be larger differences for the equity and fixed income portfolios separately. The changeover to a new risk model has little effect with respect to the limits for risk exposure in the Petroleum Fund Regulation laid down by the Ministry of Finance.

Relative risk is higher in equity management than in fixed income management. Equity markets fluctuate more than fixed income markets, so that there is more risk associated with an equity management position than with a fixed income position of the same size. Another contributing factor is that there has been relatively more active management of the equity portfolio. The differences in relative risk diminished in the third quarter, largely because non-government-guaranteed bonds account for a growing share of the fixed income portfolio, and the performance of these bonds varies more than the performance of government bonds.

The relative market risk for the Environmental Fund at the end of September was 56 basis points, measured as expected tracking error in relation to the benchmark for this portfolio. The Ministry of Finance has imposed an upper limit of 100 basis points.

Chart 12: Expected tracking error at the end of each month for the past 12 months. Basis points (hundredths of a percentage point)



Expected tracking error

The Ministry of Finance uses the risk measure *expected tracking error* to manage the market risk of the Petroleum Fund. This measure is defined as the expected value of the standard deviation of the difference between the annual return on actual investments and the return on the benchmark portfolio. When deviations from the benchmark portfolio are restricted by setting an upper limit to expected tracking error, there is a high probability that the actual return will vary within a range around the return on the benchmark portfolio. The lower the limit placed on market risk, the narrower this range will be. An expected tracking error of 1.5 percentage points or 150 basis points means that, over time, the difference between the returns on a stable actual portfolio and the benchmark portfolio will be less than 1.5 percentage points in two out of three years.

Table 8 shows the composition of the bond portfolio based on credit ratings by Moody's and Standard and Poor's. In the table, government bonds and government-guaranteed bonds without credit ratings have been assigned the credit rating of the issuing country. For example, government-guaranteed bonds from the city of Kobe, denominated in USD, have been rated Aa/AA, which are the ratings given to the Japanese state for bonds in a foreign currency. According to the Ministry of Finance's credit risk guidelines, the Petroleum Fund may not normally invest in securities with a lower credit rating than Baa from Moody's or BBB from S&P. However, up to 0.5 per cent of the fixed income portfolio may be invested in securities with a Ba rating from Moody's or a BB rating from S&P. The Fund complied with these guidelines in the third quarter of 2002.

Table 8: The fixed income portfolio as at 30 September 2002, by credit rating. Percentages of market value

Moody's		**Standard & Poor's**	
Rating	Share of total	***Rating***	Share of total
Aaa	61.0	AAA	58.3
Aa	20.3	AA	29.0
A	14.5	A	7.6
Baa	4.0	BBB	4.1
Lower	0.04	Lower	0.04
No rating**	0.1	No rating**	0.9

The most important difference between the two agencies is that Moody's assigns a rating of A to Japanese government bonds, while S&P has given an AA rating to the same bonds. In addition to bonds, the benchmark contains a small portion of short-term securities and cash. All the short-term securities in the portfolio have a credit rating of P-1 from Moody's and A-1/A-2 from Standard & Poor's.

Table 9 provides an overview of other risk limits stipulated in the Ministry of Finance's Regulation on the Management of the Government Petroleum Fund and guidelines for the ordinary portfolio, and of actual exposure during the quarter. The figures show that positions were within these limits throughout the quarter.

Table 9: Risk exposure limits as defined in the regulation and guidelines

Section	Risk	Limits	Actual				
			30.09.01	31.12.01	31.03.02	30.06.02	30.09.02
§ 4	Market risk	Maximum 1.5 percentage point tracking error	0.3	0.3	0.4	0.4	0.4
§ 5	Asset mix	Bonds 50-70%	60.0	59.2	57.9	61.5	63.7
		Equities 30-50%	40.0	40.8	42.1	38.5	36.3
§ 6	Currency distribution	Europe 40-60%	49.9	50.4	52.8	54.2	54.1
		Americas 20-40%	30.7	30.8	33.0	32.2	32.6
		Asia/Oceania 10-30%	19.4	18.8	14.2	13.6	13.3
	Emerging markets	< 5% of equity portfolio	1.2	1.9	2.2	2.6	2.6
§ 7	Interest rate risk	Modified duration 3-7	5.6	5.4	5.3	5.2	5.3
§ 8	Credit risk*	Max 20% in bank deposits	4.6	3.4	4.7	2.5	4.3
§ 10	Holding	Max. 3% of a company	1.7	2.0	2.6	2.6	2.8

* In addition to ordinary bank deposits, reinvested cash collateral from securities lending is included in the table. For other credit risk limits, see Table 8.

7. Management costs

Table 10 provides an overview of costs associated with the management of the Petroleum Fund in the first three quarters of 2002. These costs consist partly of fees to external managers and custodian institutions and partly of the Bank's internal operating expenses. In addition to the Petroleum Fund, Norges Bank Investment Management manages the Government Petroleum Insurance Fund and the bulk of Norges Bank's foreign exchange reserves. The total internal costs are distributed between the three funds by means of a set of internal prices. The internal costs include all support functions provided by wings of Norges Bank other than Norges Bank Investment Management. These latter costs are calculated according to the guidelines applying to business operations in Norges Bank.

The costs in the table are equivalent to an annualised 0.12 per cent (12 basis points) of the average equity portfolio and 0.04 per cent (4 basis points) of the average fixed income portfolio. This is approximately the same cost per krone as in 2001. The management costs have thus increased at the same rate as the total assets. This is partly because the management has gradually become more specialised in order to diversify market risk, and partly because the portfolio is being invested in different and more complex instruments. In 2002, for example, the benchmark has been expanded to include bonds with an option element. This complex management task is dependent on a more sophisticated IT infrastructure than is required for a simpler type of management.

Management costs calculated as a share of total assets are also influenced by the 10 per cent appreciation of the krone since the beginning of 2002. Since half the costs are in NOK, whereas all the assets are in foreign currency, the cost per krone rose when the krone appreciated.

In addition to the above costs come performance-based fees to external equity managers of NOK 40 million (3 basis points of the average equity portfolio) and performance-based fees to external fixed income managers of NOK 9 million. The amounts are based on the managers' combined excess return over the last four quarters. When these performance-based

fees are included, the costs of equity and tactical asset allocation management amount to 15 basis points and the costs of fixed income management 5 basis points of the average subportfolios.

Table 10: Management costs for the first three quarters of 2002. In thousands of NOK and, annualised, in basis points of the average portfolio

	2002		**2001**	
	NOK 1000	Basis points	NOK 1000	Basis points
Fees to external equity and tactical asset allocation managers, excluding performance-related fees	95 580		58 085	
Costs of equity custodian and settlement	29 757		32 355	
Internal tactical asset allocation and equity management costs	102 537		54 526	
Total equity and tactical asset allocation management	**227 874**	**12**	**144 967**	**11**
Performance-related fees to external equity managers	*39 822*		*27 149*	
Fees to external fixed-income managers, excluding performance-related fees	15 594		15 203	
Custodian costs fixed income	16 599		12 590	
Internal costs, fixed income management	93 312		46 885	
Total fixed income management	**125 506**	**4**	**74 677**	**4**
Performance-related fees to external fixed-income managers	*9 177*		*696*	
Total management costs, excluding performance-related fees	**353 380**	**8**	**219 644**	**7**
Total management costs	**402 379**	**9**	**247 489**	**8**

For the whole portfolio, annualised management costs excluding performance-based fees amount to 8 basis points of the average market value so far this year.

The Management Agreement between the Ministry of Finance and Norges Bank lays down the principles for the remuneration Norges Bank is to receive for managing the Petroleum Fund's portfolios. The remuneration for 2002 shall be equal to actual management costs, within an upper limit of 10 basis points of average total assets. Fees to external managers for excess return achieved shall nevertheless be covered even if costs then exceed this upper limit. Agreements on performance-based fees have been concluded with the majority of external active managers, according to principles that have been approved by the Ministry of Finance.

8. Reporting of accounts

Table 11 shows the mix of different instruments as presented in Norges Bank's accounts at the ends of the last five quarters. Table 12 shows the book return, which in the third quarter was a negative NOK 39 367 million prior to the deduction of Norges Bank's management remuneration. Most of this was due to exchange losses on the equity portfolio.

The accounting figures are based on holdings including unsettled trades (with the exception of cash, for which only settled trades are included). The figures indicate market values based on verified prices. Investments in foreign currency are converted to NOK at market rates as at 30 September quoted on WM/Reuters London. The value of the Petroleum Fund's portfolio recorded in the accounts differs from the market value in Table 4 above because remuneration for management is not deducted in the table, and because different assessment principles are used for a few items (see the appendix on methodology for calculating returns). Similarly, there are small differences in the return figures.

Table 11: The Petroleum Fund's international portfolio distributed by instrument, at 30 September 2002. In thousands of NOK

	30.09.01	**31.12.01**	**31.03.02**	**30.06.02**	**30.09.02**
Short-term assets, incl. deposits in foreign banks	42 406 244	20 002 123	16 024 677	2 699 820	7 270 772
Money market placings in foreign financial institutions with securities as collateral	105 857 427	121 848 011	117 783 989	111 666 155	174 327 946
Borrowing from foreign financial institutions with securities as collateral	-117 779 691	-119 092 695	-130 281 198	-125 929 639	-152 080 172
Foreign interest-bearing securities	322 464 755	350 008 902	365 329 261	388 938 848	359 025 773
Foreign equities	194 013 322	240 884 381	256 209 363	227 800 284	215 039 688
Forward contract adjustments	14 053	39 018	4 703	157 506	-2 138
Total portfolio before remuneration for management	**546 976 110**	**613 689 740**	**625 070 795**	**605 332 974**	**603 581 869**
Accrued management remuneration	-253 831	-372 255	-130 000	-260 000	-391 000
Total portfolio, recorded value	**546 722 279**	**613 317 485**	**624 940 795**	**605 072 974**	**603 190 869**

Off the balance sheet, financial futures with a total market value of NOK 22 962.8 million had been purchased and financial futures with a market value of NOK 14 411.6 million had been sold at 30 September 2002. Interest rate swaps with a total market value of NOK 122 968.1 million were purchased and swaps for NOK 123 638.9 million were sold. Foreign exchange with a total contract value of NOK 5 412.5 million had also been bought and sold forward.

Table 12: Book return on the Petroleum Fund's international portfolio at 30 September 2002. In thousands of NOK

Book return	**30.09.01**	**31.12.01**	**31.03.02**	**30.06.02**	**30.09.02**
Interest income	10 732 345	14 911 191	4 927 613	9 919 129	13 864 562
Dividends	2 246 593	2 738 851	1 071 776	2 635 581	3 701 793
Exchange rate adjustment	-8 483 760	-16 242 683	-16 538 659	-72 943 773	-81 254 669
Unrealised securities loss/gain	-41 743 938	-19 308 721	3 245 737	-15 562 677	-44 113 967
Realised securities gain	-2 757 605	-4 190 744	-5 350 807	-8 888 435	-15 151 178
Brokers' commissions	-40 087	-48 960	-2 487	-1 030	3 274
Profit/loss forward exchange trading	-3 362	1 477	-214	72	4 691
Gain/loss futures	-2 619 463	-1 816 099	105 566	-969 702	-2 232 270
Book return on investments	**-42 669 277**	**-23 955 688**	**-12 541 475**	**-85 810 835**	**-125 177 764**
Accrued management remuneration	-253 831	-372 255	-130 000	-260 000	-391 000
Net return market value	**-42 923 108**	**-24 327 943**	**-12 671 475**	**-86 070 835**	**-125 568 764**

In Table 12, income and costs in foreign currency are converted into NOK according to the exchange rate on the transaction date, and are recognised as they are earned or accrued, according to the accruals principle.

APPENDIX:

METHODOLOGY FOR CALCULATING RETURNS[1]

The returns are calculated according to the market value principle, ie the portfolios are valued at the relevant market prices at the beginning and end of the period. Interest expenses and revenues, dividends, changes in holdings and changes in securities prices are included and accounted for on an accruals basis when calculating the returns. The trade date is used for recognising income and expenses for agreed, unsettled transactions. The return is compared with the return on the benchmark portfolio. The difference between the returns on the actual and benchmark portfolios is measured as an arithmetic differential.

The time-weighted method should preferably be used for calculating the return on a portfolio with incoming and outgoing payments. This method requires that the market value of the portfolio be calculated at the time of each incoming or outgoing payment, and the return found as the change in market value between one point in time and the next. Thus an index is arrived at for each point in time, for the market value compared to the previous point in time for cash flow. By multiplying these index figures for the individual periods, the return for the total period is arrived at. Thus cash flow elements will only contribute to the return from the time of the incoming or outgoing payment.

To date, Norges Bank has performed an extensive verification of market values only at month-end[2], and therefore does not calculate a time-weighted return at any other point during the month. Instead a money-weighted method (modified Dietz method) is used, whereby the monthly percentage return is calculated by distributing the various cash flows by incoming and outgoing value, and the return is found by dividing the portfolio's adjusted outgoing value by the adjusted incoming value[3].

The modified Dietz method can be described by means of the following formula:

$$R_M = \left[\left(\frac{MV_E - \frac{\sum_i i \cdot K_i}{T}}{MV_B + \frac{\sum_i (T-i) \cdot K_i}{T}} \right) - 1 \right] \cdot 100$$

where

R_M = Money-weighted return in the period
MV_B = Incoming value
MV_E = Outgoing value
T = No. of days in the period
i = Day number in the period
K_i = Cash flow on day i

[1] The feature article "Performance Measurement Methodology", available on Norges Bank's website, contains a more detailed presentation of the return calculations

[2] Daily market values are also calculated, but as yet the quality of the data used is not verified. There is ongoing work to improve the quality of these data.

[3] Transfers to the Government Petroleum Fund take place only at month-ends. Nor do additions to or withdrawals from the equity or fixed income portfolio take place other than at month-ends. This means that for the total Fund, the fixed income portfolio and the equity portfolio, the two methods (modified Dietz method and time-weighted method) will yield the same result for the monthly return being calculated. Only by calculating the return on the subportfolios (currency portfolios and individual mandates) is it possible to obtain differences in the calculations, depending on which method is used.

The geometrical return is used for long periods, such as quarterly and annual return and return so far this year. This means that the return indices for the individual periods are multiplied together. Thus the return is a time-weighted return of the returns for the individual months.

Returns are calculated in both NOK and local currency. The total return in NOK is found by totalling the market values in NOK of all currencies and distributing total cash flows in NOK, as expressed by the above formula. WM/Reuters exchange rates[4] are used for converting local currencies to NOK.

The NOK return on the benchmark portfolio is calculated as the difference between the returns in NOK and in local currency, measured in terms of the currency distribution of the benchmark portfolio. This indicates how much the Norwegian krone has appreciated or depreciated in relation to the currency distribution of the benchmark portfolio.

Return calculations are carried out in separate models, which are reconciled with the accounting system. Differences in calculated return between the models and the accounts occur as the result of the application of different assessment principles, in connection with differences in the treatment of accrued interest and tax withholdings that have not been repaid. In the accounts, allocations are also made to cover the management fee paid to Norges Bank by the Ministry of Finance

Benchmark portfolio

The benchmark portfolio consists of an equity benchmark and a fixed income benchmark, both based on internationally recognised market indices. In the strategic benchmark, the distribution of assets is 60 per cent in fixed income instruments and 40 per cent in equities. In periods between two complete rebalancing operations, the Petroleum Fund's actual benchmark portfolio will move away from the stipulated weightings in the strategic benchmark as a result of actual market developments in each asset class. The actual benchmark portfolio is partially rebalanced in connection with the monthly transfers to the Petroleum Fund, to restore the asset mix in the actual benchmark as closely as possible to the weightings in the strategic benchmark.

The equity benchmark:
The equity benchmark portfolio is based on the FTSE All-World Index. It is distributed between the three regions Europe, the Americas, and Asia/Oceania. The regional distribution in the strategic benchmark is Europe 50 per cent, the US 30 per cent and Asia/Oceania 20 per cent. Equity investments in each region are distributed among the approved countries[5] according to market values as measured by the FTSE indices. Country and regional weightings in the actual benchmark will reflect market developments, but in connection with the monthly transfers will as far as possible be restored to the weightings in the strategic benchmark.

The principles on which the compositions of the FTSE indices are based are described in "Ground Rules for the Management of the FTSE All-World Index, Version 1.12 June 2002".

The benchmark portfolio for the Environmental Fund is made up of those companies in the FTSE All-World Index which fulfil specific requirements regarding environmental reporting

[4] WM/Reuter Closing Spot Rates, fixed at 4 pm London time.
[5] See Section 6 of the Regulation of 3 October 1997 on the Management of the Government Petroleum Fund.

or environmental management systems. The benchmark portfolio contains the same countries as the ordinary equity benchmark, with the exception of five emerging markets. The Ministry of Finance has given the British consulting company Ethical Investment Research Service (EIRIS) responsibility for identifying these companies. The regional weightings in the Environment Fund are not rebalanced but follow market developments in the benchmark portfolio.

Benchmark for fixed income instruments

The benchmark for fixed income instruments is based on the Lehman Global Aggregate (LGA). It is distributed between the three regions Europe, North America, and Asia. The regional distribution in the strategic benchmark is Europe 55 per cent, the US 35 per cent and Asia/Oceania 10 per cent. Investments in each region are apportioned among countries approved according to the market capitalisation weightings measured by the Lehman Index. However, an exception has been made for Japan, where market capitalisation has been given a weighting of 0.25. Country and regional weightings in the actual benchmark follow market developments, but in connection with the monthly transfers will as far as possible be restored to the weightings in the strategic benchmark. The "Guide to the Lehman Global Family of Fixed Income Indices" (February 2002) provides an overview of the principles on which the composition of the LGA Index is based.