July 2005

Norwegian Government Petroleum Fund
Annual Performance Evaluation Report

Prepared for:
Royal Norwegian Ministry of Finance

Prepared by:
Hanne Hother
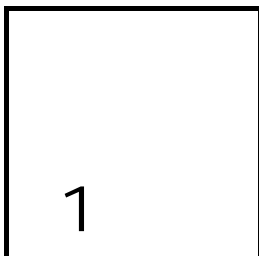Mark Fereday
Christy Jesudasan

MERCER
Investment Consulting

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The Role of Mercer Investment Consulting and Russell/Mellon

1.1   **Background**

- This report was commissioned by the Royal Norwegian Ministry of Finance ("the Ministry") and has been prepared by Mercer Investment Consulting ("Mercer") in accordance with the terms of the contract awarded by the Ministry in relation to the Norwegian Government Petroleum Fund ("the Petroleum Fund"). The Petroleum Fund consisted in 2004 of the "Ordinary Portfolio" and the "Environmental Fund". On 1 December 2004, when new ethical guidelines were adopted for the Petroleum Fund as a whole, the Environmental Fund's investments were transferred to the Petroleum Fund. The terms of reference for this work are set out in the Invitation to Tender issued by the Ministry to Mercer on 13th May 2002.

1.2   **Role of Mercer**

- The purpose as set out in the Public Procurement document is for Mercer to verify Norges Bank's internal performance measurements and to strengthen the Ministry's basis for evaluating the competence and actions of Norges Bank. Mercer outsource the role of performance verification to Russell/Mellon, an independent performance measurer appointed by Mercer.

1.3   **Role of Russell/Mellon**

- The function of calculating and verifying Norges Bank's internal performance measurement is carried out by Russell/Mellon under the guidance of Mercer who retains overall responsibility for the process. Russell/Mellon calculates performance for the Petroleum Fund based on portfolio data and market values supplied by the custodians JP Morgan Chase and Citigroup.

- ▪ Russell/Mellon employs the "time weighted" rate of return as the base performance statistic. This return measure is consistent with the one employed by Norges Bank and takes into account investment income, as well as realised and unrealised capital profits or losses. The use of this statistic minimises distortions due to cash flows into and out of a portfolio which are, in general, outside the control of the investment manager. Further details about Russell/Mellon's calculation methodology are contained within Appendix A.

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Summary of Control Function

2.1   Scope of Control Function

- Mercer has, in conjunction with Russell/Mellon, performed control and verification functions throughout 2004, in accordance with the terms of the contract awarded by the Ministry.

- The objective of this process has been to check Norges Bank's internal performance measurements and to perform wider verification checks, both at portfolio and benchmark level according to instructions received from the Ministry of Finance.

2.2   Controls conducted in 2004

- During the course of 2004 Mercer has, in conjunction with Russell/Mellon, measured and verified the monthly returns of the Petroleum Fund, the Ordinary Portfolio, and the Environmental Fund, along with both the respective benchmark returns in accordance with the currency basket measure and Norwegian Kroner terms.

- Throughout the report, performance for 2004 in respect of the Equity and Fixed Income segments of the Ordinary Portfolio and longer term performance (with the exception of the currency basket return and benchmark calculations prior to 31.12.03) has been sourced from Russell/Mellon.

- The monthly performance of the Petroleum Fund at the Total, Equity and Fixed Income level has been reported to the Ministry by means of a report issued directly by Russell/Mellon.

- In the event of discrepancies in performance calculation between Norges Bank's internal performance measurement and Russell/Mellon's calculations, when measured to two decimal places, further checks are

made. The results of which are reported to the Ministry by means of a letter accompanying the monthly report.

- A comprehensive summary of Russell/Mellon's data processing and reporting process that Russell/Mellon carries out as a result of its role in the Control Function is also contained within Appendix B.


3

Petroleum Fund Details

3.1   **Performance objective**

- The Ministry has delegated the operational management of the Petroleum Fund to Norges Bank who manage the Petroleum Fund in accordance with a mandate stipulated by the Ministry in public regulations. The performance objective is to maximise returns given the restrictions imposed by the regulations and the desired risk profile. The risk tolerances for the Petroleum Fund's Ordinary Portfolio is ex-ante tracking error of 1.5% p.a. whilst for the Environmental Fund it stands at 1.0% p.a.

- The Ministry specifies the benchmark portfolio comprised of equity and fixed income instruments reflective of the Petroleum Fund's investment strategy.

- The Environmental Fund was established 31 January 2001 and was managed by Norges Bank. It formed part of the Petroleum Fund invested in companies assumed to have low negative impact on the environment. On 1 December 2004, when new ethical guidelines were adopted for the Petroleum Fund as a whole, the Environmental Fund's investments were transferred to the Petroleum Fund.

3.2   **Petroleum Fund Benchmark**

- The current strategic benchmark consists of 60% fixed income and 40% equities. A new fixed income benchmark was introduced in 2002, which is constructed from the Lehman Global Aggregate family of indices.

- The equity benchmark uses FTSE All-World indices and market capitalisation weights. The strategic weights within the customised equity benchmark are Europe 50% and Americas/Asia/Oceania 50%.

- The reader should note that extraordinary transaction costs are incurred when new transfers are made into the Petroleum Fund. Such costs are not deducted when the index supplier calculates the return on the benchmark. For the purpose of this report the benchmark has not been adjusted for such costs, despite the presence of such extraordinary transaction costs detracting from the Petroleum Fund's returns. In addition to the transaction costs outlined above, the Petroleum Fund pays tax on share dividends in a number of countries. As from 2004 the equity benchmark is adjusted for tax on share dividends.

- Further detailed information on benchmark is contained within Appendix B.

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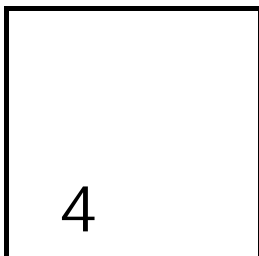
Fund Performance

This section of the report analyses the Petroleum Fund's monthly performance and corresponding benchmark performance over the twelve month period to 31 December 2004, along with longer term analysis. Numerical performance shown in the charts is given to one decimal place. Performance commentary considers performance to two decimal places.

For the purpose of this report all fund and benchmark returns contained within sections 4.1, 4.2 and 4.5 of this report, are expressed in terms of the basket of currencies contained within the benchmark. The currency basket measure is relevant when assessing the Petroleum Fund's performance against the stated objective of maximising the Petroleum Fund's international purchasing power. Sections 4.3 and 4.4 show performance expressed in Norwegian Kroner.

Sections 4.1 and 4.3 consider the Ordinary Portfolio's performance along with the monthly performance for the Equity and Fixed Income segments of the Ordinary Portfolio. Section 4.2 and 4.4 consider the monthly performance of the Environmental Fund on a standalone basis. Section 4.5 considers longer term performance for the Ordinary Portfolio.

4.1   **Ordinary Portfolio Returns (Currency Basket)**
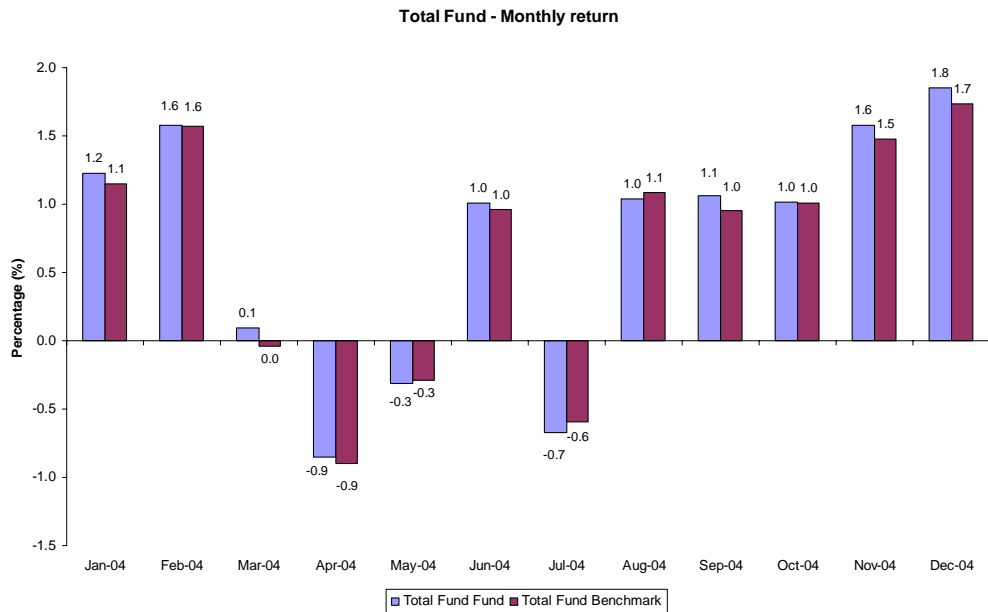
Total Fund - Monthly return

Data source: © Russell/Mellon Ltd 2005. All Rights Reserved.

▪   Over the twelve month period to 31 December 2004, the Ordinary
     Portfolio produced a cumulative return of 8.94%.

▪   The Ordinary Portfolio's performance was broadly in-line with benchmark
     throughout the period on a month-by-month basis with the largest
     deviation being circa 0.1%

4.1.1   **Ordinary Portfolio - Equity Returns (Currency Basket)**
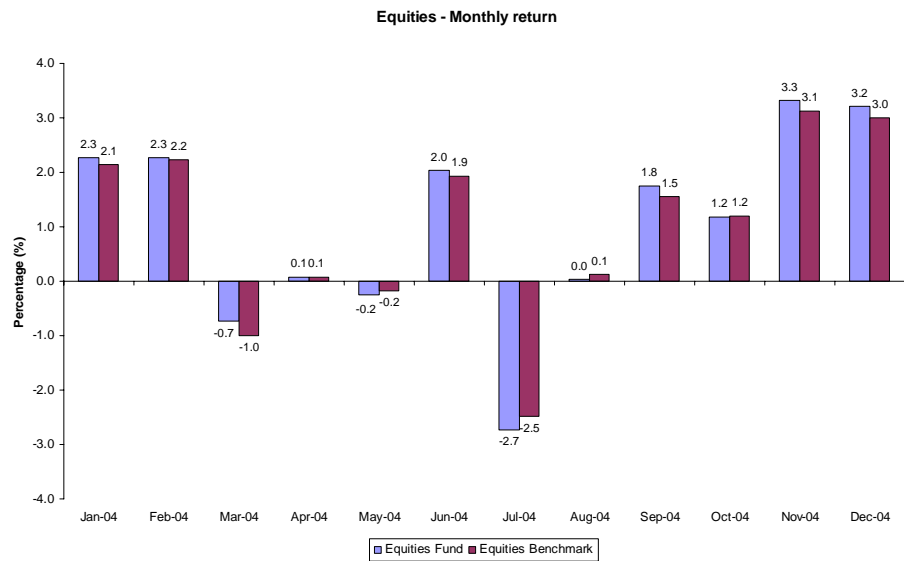
Equities - Monthly return

Data source: © Russell/Mellon Ltd 2005. All Rights Reserved.

- Over the twelve month period to 31 December 2004, the Equity segment of the Ordinary Portfolio produced a cumulative return of 13.00%.

- On a month-by-month basis, the performance of the Ordinary Portfolio's Equity segment was broadly in-line with the benchmark.

4.1.2   **Ordinary Portfolio - Fixed Income Returns (Currency Basket)**

Fixed Income - Monthly return

Data source: © Russell/Mellon Ltd 2005. All Rights Reserved.

▪ Over the twelve month period to 31 December 2004, the Fixed Income segment of the Ordinary Portfolio returned 6.12%.

4.2   **Environmental Fund (Currency Basket)**
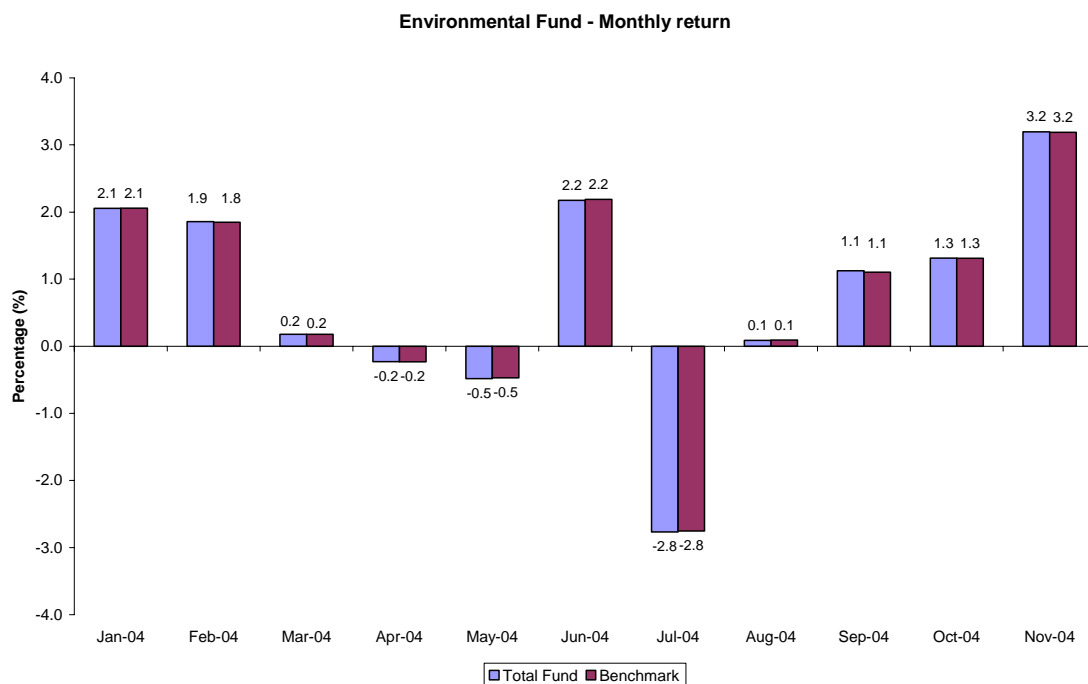
Environmental Fund - Monthly return

Data source: © Russell/Mellon Ltd 2005. All Rights Reserved.

- The Environmental Fund holdings were transferred to the Ordinary Portfolio at the end of November 2004.

- Over the eleven month period to 30 November 2004, the Environmental Fund returned 8.71%.

- The monthly returns for the Environmental Fund were broadly in-line with the benchmark in each month during the review period.

4.3   **Ordinary Portfolio Returns (Norwegian Kroner)**

Total Fund - Monthly return

Data source: © Russell/Mellon Ltd 2005. All Rights Reserved.

▪   Over the twelve month period to 31 December 2004, the Ordinary
     Portfolio produced a cumulative return of 3.94%, outperforming the
     benchmark return of 3.40% by 0.54%.

▪   The Ordinary Portfolio's performance was broadly in-line with benchmark
     throughout the period on a month-by-month basis with the largest
     deviation being circa 0.2%.

4.3.1 **Ordinary Portfolio - Equity Returns (Norwegian Kroner)**

Equities - Monthly return

Data source: © Russell/Mellon Ltd 2005. All Rights Reserved.

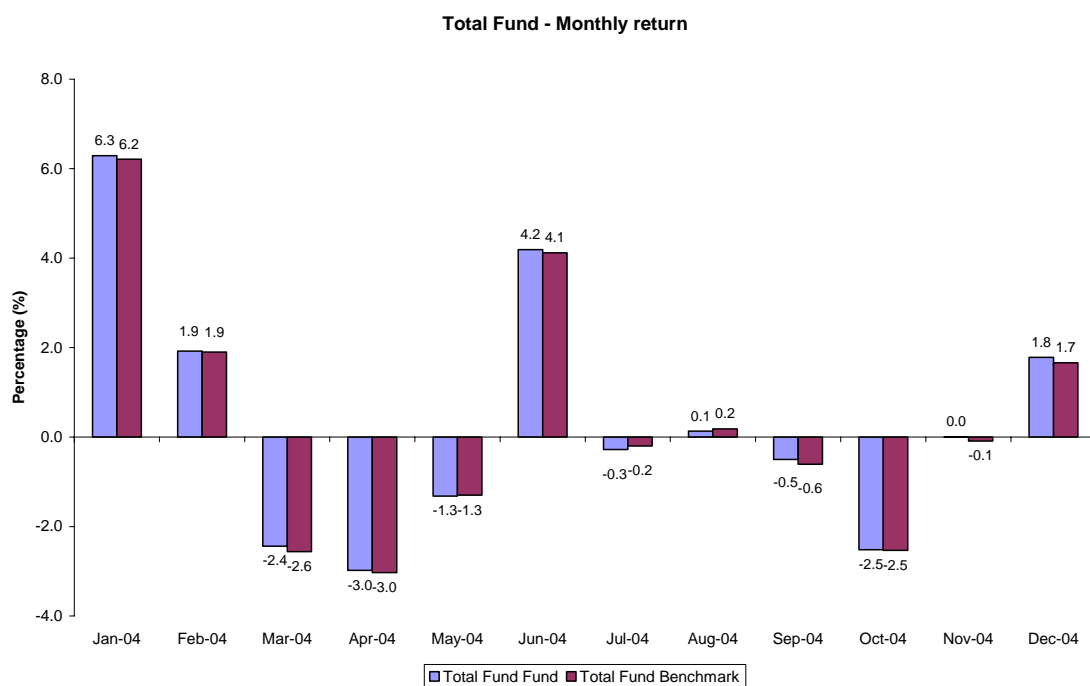- Over the twelve month period to 31 December 2004, the Equity segment of the Ordinary Portfolio returned 7.81%, outperforming the benchmark return of 7.04% by 0.77%.

- On a month-by-month basis, the performance of the Ordinary Portfolio's Equity segment was broadly in-line with the benchmark.

- The largest deviations from benchmark performance occurred during the months of March, July and December. The Ordinary Portfolio's Equity segment exceeded the benchmark by circa 0.26% in March and by circa 0.23% in December, however underperformed the benchmark by circa 0.25% in July.

- The Ordinary Portfolio's Equity segment outperformed the benchmark in eight of the twelve months reviewed.
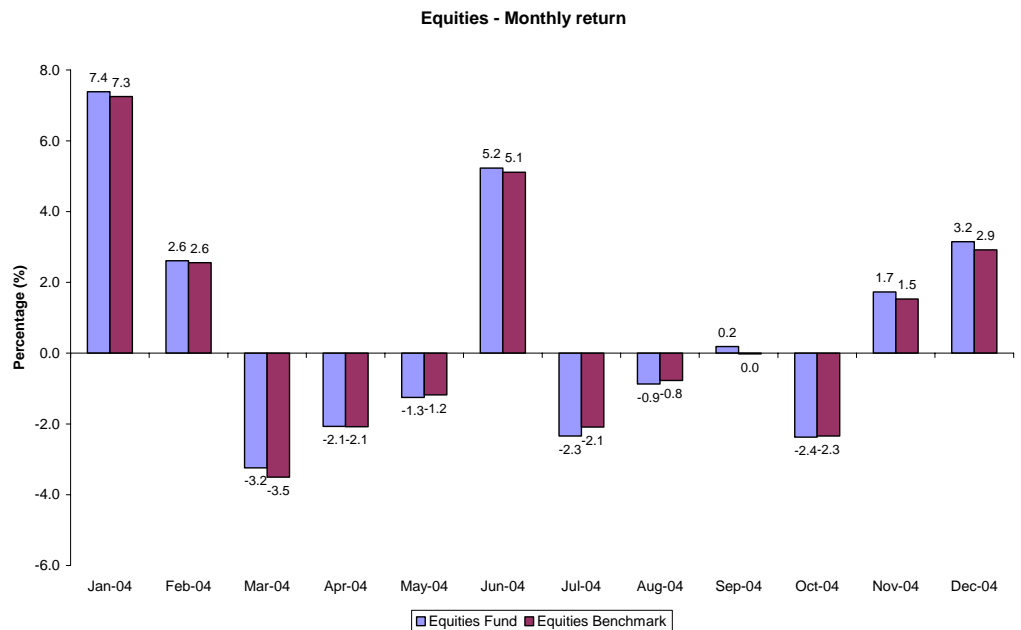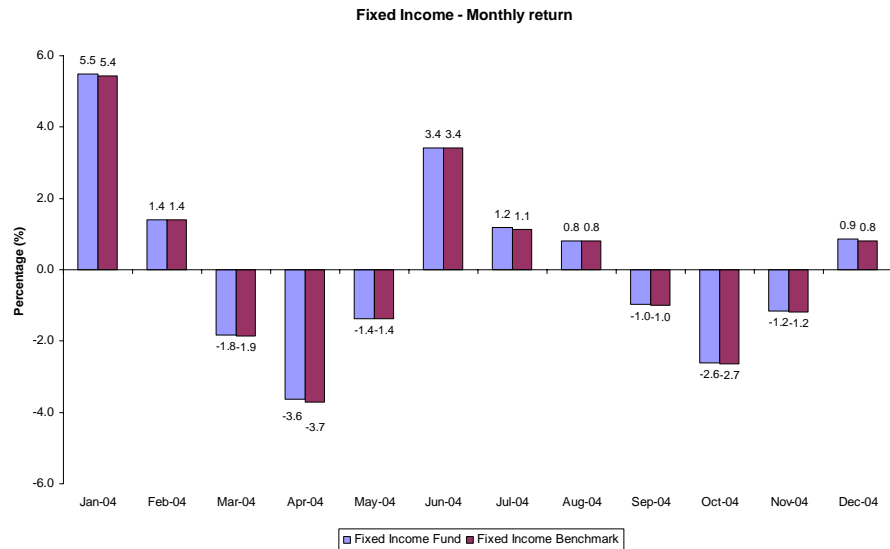
4.3.2   **Ordinary Portfolio - Fixed Income Returns (Norwegian Kroner)**

Data source: © Russell/Mellon Ltd 2005. All Rights Reserved.

- Over the twelve month period to 31 December 2004, the Fixed Income segment of the Ordinary Portfolio returned 1.25%, outperforming the benchmark return of 0.87% by 0.38%.

- The monthly performance of the Ordinary Portfolio's Fixed Income segment performed broadly in-line with benchmark. Performance was ahead of or in-line with benchmark in ten out of the twelve months reviewed.

4.4   **Environmental Fund Returns (Norwegian Kroner)**
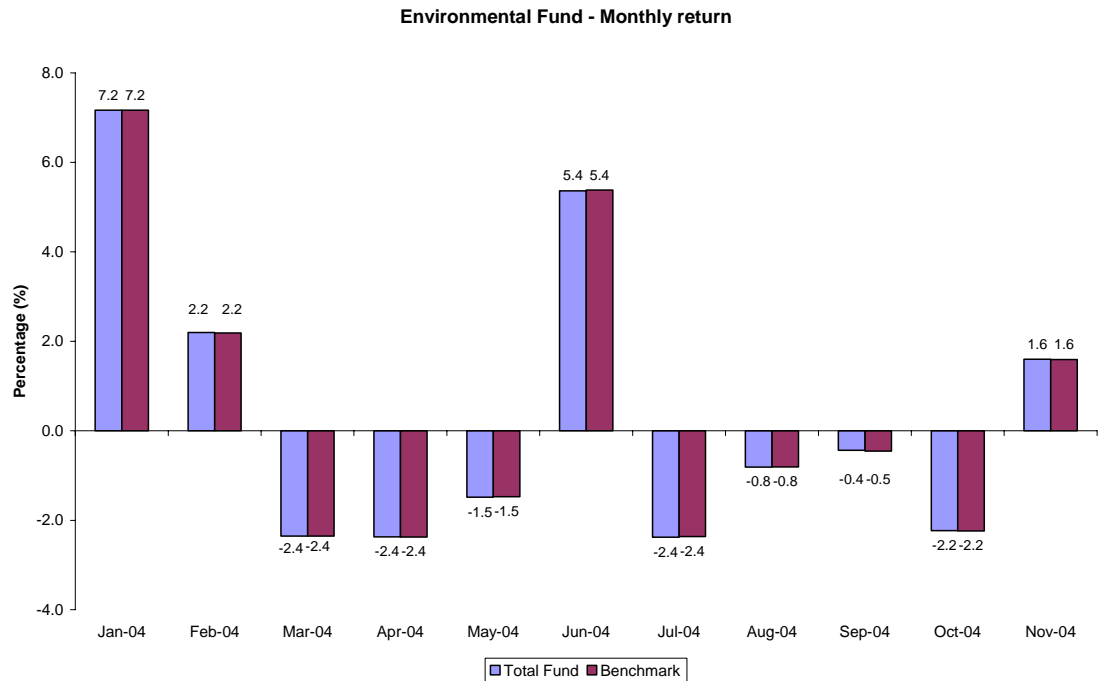
Environmental Fund - Monthly return

Data source: © Russell/Mellon Ltd 2005. All Rights Reserved.

▪   The Environmental Fund holdings were transferred to the Ordinary Portfolio at the end of November 2004.

▪   Over the eleven month period to 30 November 2004, the Environmental Fund returned 3.77%, slightly below the benchmark return of 3.78%.

▪   The monthly returns for the Environmental Fund were broadly in-line with benchmark for all months during review period.

4.5   **Ordinary Portfolio (Currency Basket) Longer term performance**

The following charts show quarterly performance relative to benchmark for the
five-year period ending 31 December 2004 for the Ordinary Portfolio, the Equity
segment and the Fixed Income segment. In addition, the charts illustrate the
three-year rolling and cumulative excess returns over the five-year period ending
31 December 2004. As the charts evaluate relative performance, they can be used
as a measure to assess the manager's ability to add value in excess of benchmark
over a period of time.

▪ The charts are generated using Mercer Manager Performance Analytics
(MPA) and uses local returns from the currency basket measure. This is
done to ensure that the rising/falling market indicator is not influenced by
changes in the value of Norwegian Kroner.

▪ Performance through 2004 has been sourced from Russell/Mellon. Prior
performance has been sourced from Norges Bank.

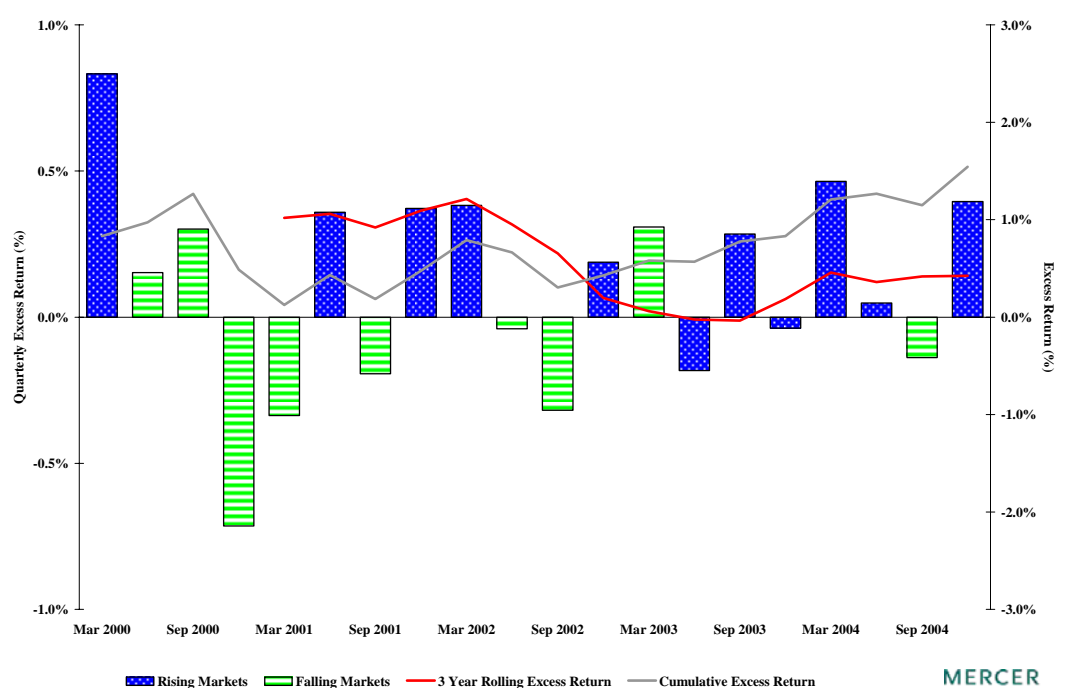4.5.1   **Ordinary Portfolio – Total Returns (Currency Basket)**
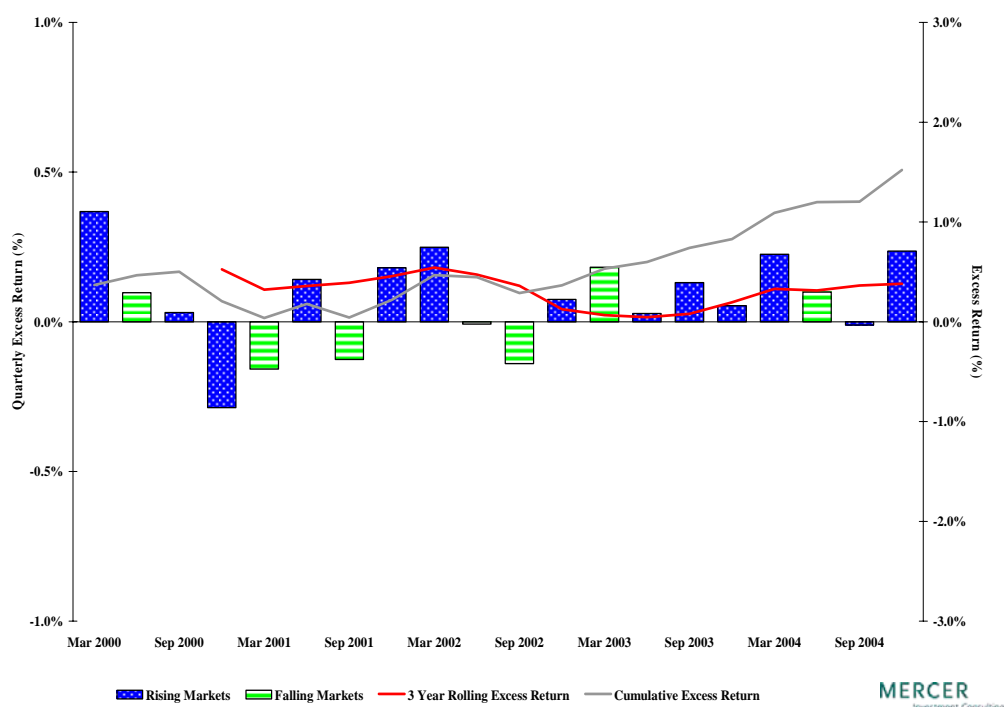
Source: Mercer MPA , Norges Bank and © Russell/Mellon Ltd 2005 (All
Rights Reserved)

▪ The Ordinary Portfolio outperformed its benchmark on a quarterly
basis in fourteen of the twenty quarters under review.

- Relative performance to the end of 2002 was mixed with five quarters of underperformance. With exception of one quarter, relative performance since the end of September 2002 has been consistently above benchmark.

- It is notable that during periods of rising markets, the portfolio has had the tendency to outperform.

- Long term relative performance remains healthy with cumulative excess return over the five years ending 31 December 2004 close to 1.6%. Rolling three-year excess returns remain positive.

4.5.2   **Ordinary Portfolio - Equity Returns (Currency Basket)**

Source: Mercer MPA, Norges Bank and © Russell/Mellon Ltd 2005 (All rights reserved)

- The Equity segment of the Ordinary Portfolio outperformed its benchmark significantly at the end of 1999 and start of 2000. Performance has been mixed over the five year period ending 31 December 2004; the Equity segment has outperformed its benchmark in 12 out of the 20 quarters, underperforming in the remainder.

- The three-year rolling performance to 31 December 2004 remains positive and has remained broadly consistent throughout 2004.

- Cumulative excess returns for the five-year period to 31 December 2004 remain positive and in excess of 1.5%.
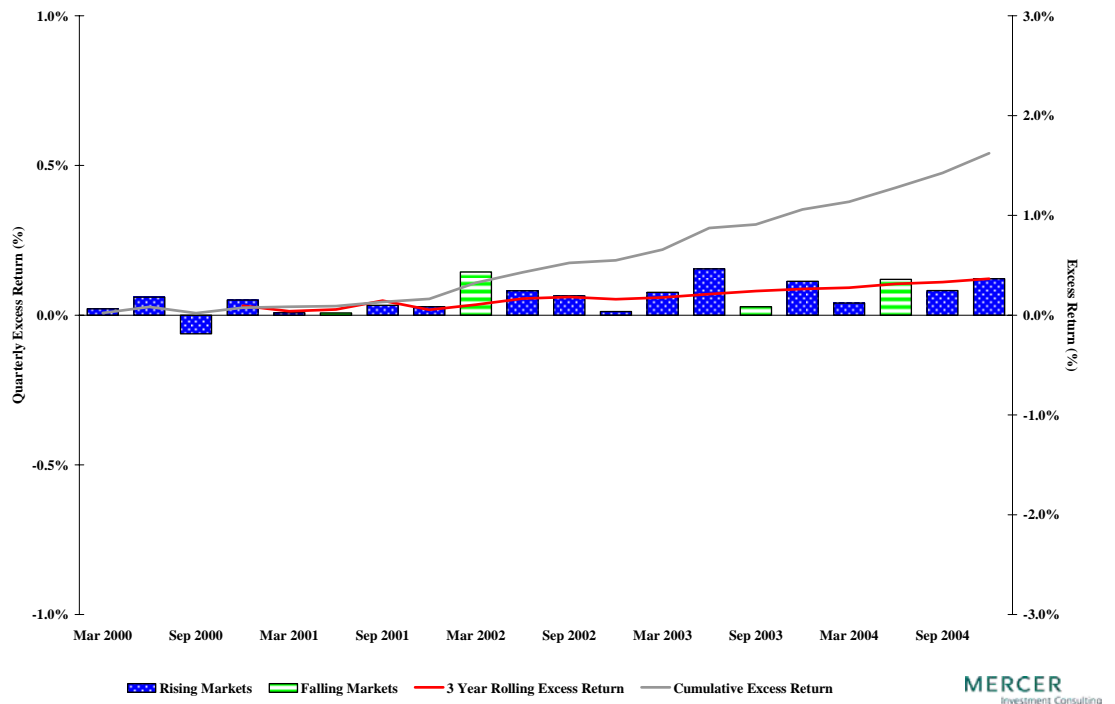
4.5.3 **Ordinary Portfolio - Fixed Income Returns (Currency Basket)**

Source: Mercer MPA, Norges Bank and ©Russell/Mellon Limited (All rights reserved)

- With the exception of one quarter, the Fixed Income segment of the Ordinary Portfolio has consistently outperformed its benchmark over the five-year period to 31 December 2004. The strongest relative performance for the Fixed Income segment has occurred from the start of 2002 onwards.

- Rolling three-year excess returns have been consistently positive in the five year period under review.

- Cumulative excess returns over the five year period to 31 December 2004 are positive, and in excess of 1.6%.

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# Style Research Portfolio Analysis

5.1   **Introduction**

▪   This section takes a closer look at the style characteristics of the Ordinary Portfolio's <u>Equity</u> segment only.

▪   When analysing the Ordinary Portfolio's style characteristics we have utilised an analytical software package called SRPA provided by Style Research Limited. SRPA looks at the individual securities held within a portfolio at any one point in time (a 'snap-shot') and uses a bottom up approach to analyse the style adopted and risk taken by the investment manager(s). The snap-shot analysis is based on a detailed, multi-dimensional examination of the equity portfolio's composition – not historical returns.

▪   The SRPA risk attribution model is different from the risk model used by Norges Bank. Norges Bank use a RiskManager risk model from Riskmetrics to measure expected tracking error. The RiskManager model makes direct use of security price series to estimate the Covariance matrix, whereas the SRPA model uses quarter-end security prices in determining the Covariance matrix.

▪   The charts shown in section 5.2 highlight specific style characteristics of the Equity component of the Ordinary Portfolio as at 31 March 2004, 30 June 2004, 30 September 2004 and 31 December 2004. The set of charts shown in Section 5.2 emphasise the key style features of the Equity component of the Ordinary Portfolio in terms of any "value" tilts (represented by the first group of blue bars) and "growth" (represented by the second group of green bars). The analysis is conducted relative to the customised benchmark of the equity segment of the Ordinary Portfolio. Any figure (represented as Standard Deviations away from the benchmark mean) greater than $\pm$ 1 is treated as significant.

- The second set of charts shown in section 5.3 plot the breakdown of the portfolio in terms of industry sector weightings and is again compared with the benchmark.

- The term "coverage" referred to in the charts contained within section 5.3 is a measure of the equity segment of the Ordinary Portfolio's exposure to the indices it is benchmarked against. The output shown in Section 5.3 indicates a coverage level of circa. 80% indicating that the Ordinary Portfolio is similar in constituents to the indices against which the Ordinary Portfolio is benchmarked. Please refer to Appendix C for a more detailed explanation of the term "coverage".

- The final chart shown in section 5.4 analyses the risk profile of the Equity segment of the Ordinary Portfolio as at 31 March 2004, 30 June 2004, 30 September 2004 and 31 December 2004 and breaks it down into its key risk components. For further explanation of Style Research Portfolio Analysis definitions please refer to Appendix C.

- Notes on data source

  1. Security holdings have been sourced from © Russell/Mellon Ltd 2005. All rights reserved.

  2. Benchmark data sourced from FTSE via Norges Bank.

  3. Risk Model output sourced from SRPA.

5.2   **The Portfolio Style Skyline**

To give a better impression of the development of the Ordinary Portfolio's style and risk characteristics, the portfolio style skylines as at the end of each quarter during 2004 are shown below. Please note that each quarter's analysis is based on a historical 'snap-shot' of the stocks held in the Ordinary Portfolio at an aggregate level as at the end of every quarter.

Portfolio Style Skyline as at 30 September 2004

Portfolio Style Skyline as at 31 December 2004
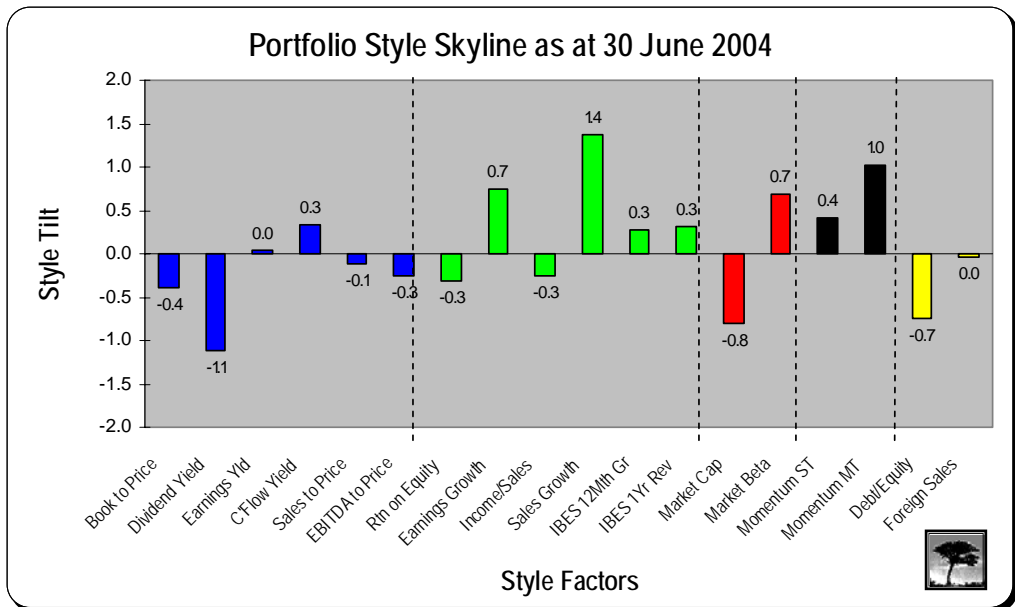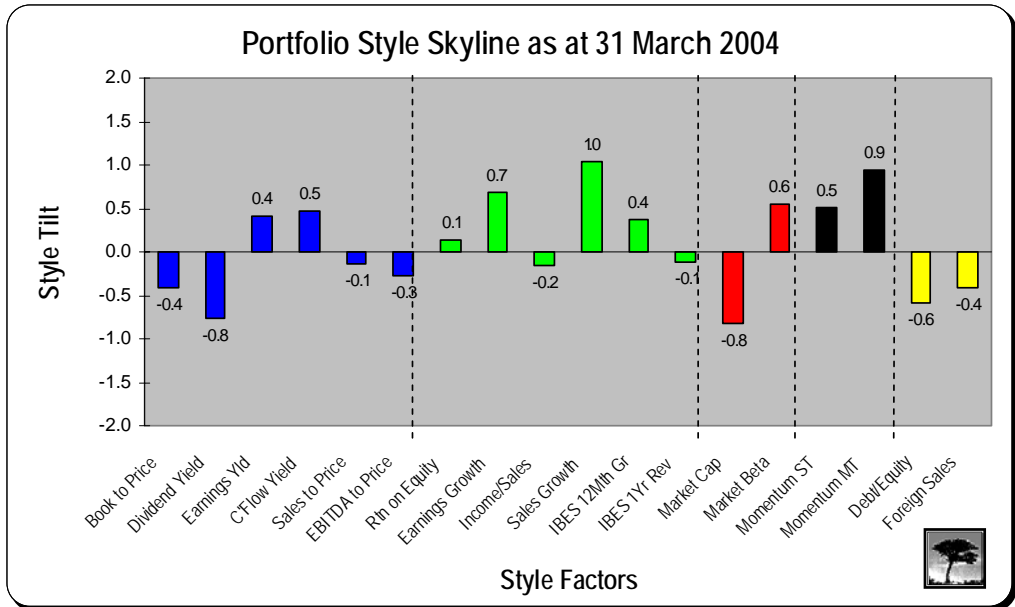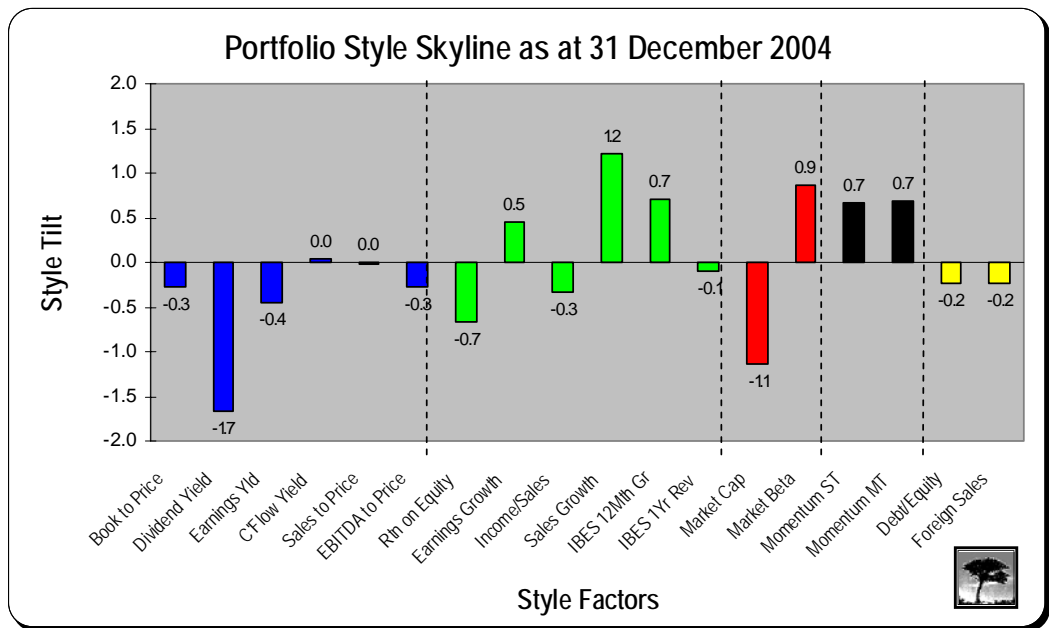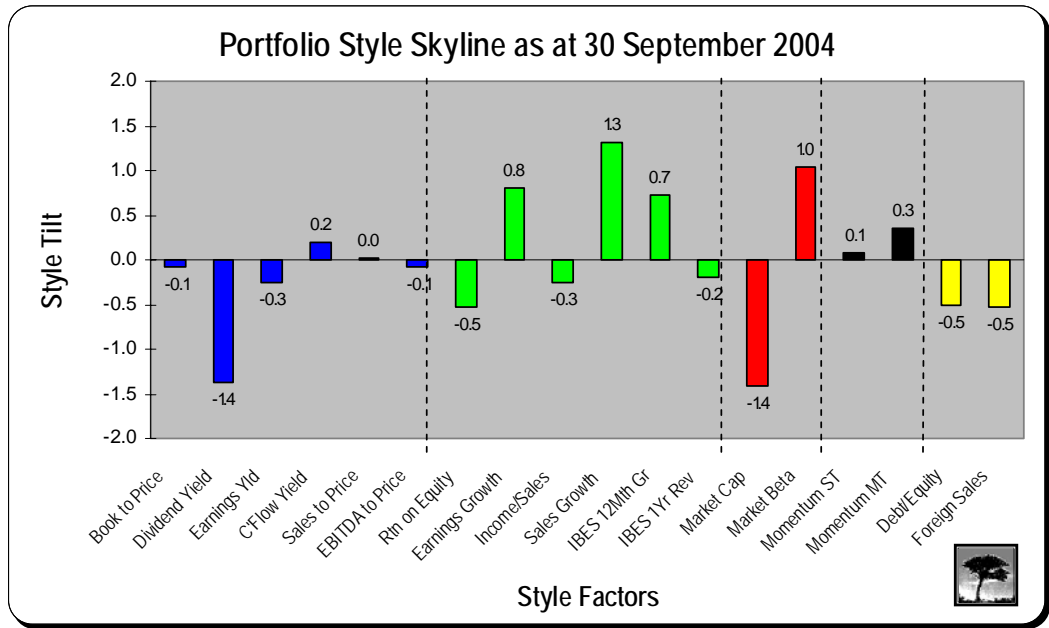
- Throughout 2004, the Equity segment of the Ordinary Portfolio has exhibited a consistent bias towards growth stocks. The level of bias has marginally increased since the start of the year.

- The results of the analysis indicate that, with a few exceptions, on the whole there are few significant deviations away from the benchmark mean.

- Notable deviations as at 31 December 2004 were the increased bias towards companies with high sales growth (indicated by +1.2 standard deviations) relative to the benchmark mean and the tilt away from companies with high dividend yield (indicated by -1.7 standard deviations). This theme has been consistent throughout the twelve months.

- The consistent negative 'Market Cap' indicator of circa -1 standard deviation indicates that the Equity portfolio has consistently held a bias towards small cap stocks relative to the benchmark. This bias has increased over the latter half of the year.

- More detailed explanations of the terms 'Sales Growth', 'Dividend Yield' and 'Market Cap' can be found in Appendix C.

5.3   **The Portfolio Sector Skyline**

To give a better impression of the development of the sector characteristics of the Equity component of the Ordinary Portfolio, industrial sector skylines as at the end of each quarter during 2004 are shown below. Please note that each quarter's analysis is based on a historical 'snap-shot' of the stocks held in the Ordinary Portfolio at an aggregate level as at the end of every quarter.
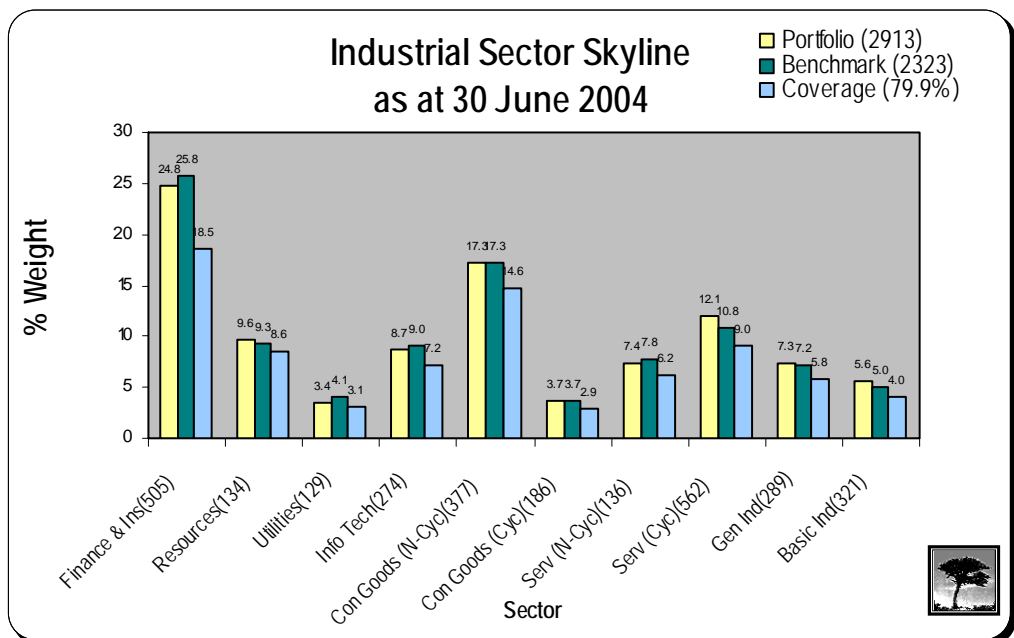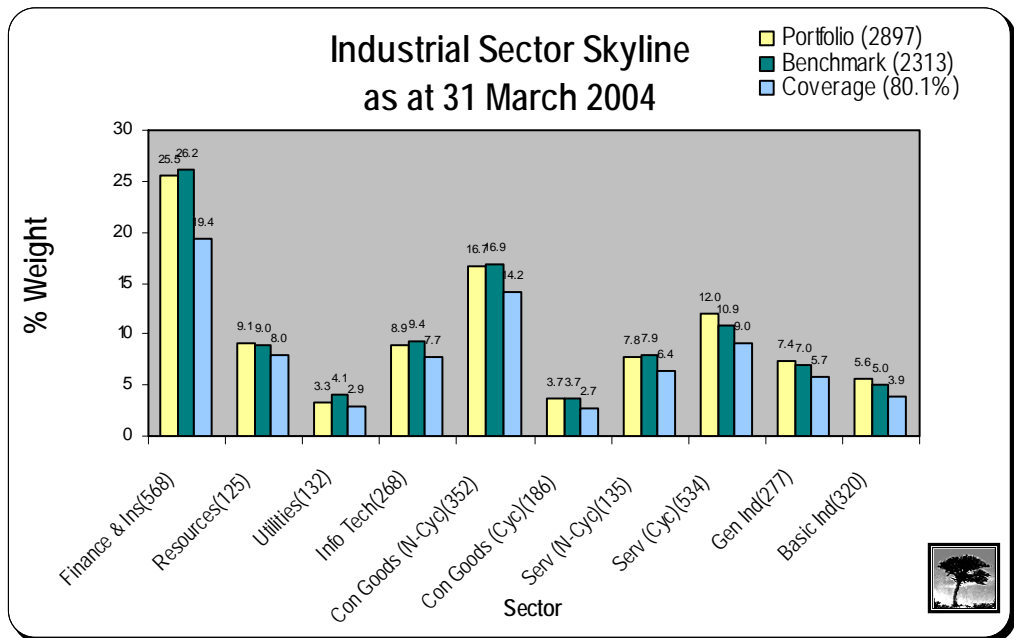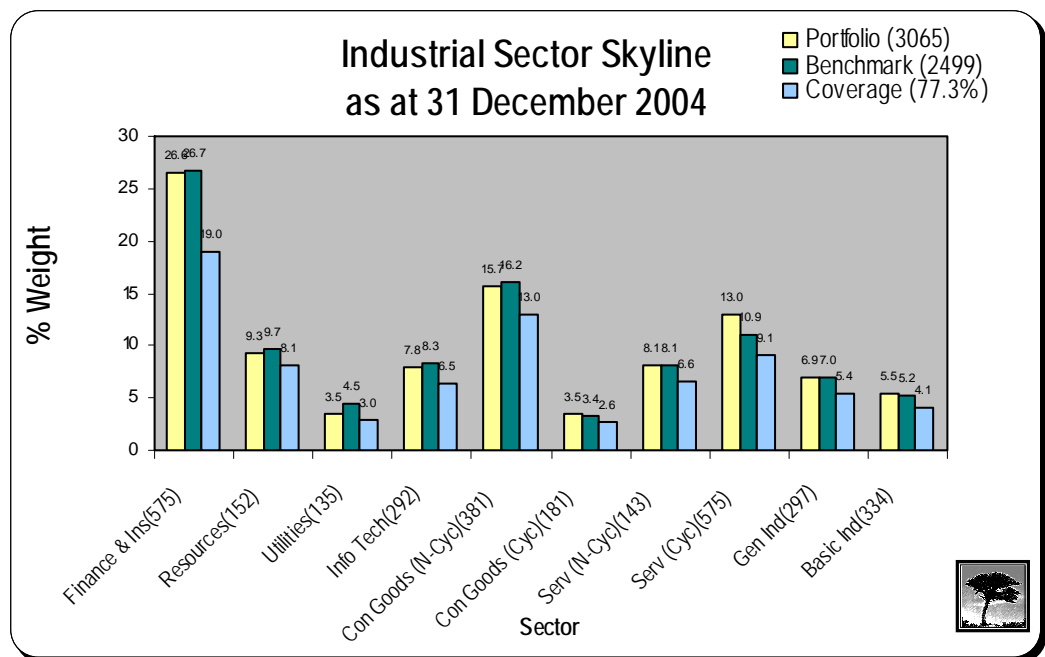
Industrial Sector Skyline as at 30 September 2004

Industrial Sector Skyline as at 31 December 2004
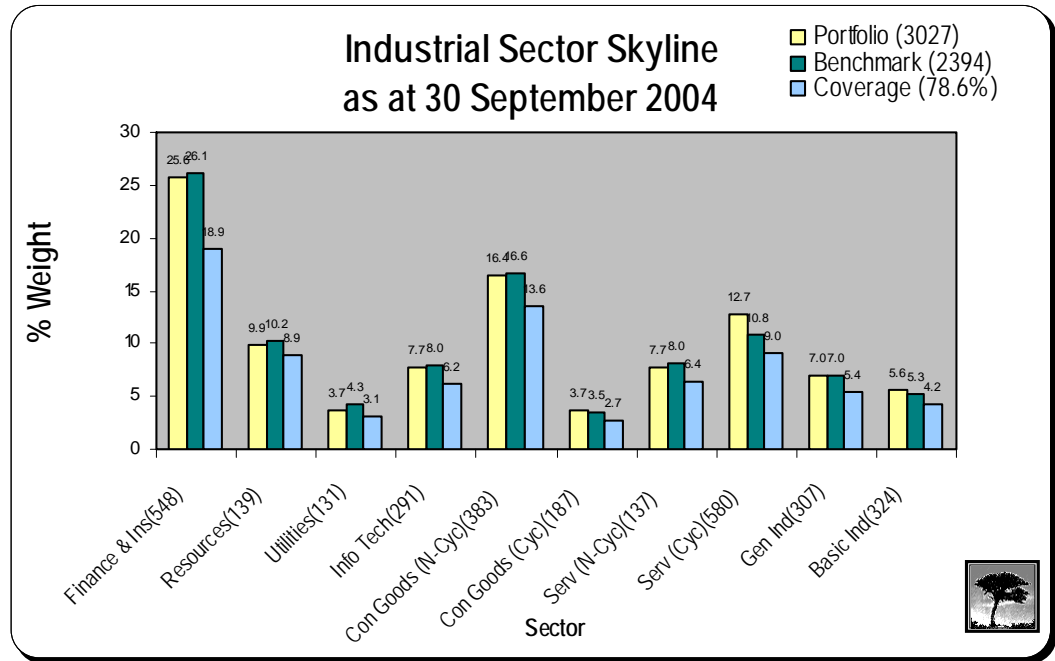
- The number of stocks held with the Equity segment of the Ordinary Portfolio at the end of each quarter exceeds the number of holdings within the benchmark; this corresponds with Norges Bank's exposure to Smaller Cap holdings, which are not contained within the benchmark.

- Throughout 2004, the industrial sector skyline has remained largely unchanged; furthermore, the charts illustrate that Norges Bank are not

taking significant sector bets away from the benchmark in the management of the Equity segment of the Ordinary Portfolio.

▪ The portfolio has continued its sector allocation trends evident in 2003. As at 31 December 2004, the largest overweight position taken continues to be in Cyclical Services, with an allocation of 13.0% relative to a benchmark allocation of 10.9%. The largest underweight position taken was in Utilities, with an allocation of 3.5% relative to benchmark allocation of 4.5% as at 31 December 2004.

▪ The two most persistent underweight positions over 2004 have been Finance & Insurance and Utilities.

▪ Over the twelve month period, the portfolio's underweight position in the Finance and Insurance sector has decreased.

▪ Over the course of the year the portfolio's exposure to the resources sector has switched from an underweight to an overweight position

5.4 The Petroleum Fund – Ordinary Portfolio Equity Risk Profile

▪ The following chart shows the risk in the Equity segment of the Ordinary Portfolio broken down into different component forms as at the end of each quarter during 2004. Details of the methodology behind the analysis are set out at the end of Appendix C.

▪ The analysis is prepared according to a SRPA risk model for multi-market risk attribution and provides a snapshot breakdown of the different components of portfolio risk relative to benchmark.
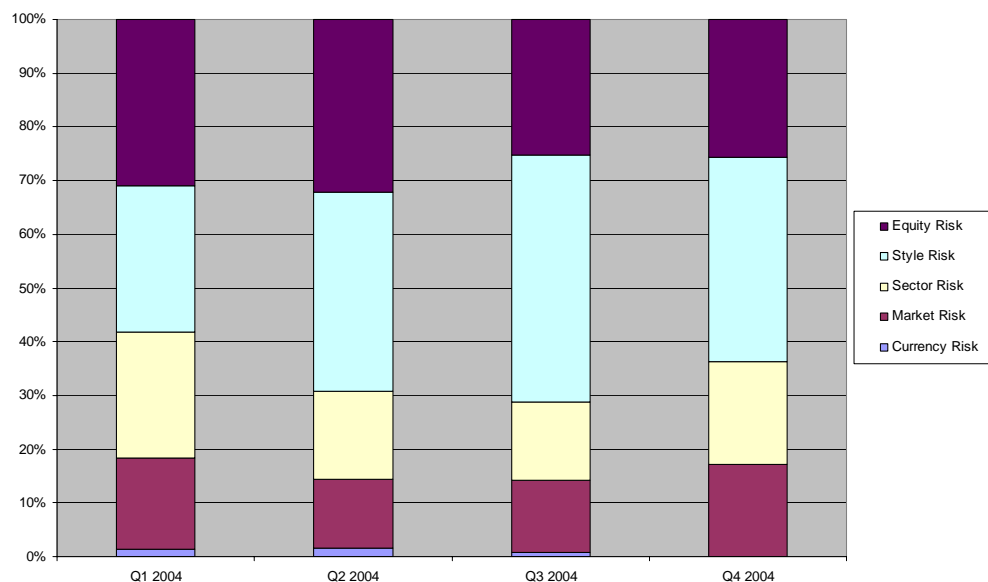
Note : Security holdings are sourced by © Russell/Mellon Ltd 2005 (All rights reserved).; Benchmark data sourced from FTSE via Norges Bank; Risk model output sourced from SRPA.

- Throughout 2004, risk levels relating to the choice of equities (Equity Risk), markets (Market Risk) and currency (Currency Risk) have remained broadly consistent.

- The Ordinary Portfolio has exhibited a slightly higher degree of style risk over 2004 in comparison to the previous year. In the last nine months of 2004, style risk was the largest component of total risk.

- Equity risk levels have dropped marginally over the course of the year.

- Currency risk levels have been consistently very small in relation to the entire portfolio risk levels.

6

Petroleum Fund Assets Under Management

The table below shows the market value of the Petroleum Fund (including both the Ordinary Portfolio and the Environmental Fund) as at the end of every month during 2004.

Month	Total Fund (NOK millions)
January	905,496
February	929,728
March	915,298
April	896,146
May	892,666
June	942,419
July	954,427
August	972,151
September	988,189
October	985,142
November	998,621
December	1,016,409

Data source: © Russell/Mellon Ltd 2005. All Rights Reserved.

Appendix A

Calculation Methodology

A.1   Russell/Mellon employs the "time-weighted" rate of return as the base
        performance statistic. This return takes into account investment income as well as
        realised and unrealised capital profits or losses. The use of this statistic minimises
        distortions due to cash flows into and out of a portfolio which are, in general,
        outside the control of the investment manager.

A.2   Exact calculation of the time-weighted rate of return requires a full valuation of
        the portfolio whenever a cash flow occurs. As a practical alternative
        Russell/Mellon employs an approximation to the time-weighted return, using
        monthly valuations, monthly/daily transaction details and monthly/daily cash
        flows. The method used is based on the Regression Method, recommended by the
        Bank Administration Institute in their definitive report on the topic of
        performance measurement published in 1968, and which gives an excellent
        approximation of the time-weighted rate of return.

A.3   At the total fund level Russell/Mellon calculate a day-weighted, money-weighted
        return using market values at the start and end of the month and net injection
        details.

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│  Appendix B  │
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Mercer's Role and Control Function:

The purpose as set out in the Public Procurement document is for Mercer to verify Norges Bank's internal performance measurements and to strengthen the Ministry's basis for evaluating the competence and actions of Norges Bank. Mercer out sources the role of performance verification to Russell/Mellon, an independent performance measurer appointed by Mercer.

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The objective of this process has been to check Norges Bank's internal performance measurements and to perform wider verification checks, both at portfolio and benchmark level according to instructions received from the Ministry of Finance.

Russell/Mellon's Role and Control Function:

Russell/Mellon's Role

The function of calculating and verifying Norges Bank's internal performance measurement is carried out by Russell/Mellon under the guidance of Mercer who retains overall responsibility for the process. Russell/Mellon calculates performance for the Petroleum Fund based on portfolio data and market values supplied by the custodians JP Morgan Chase and Citibank.

Russell/Mellon employ the "time weighted" rate of return as the base performance statistic. This return measure is consistent with the one employed by Norges Bank and takes into account investment income, as well as realised and unrealised capital profits or losses. The use of this statistic minimises distortions due to cash flows into and out of a portfolio which are, in general, outside the control of the investment manager.

Russell/Mellon's Control Function

Market value reconciliation check

Having constructed performance data, Russell/Mellon will check that the total values for the various components of the fund agree with those values calculated by Norges Bank. Russell/Mellon also check that the total value for the fund agrees with Norges Bank's calculated value.

Any significant reconciliation errors here may indicate that there are accounts omitted from the data supplied. If the overall difference is more than a 0.01%, Russell/Mellon will raise queries with the data providers.

Transfers

When transfers occur at the month end Russell/Mellon ensure that the transfers into the fund shown in the data agree with those detailed in the letter supplied by Norges Bank.

Fund return checks

In addition to the data checks above, Russell/Mellon carry out sense checks on individual asset class and total returns.

Asset class return check

Russell/Mellon carry out sense checks on returns for individual asset classes against the relevant index return. This can occasionally highlight problems with Norges Bank's Atlas reporting system (e.g. incorrect exchange rate used). If the asset class return is unexpectedly divergent from the index return then Russell/Mellon will raise a query with the relevant data provider.

Total return check

After constructing data for individual portions of the fund, Russell/Mellon produces a consolidated data set for the fund as a whole. Russell/Mellon check that the total return calculated for each month is no more than one basis point different to the total return quoted by Norges Bank.

Benchmark checks

Petroleum Fund Benchmark

Fixed Income benchmark

Following provision by Norges Bank of the methodology for calculation, from first principles, of the Fixed Income benchmark weights, Russell/Mellon have set up their own independent verification spreadsheet calculations.

Russell/Mellon have independently sourced the Lehman Aggregate indices that constitute the fixed income benchmark. These have been sourced directly from the Lehman Live website. Using monthly weights and Lehman indices, Russell/Mellon will calculate Fixed Income benchmark returns in NOK terms.

On completion of the reconciliation exercise Russell/Mellon will verify agreement to the Fixed Income benchmark weights and benchmark returns by email notification. If returns and/or weights cannot be agreed then Russell/Mellon will communicate their findings with commentary.

Equity benchmark

Following provision by Norges Bank of the methodology for calculation, from first principles, of the Equity benchmark weights, Russell/Mellon have set up their own independent verification spreadsheet calculations.

Customised regional benchmark index values in US$ terms up to November 2003 calculated by FTI have also been forwarded by Norges Bank. FTSE took over provision of customised benchmark indices from December 2003 onwards. From December 2003 onwards Russell/Mellon have received customised benchmark indices directly from FTSE.

On completion of the reconciliation exercise Russell/Mellon will verify agreement to the Equity benchmark weights and benchmark returns by email notification. If returns and/or weights cannot be agreed then Russell/Mellon will communicate their findings with commentary.

Overall Petroleum Fund benchmark

Following provision by Norges Bank of the methodology for calculation, from first principles, of the overall benchmark weights, Russell/Mellon have set up their own independent verification spreadsheet calculations.

Using monthly weights and Fixed Income and Equity benchmark returns calculated above Russell/Mellon will calculate overall benchmark returns.

On completion of the reconciliation exercise Russell/Mellon will verify agreement to the Overall benchmark weights and benchmark returns by email notification. If returns and/or weights cannot be agreed then Russell/Mellon will communicate their findings with commentary.

Environmental Fund Benchmark

From December 2003 onwards Russell/Mellon have received customised benchmark indices directly from FTSE. Benchmark returns are calculated by dividing out customised total return indices in NOK.

As of end November 2004 the Environmental Fund was merged with the Petroleum Fund and hence going forward this control function cease to exist.

Combined Total Fund Benchmark

Russell/Mellon calculate the Combined Fund total return benchmark on a monthly basis by weighting the Petroleum Fund and Environmental Fund total benchmark returns by their respective start market values.

Russell ◆ Mellon

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2005

The Norwegian Petroleum Fund – Russell/Mellon's role during 2004

Our role in 2004

During 2004, Russell/Mellon Europe Ltd "RME" have provided independent performance measurement in respect of the Norwegian Petroleum Fund

To perform this task RME collect data on a monthly basis from two data sources namely: JP Morgan Chase and Citigroup "the data suppliers".

RME undertake a number of reconciliation checks on the data, at asset class level and where available at security level, ensuring that data reconciles from the previous month, and at the total level. Any questions that arise from these checks will be raised with the data suppliers and where appropriate the client.

Reconciled data is run through our internal performance system to calculate returns. At the asset class level RME employs the "time-weighted" rate of return as the base performance statistic. This return takes into account investment income as well as realised and unrealised capital profits or losses. At the total fund level RME calculate a day-weighted, money weighted return using market values at the start and end of the month and net injection details. Monthly total returns calculated by Russell/Mellon were no more than one basis point different from these calculated by Norges Bank during 2004.

RME also carry out a number of independent checks on Norges Bank's benchmark return calculations. We independently source FTSE-AW indices and Lehman customised indices in order to carry out a check on the Equity and Fixed Income benchmark returns. We then apply

relative Fixed Income and Equity weights within the Petroleum Fund to calculate the overall benchmark. Following provision by Norges Bank of the methodology for calculation of the Fixed Income, Equity and Overall benchmark weights we have now set up our own independent spreadsheet checks to verify these weights. RME also independently calculate 'the fund and benchmark returns in the currency basket'.

Performance discrepancies in 2004

Different valuation methodologies between Norges Bank and Citigroup in respect of money market instruments may give rise to differences in market value between Russell/Mellon and Norges Bank reporting. These in turn may lead to small differences in return between Russell/Mellon and Norges Bank. These are usually no more than 0.01% to two decimal places

The Different methodologies in the calculation of currency rates between Russell/Mellon and Norges Bank may give rise to differences in currency returns. Essentially this problem stems from the fact that Norges Bank is using a different base currency in their calculations from Russell/Mellon. The small differences are usually no more than 0.01% to two decimal places.

Yours sincerely

Daniel Hall

Publications & Statistics Manager

Norges Bank's letter to the Ministry of Finance

Norges Bank have prepared a letter which compares Mercer's annual report with that of Norges Bank's official performance figures. The letter is published in Norwegian and is available on the Ministry of Finance's internet site:

(http://odin.dep.no/fin/norsk/statens_petroleumsfond/).


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│   Appendix C    │
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Style Research Portfolio Analysis Definitions

The Factors   The *Returns to* (see below) analysis is conducted using the following investment criteria or Factors:

Value Criteria

Book to Price   The ratio of the company's Book Value (the sum of Shareholders' Equity plus accumulated Retained Earnings from the P & L Account) to its Share Price.

                         This Factor has been one of the most successful measures of the intrinsic Value of company shares.

Dividend Yield   The annual Dividend Paid per Share divided by the Share Price.

                         This Factor measures the Value of company shares according to the stream of dividend income resulting from share ownership.

Earnings Yield   Annual Earnings per Share divided by the Share Price.

                         This Factor measures the worth of a company's shares according to the company's ability to support each share with after tax earnings.

Cash Flow Yield   Annual Cash Flow per Share divided by the Share Price.

                         This Factor is related to the earnings yield but also includes other items, specifically: depreciation, amortisations, and provisions for deferred liabilities. It is intended to capture the cash availability of the company as a multiple of the

	share price, and offers a Value criteria based on the stream of accessible cash earnings.
Sales to Price	Net Sales per Share divided by the Share Price.
	This Factor measures the worth of a company's shares according to the annual sales volume supporting the company business. The item is considered by many analysts to be less susceptible to manipulation than other valuation criteria; it is, however, a less comprehensive measure of a company's range of activities.

GROWTH CRITERIA

Return on Equity	Net Income before Preferred Dividends divided by the Book Value of Shareholders' Common Equity.
	RoE measures the profitability of the operations of the company as a proportion of the total amount of equity in the company. Since RoE multiplied by the reinvestment rate (the proportion of earnings not paid as dividends but reinvested in the company) gives the warranted growth rate of a company, RoE is a very usual measure of a company's growth potential.
Earnings Growth	The average annual growth rate of Earnings over a trailing three years.
	Earnings Growth is, perhaps, the clearest of the Growth criteria. However, it is subject to the distortions of reporting conventions and manipulation and, particularly in some markets, only known after a considerable lag.
Income to Sales	The "net margin", annual Net Income divided by annual Net Sales.
	This measure attempts to assess the company's potential for profitable, sustained expansion or growth.
Sales Growth	The average annual growth rate of Net Sales per Share over a trailing three years.
	Although growth in sales per share might be only a narrow measure of a company's business growth, and may be subject to a number of distortions, it is less subject to differences in reporting conventions or manipulation than many other Balance Sheet or Profit and Loss items.

Earnings Growth	**IBES 12Mth Growth** – The IBES consensus forecast growth over the next 12 months. This is calculated on a pro-rata basis from the forecasts for each company's next 2 annual reporting periods.
	IBES 1 Yr Revisions – The IBES balance of earnings forecast revisions for the next annual reporting period. This is calculated as the difference between the last 3 months upwards revisions minus the last 3 months downward revisions expressed as a percentage of the total number of estimates over the last 3 months.

Size & Risk Criteria

Market Cap	**The market capitalisation of a stock.**
	The Market Cap statistic of the portfolio is the weighted (by holding value) average size of the securities held. The Market Cap statistic of the benchmark (or total market) is the weighted (by holding value) average size of the securities within the benchmark (or total market).
Market Beta	**The "slope coefficient", (β), from the simple regression:**
	Security Monthly Return $= \alpha + \beta *$ Market Monthly Return + Random Error
	The regression is carried out over rolling 36 month periods; where sufficient information is not available, $\beta=1$ is assumed.

Performance Record Criteria

Historic Relative Return	The Historic Relative Return is calculated using a 6 month "memory" of monthly relative returns. The past period returns are weighted using to a "decay ratio" of 2/3, per month.
	This weighted historic relative return factor measures the degree of simple price performance trend following. It is useful in recognising the trading character of specific markets and in noticing occasional changing patterns through the market cycle.
	The international equity analysis shows short-term and medium term momentum factors.

Other Criteria

Debt to Equity	Total Debt as a percentage of total Common Equity.

The Debt to Equity ratio measures leverage, or gearing, a particular feature of share price risk - the higher the ratio the more changes in a company's fortune might be reflected in changes in the payment of dividends. The influence of this criterion is, however, especially subject to a number of particular specific considerations (e.g. sector differences, interest rate sensitivity). Consequently it is considered separately from the other "risk" criteria.

Foreign Sales /   International Sales as a percentage of Net Sales

Total Sales   Although information is occasionally rather sparse, where the data are available, and reliable, this is frequently an important investment criterion. It is undoubtedly linked to movements in the exchange rate and company size, and has different interpretations in different industrial sectors.

Risk Terms   Currency risk (the extent to which currency exposure differs from the benchmark)
                             Market risk (the extent to which the portfolio's exposure to different equity markets differs from the benchmark)
                             Sector risk (the extent to which the portfolio's exposure to different industries differs from the benchmark)
                             Style risk (the extent to which the portfolio's style biases (see graph on previous page) introduce risk relative to the benchmark)
                             Equity risk (risk arising from stock-specific factors)

                             However, the different components of risk are not independent. For example, sector risk can itself introduce currency risk if the sector has a bias to companies with non-domestic currency exposure. As a result, we also calculate what we call "X terms", which measure the element of risk attributable to a given factor that is correlated to other factors. Where correlations are less than 100%, the combined risk is less than the simple sum of the component risks. For this reason, the risk components summed above do not equal the total (which will always be less than the sum). However, we can calculate the percentage contribution of each risk component to the total to see where risk is concentrated.

Coverage   The term "coverage" is a measure of the portfolio's exposure to the indices it is benchmarked against i.e. if a benchmark index had only 2 stocks, both of equal weighting, each stock would have a market capitalisation of 50%. If a portfolio worth 100 NOK held 50 NOK in each stock its coverage would be 100%. If the portfolio invested all the 100 NOK in just one stock its coverage would be 50% as it is only

exposed to the movements of the 50% of the benchmark index. Further, if the portfolio was invested 60 NOK in one stock and 40 NOK in the other the coverage would still be 50% in the first stock, but 40% in the other making a total of 90% coverage.

Multi-Market Risk Attribution

The return of stock *j* may be written in terms of its currency, market, industry, style and specific returns (dropping subscript *t* for convenience)

$$r_j = R^{\phi}_{C(j)} + R_{M(j)} + R'_{I(j)} + R'_{S(j)} + r'_j$$

Where company *j* belongs to market $M(j)$, industry $I(j)$ and style $S(j)$. The Portfolio base currency is ϕ and the currency of market $M(j)$ is $C(j)$. Industries are according to the 10 economic sectors as defined by FTSE International. Styles are defined within each economic sector according to Large Value, Large Growth, Small Value, Small Growth. Size is the primary sort, where Large is the top 80% by capitalization and Small the bottom 20%. Value is taken to be the top half, by capitalization, of each size category, sorted by a measure which is 60% normalized Book Value per Share to Share Price and 40% normalized Dividend Yield, and rebalanced every 6 months; Growth is simplified as the other half within each size category.

The month *t* currency return is defined as:

$$R^{\phi}_{C(j)} = \frac{er^{\phi}_{C(j),t} - er^{\phi}_{C(j),t-1}}{er^{\phi}_{C(j),t-1}}$$

Where the exchange rate of currency ϕ to currency $C(j)$, at the end of month *t*, is $er^{\phi}_{C(j),t}$

In matrix notation the Equity returns are:

$$\mathbf{r} = \mathbf{R}_C^\varphi + \mathbf{R}_M + \mathbf{R}_I' + \mathbf{R}_S' + \mathbf{r}'$$

The covariance matrix is then:

$$
\begin{aligned}
Cov(\mathbf{r}) &= Cov\!\left(\mathbf{R}_C^\varphi + \mathbf{R}_M + \mathbf{R}_I' + \mathbf{R}_S' + \mathbf{r}'\right) \\
&= Cov\!\left(\mathbf{R}_C^\varphi\right) + Cov\!\left(\mathbf{R}_C^\varphi, \mathbf{R}_M\right) + Cov\!\left(\mathbf{R}_C^\varphi, \mathbf{R}_I'\right) + Cov\!\left(\mathbf{R}_C^\varphi, \mathbf{R}_S'\right) + Cov\!\left(\mathbf{R}_C^\varphi, \mathbf{r}'\right) \\
&\quad + Cov\!\left(\mathbf{R}_M, \mathbf{R}_C^\varphi\right) + Cov\!\left(\mathbf{R}_M\right) + Cov\!\left(\mathbf{R}_M, \mathbf{R}_I'\right) + Cov\!\left(\mathbf{R}_M, \mathbf{R}_S'\right) + Cov\!\left(\mathbf{R}_M, \mathbf{r}'\right) \\
&\quad + Cov\!\left(\mathbf{R}_I', \mathbf{R}_C^\varphi\right) + Cov\!\left(\mathbf{R}_I', \mathbf{R}_M\right) + Cov\!\left(\mathbf{R}_I'\right) + Cov\!\left(\mathbf{R}_I', \mathbf{R}_S'\right) + Cov\!\left(\mathbf{R}_I', \mathbf{r}'\right) \\
&\quad + Cov\!\left(\mathbf{R}_S', \mathbf{R}_C^\varphi\right) + Cov\!\left(\mathbf{R}_S', \mathbf{R}_M\right) + Cov\!\left(\mathbf{R}_S', \mathbf{R}_I'\right) + Cov\!\left(\mathbf{R}_S'\right) + Cov\!\left(\mathbf{R}_S', \mathbf{r}'\right) \\
&\quad + Cov\!\left(\mathbf{r}', \mathbf{R}_C^\varphi\right) + Cov\!\left(\mathbf{r}', \mathbf{R}_M\right) + Cov\!\left(\mathbf{r}', \mathbf{R}_I'\right) + Cov\!\left(\mathbf{r}', \mathbf{R}_S'\right) + Cov\!\left(\mathbf{r}'\right)
\end{aligned}
$$

The covariance between r_i and r_j is:

$$
\begin{aligned}
Cov(r_i, r_j) &= Cov\!\left(R_{C(i)}^\phi, R_{C(j)}^\phi\right) + Cov\!\left(R_{C(i)}^\phi, R_{M(j)}\right) + Cov\!\left(R_{C(i)}^\phi, R_{I(j)}'\right) + Cov\!\left(R_{C(i)}^\phi, R_{S(j)}'\right) + Cov\!\left(R_{C(i)}^\phi, r_j'\right) \\
&\quad + Cov\!\left(R_{M(i)}, R_{C(j)}^\phi\right) + Cov\!\left(R_{M(i)}, R_{M(j)}\right) + Cov\!\left(R_{M(i)}, R_{I(j)}'\right) + Cov\!\left(R_{M(i)}, R_{S(j)}'\right) + Cov\!\left(R_{M(i)}, r_j'\right) \\
&\quad + Cov\!\left(R_{I(i)}', R_{C(j)}^\phi\right) + Cov\!\left(R_{I(i)}', R_{M(j)}\right) + Cov\!\left(R_{I(i)}', R_{I(j)}'\right) + Cov\!\left(R_{I(i)}', R_{S(j)}'\right) + Cov\!\left(R_{I(i)}', r_j'\right) \\
&\quad + Cov\!\left(R_{S(i)}', R_{C(j)}^\phi\right) + Cov\!\left(R_{S(i)}', R_{M(j)}\right) + Cov\!\left(R_{S(i)}', R_{I(j)}'\right) + Cov\!\left(R_{S(i)}', R_{S(j)}'\right) + Cov\!\left(R_{S(i)}', r_j'\right) \\
&\quad + Cov\!\left(r_i', R_{C(j)}^\phi\right) + Cov\!\left(r_i', R_{(j)}\right) + Cov\!\left(r_i', R_{I(j)}'\right) + Cov\!\left(r_i', R_{S(j)}'\right) + Cov\!\left(r_i', r_j'\right)
\end{aligned}
$$

The component parts of the covariance matrix are:

Pure Currency term: $Cov\!\left(R_{C(i)}^\phi, R_{C(j)}^\phi\right)$

Market cross terms: $Cov\!\left(R_{C(i)}^\phi, R_{M(j)}\right) + Cov\!\left(R_{M(i)}, R_{C(j)}^\phi\right)$

Pure Market term: $Cov\!\left(R_{M(i)}, R_{M(j)}\right)$

Industry cross terms:

$$Cov\!\left(R_{C(i)}^\phi, R_{I(j)}'\right) + Cov\!\left(R_{M(i)}, R_{I(j)}'\right) + Cov\!\left(R_{I(i)}', R_{C(j)}^\phi\right) + Cov\!\left(R_{I(i)}', R_{M(j)}\right)$$

Pure Industry term: $Cov\!\left(R_{I(i)}', R_{I(j)}'\right)$

Style cross terms:

$$
\begin{aligned}
&Cov\!\left(R_{C(i)}^\phi, R_{S(j)}'\right) + Cov\!\left(R_{M(i)}, R_{S(j)}'\right) + Cov\!\left(R_{I(i)}', R_{S(j)}'\right) + Cov\!\left(R_{S(i)}', R_{C(j)}^\phi\right) \\
&+ Cov\!\left(R_{S(i)}', R_{M(j)}\right) + Cov\!\left(R_{S(i)}', R_{I(j)}'\right)
\end{aligned}
$$

Pure Style term: $Cov\!\left(R_{S(i)}', R_{S(j)}'\right)$

Equity cross terms:

$$
\begin{aligned}
&Cov\!\left(R_{C(i)}^\phi, r_j'\right) + Cov\!\left(R_{M(i)}, r_j'\right) + Cov\!\left(R_{I(i)}', r_j'\right) + Cov\!\left(R_{S(i)}', r_j'\right) + Cov\!\left(r_i', R_{C(i)}^\phi\right) \\
&+ Cov\!\left(r_i', R_{M(j)}\right) + Cov\!\left(r_i', R_{I(j)}'\right) + Cov\!\left(r_i', R_{S(j)}'\right)
\end{aligned}
$$

Pure Equity term: $Cov\!\left(r_i', r_j'\right)$

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