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Norwegian Government Pension Fund - Global
Annual Performance Evaluation Report 2007

Prepared for:
Norwegian Ministry of Finance

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MERCER
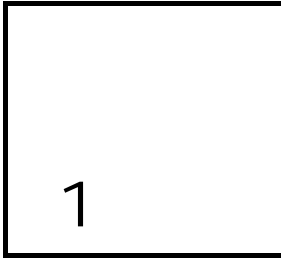
MARSH   MERCER   KROLL
GUY CARPENTER   OLIVER WYMAN

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The Role of Mercer and BNY Mellon Asset Servicing

1.1 Background

- This report was commissioned by the Norwegian Ministry of Finance ("the Ministry") and has been prepared by Mercer in accordance with the terms of the contract awarded by the Ministry in relation to the Norwegian Government Petroleum Fund ("the Petroleum Fund"). At the beginning of 2006, the Petroleum Fund was renamed the Norwegian Government Pension Fund – Global ("the Pension Fund"). Prior to 1 December 2004, the Petroleum Fund consisted of the "Ordinary Portfolio" and the "Environmental Fund". On 1 December 2004, when new ethical guidelines were adopted for 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 13 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 outsources the role of performance verification to BNY Mellon Asset Servicing ("BNY MAS"), an independent performance measurer appointed by Mercer.

1.3 Role of BNY Mellon Asset Servicing

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

- ▪ BNY MAS 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 BNY MAS' 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 BNY MAS, performed control and verification functions throughout 2007, 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 levels according to instructions received from the Ministry.

2.2 Controls Conducted in 2007

▪   During the course of 2007 Mercer has, in conjunction with BNY MAS, measured and verified the monthly returns of the Pension Fund, along with the respective benchmark returns in both the currency basket measure and Norwegian Kroner terms.

▪   Throughout the report, performance in respect of the Equity and Fixed Income Segments of the Pension Fund for 2007 and longer periods (with the exception of the currency basket return and benchmark calculations prior to 31 December 2003) has been sourced from BNY MAS.

▪   The monthly performance of the Pension Fund at the Total, Equity and Fixed Income level has been reported to the Ministry by means of a report issued directly by BNY MAS.

▪   In the event of discrepancies in performance calculation between Norges Bank's internal performance measurement and BNY MAS' calculations, when measured to two decimal places (e.g. a 0.01% difference), further checks are made, the results of which are reported to the Ministry by means of a letter accompanying the monthly report. Additionally, Norges Bank provides a summary explanation of the differences in market values and performance reporting between Norges Bank and BNY MAS on a monthly basis.

- A comprehensive summary of the data processing and reporting process that BNY MAS carries out as a result of its role in the Control Function is contained within Appendix B.

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Pension Fund Details

3.1   **Performance Objective**

▪   The Ministry has delegated the operational management of the Pension Fund to Norges Bank who manage the Pension 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 tolerance for the Pension Fund is determined to be an ex-ante tracking error of 1.5% p.a. relative to the benchmark allocation.

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

3.2   **Pension Fund Benchmark**

▪   In 2007 the Ministry decided, with the Storting's approval, to amend the strategic benchmark from 60% fixed income/ 40% equities to 40% fixed income / 60% equities. The progression to the new benchmark is a gradual process. Monthly rebalancing has been suspended until the increase in the allocation to equities to 60% is complete. The Ministry also decided to extend the number of companies in the equity benchmark portfolio by including small capitalisation companies.

▪   A new fixed income benchmark was introduced in 2002, which is constructed from the Lehman Global Aggregate family of indices. In 2006, the strategic weights within the customised fixed income benchmark were changed from 55% Europe, 35% Americas and 10% Asia/Oceania to 60% Europe, 35% Americas and 5% Asia / Oceania.

▪   The equity benchmark uses FTSE equity indices for companies in twenty-seven countries. In 2006, the strategic weights within the customised equity benchmark was changed from Europe 50% and Americas/Asia/Oceania/Africa 50% to 50% Europe, 35% Americas and Africa and 15% Asia / Oceania. In the fourth quarter of 2007, the composition of the equity benchmark portfolio was extended to include small capitalisation companies

- The reader should note that one - off transaction costs are incurred when new transfers are made into the Pension Fund. Such costs are not deducted when the index supplier calculates the return on the benchmark. For the purpose of this report the benchmark return has not been adjusted for such costs, despite the presence of transaction costs detracting from the Pension Fund's returns. In addition to the transaction costs outlined above, the Pension 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 benchmarks is contained within Appendix B.

4

Fund Performance

This section of the report analyses the Pension Fund's monthly performance and corresponding benchmark performance over the twelve month period to 31 December 2007, along with longer term analysis. Numerical performance shown in the charts and performance commentary is illustrated to two decimal places.

For the purpose of this report all Pension Fund and benchmark returns contained within sections 4.1 and 4.3 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 Pension Fund's performance against the stated objective of maximising the Pension Fund's international purchasing power. Section 4.2 shows performance expressed in Norwegian Kroner.

Sections 4.1 and 4.2 consider the Pension Fund's performance along with the monthly performance for the Equity and Fixed Income Segments of the Pension Fund over the twelve month period to 31 December 2007. Section 4.3 considers longer term performance for the Pension Fund.
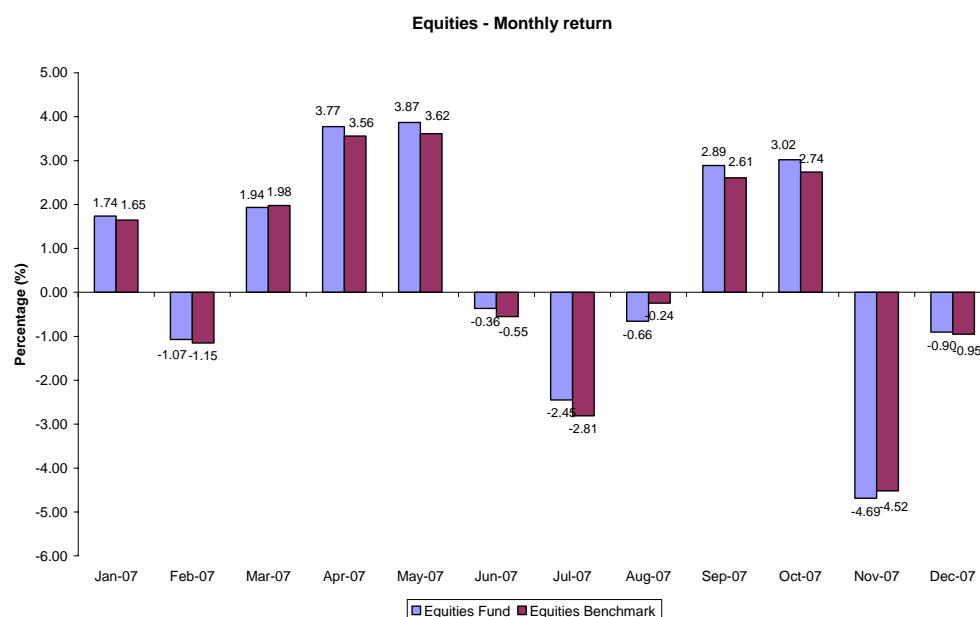
4.1   Pension Fund Returns (Currency Basket)
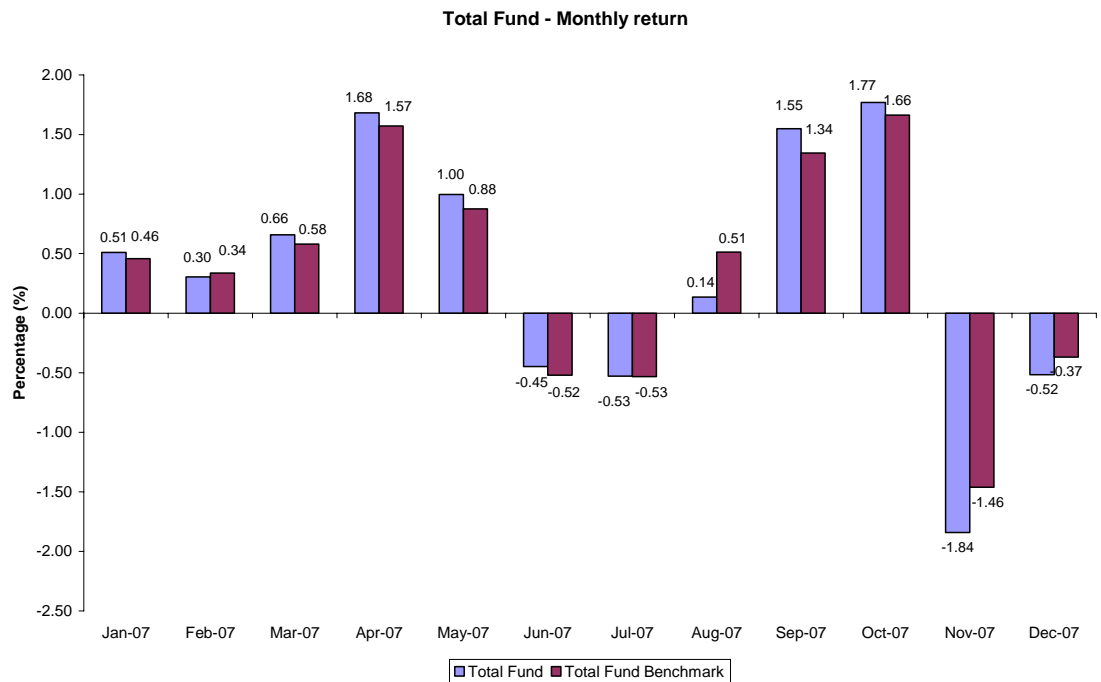
Total Fund - Monthly return

Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2008 BNY Mellon Asset Servicing.

▪   Over the twelve month period to 31 December 2007, the Pension Fund produced a cumulative return of 4.28%, below the benchmark return of 4.50% by 0.22%. Norges Bank have calculated the twelve month Pension Fund return to be 4.26%. The 0.02% difference is mainly attributed to the timing of a significant cashflow, which occurred during November, and the difference between how Norges Bank and BNY MAS allowed for this cashflow within their respective performance calculations. Please refer to Section 6 of this report for an explanation of the returns deviations between BNY MAS and Norges Bank experienced during February, March, August and November.

▪   Total Fund performance exceeded the benchmark in each month of 2007 with the exception of February, August, November and December where performance was behind the benchmark. Outperformance was greatest in May and September, where performance exceeded the benchmark returns by 0.12% and 0.20% respectively. Underperformance was greatest in August and November where performance was below the benchmark by 0.38% on each occasion.
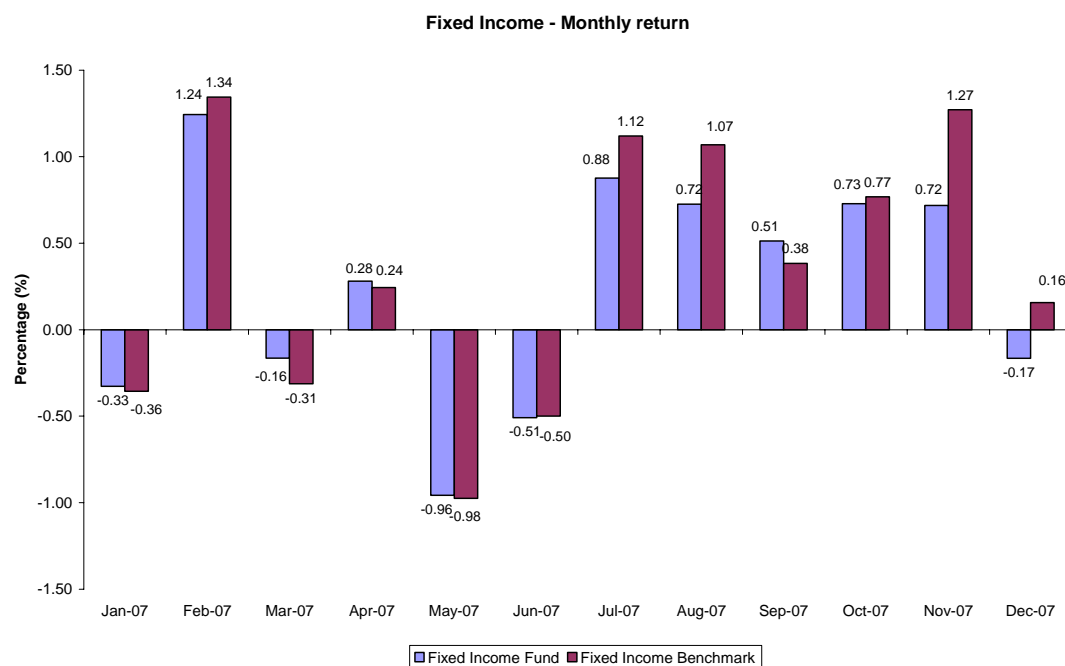
4.1.1   **Pension Fund - Equity Returns (Currency Basket)**

Equities - Monthly return

Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2008 BNY Mellon Asset Servicing.

▪ Over the twelve month period to 31 December 2007, the Equity Segment of the Pension Fund produced a cumulative return of 6.90%, above the benchmark return of 5.69% by 1.21%. Norges Bank have calculated a twelve month Pension Fund return for the Equity Segment to be 6.82%. The 0.08% difference is mainly attributed to the timing of a significant cashflow, which occurred during November, and the difference between how Norges Bank and BNY MAS allowed for this cashflow within their respective performance calculations. Please refer to Section 6 of this report for an explanation of the returns deviations between BNY MAS and Norges Bank experienced during July, August, October and November.

▪ BNY MAS reported a twelve month benchmark return of 5.69% whereas Norges Bank has reported 5.67%. This difference is due to the fact that Norges Bank amended the previously set benchmark tax adjustment in June 2007, to be included in the benchmark return in December 2006.

▪ On a month-by-month basis, the performance of the Pension Fund's Equity Segment exceeded the benchmark in each month, with the exception of March, August and November, where performance was behind benchmark. Outperformance was greatest during July, September and October, where performance exceeded the benchmark by 0.36%, 0.28% and 0.28% respectively. Underperformance was greatest during August and November, with performance below benchmark by 0.41% and 0.17% respectively.
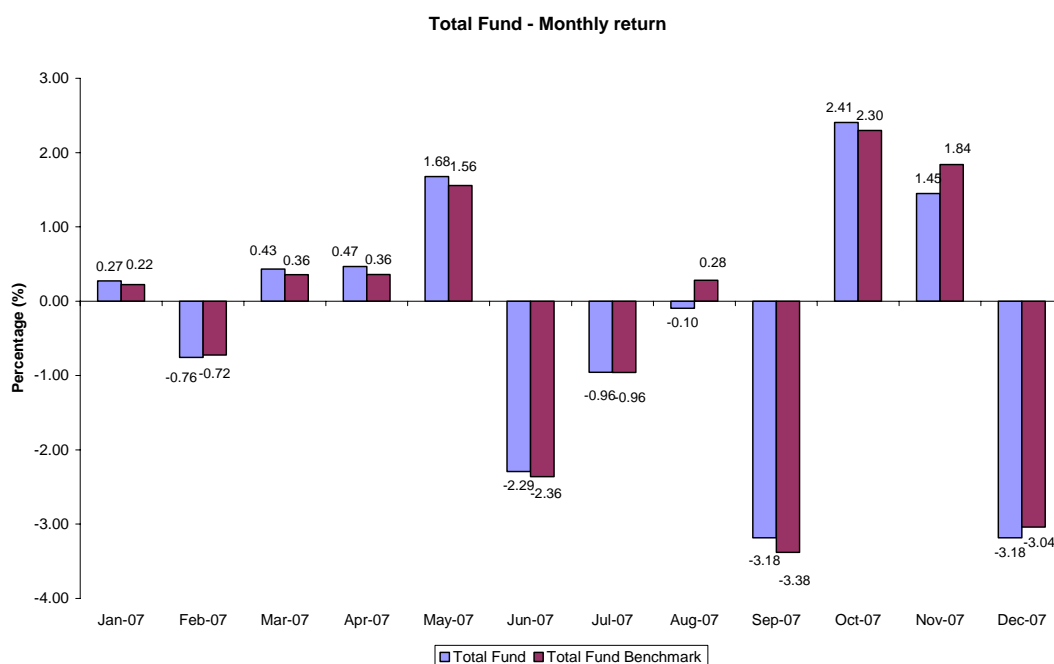
4.1.2 **Pension Fund - Fixed Income Returns (Currency Basket)**

Fixed Income - Monthly return

Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2008 BNY Mellon Asset Servicing.

▪ Over the twelve month period to 31 December 2007, the Fixed Income Segment of the Pension Fund returned 2.98%, behind the benchmark return of 4.26% by 1.28%. Norges Bank have calculated a twelve month Pension Fund return for the Fixed Income Segment to be 2.96%. There is a 0.01% difference between BNY MAS and Norges Bank (not 0.02% as suggested by the rounded figures above). Please refer to Section 6 of this report for a more detailed explanation of the return deviations between BNY MAS and Norges Bank experienced during February, March and August.

▪ On a month-by-month basis, the Pension Fund's Fixed Income Segment exceeded the benchmark in five months of the twelve month period. In February, June, July, August, October, November and December performance was behind benchmark. Outperformance was greatest during March and September where performance exceeded the benchmark by 0.15% and 0.13% respectively. Underperformance was greatest during August, November and December where performance was below benchmark by 0.34%, 0.55% and 0.32% respectively.
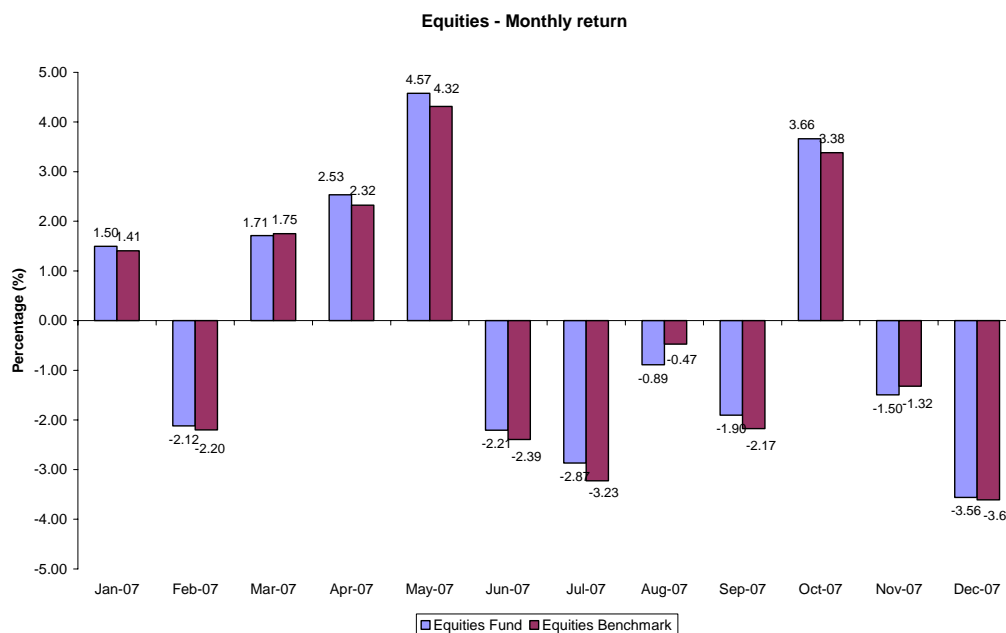
4.1.3 **Pension Fund Total Returns (Norwegian Kroner)**

Total Fund - Monthly return

Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2008 BNY Mellon Asset Servicing.

▪   Over the twelve month period to 31 December 2007, the Pension Fund produced a cumulative return of -3.88%, underforming the benchmark return of -3.68% by 0.20%. Norges Bank have calculated a twelve month Pension Fund return of -3.90%. The 0.02% difference is mainly attributed to the timing of a significant cashflow, which occurred during November, and the difference between how Norges Bank and BNY Mellon allowed for this cashflow within their respective performance calculations. Please refer to Section 6 of this report for an explanation of the return deviations experienced between BNY MAS and Norges Bank during February, March, November and December.

▪   Total Fund performance exceeded the benchmark in each month with the exception of February, August, November and December where performance was below benchmark. Outperformance was greatest in May and September where performance exceeded the benchmark returns by 0.12% and 0.19% respectively. Underperformance was greatest in August and November where performance was below benchmark by 0.38% and 0.39% respectively.
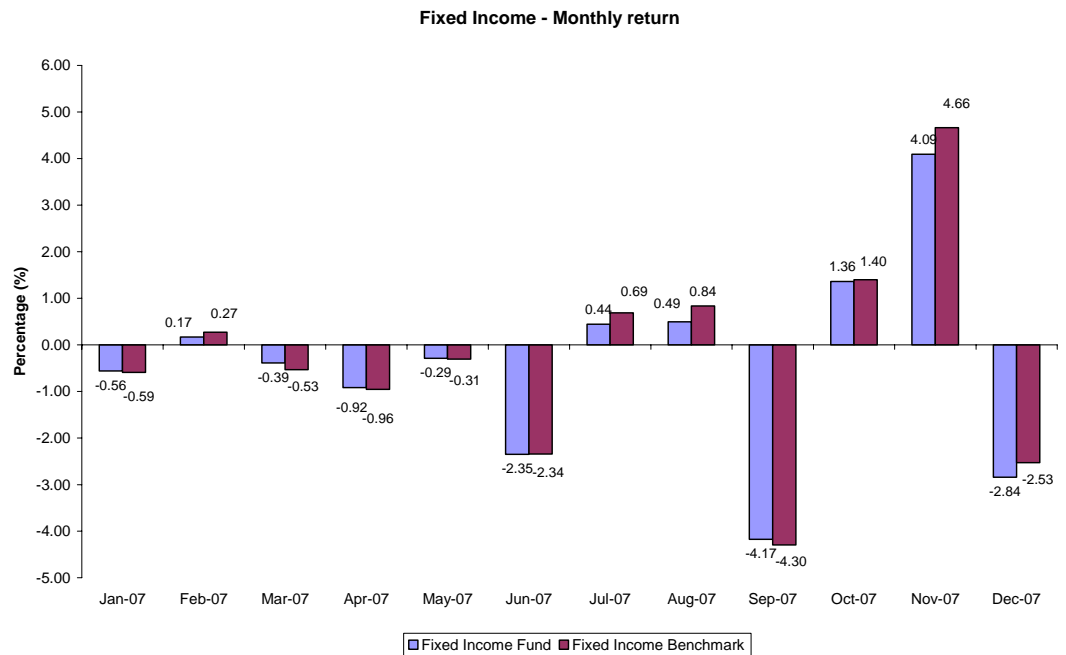
4.1.4   **Pension Fund - Equity Returns (Norwegian Kroner)**

Equities - Monthly return

Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2008 BNY Mellon Asset Servicing.

- Over the twelve month period to 31 December 2007, the Equity Segment of the Pension Fund returned -1.46%, outperforming the benchmark return of -2.58% by 1.11%. Norges Bank have calculated a twelve month return for the Pension Fund Equity Segment to be -1.54%. The 0.08% difference is mainly attributed to the timing of a significant cashflow, which occurred during November, and the difference between how Norges Bank and BNY Mellon allowed for this cashflow within their respective performance calculations. "Please refer to Section 6 of this report for an explanation of the return deviations between BNY MAS and Norges Bank experienced during July, August, October and November."

- BNY MAS reported a benchmark return of -2.58% whereas Norges Bank has reported -2.60%. This is due to the fact that Norges Bank amended the previously set benchmark tax adjustment in June 2007, to be included in the benchmark return in December 2006.

- On a month-by-month basis, the performance of the Pension Fund's Equity Segment exceeded the benchmark in each month, with the exception of March, August and November, where performance was behind benchmark. Outperformance was greatest during the months of July and October, where performance exceeded the benchmark return by 0.36% and 0.28% respectively. Underperformance was greatest during the months of August and November, where performance was below the benchmark by 0.41% and 0.18% respectively.

4.1.5   **Pension Fund - Fixed Income Returns (Norwegian Kroner)**

Fixed Income - Monthly return

Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2008 BNY
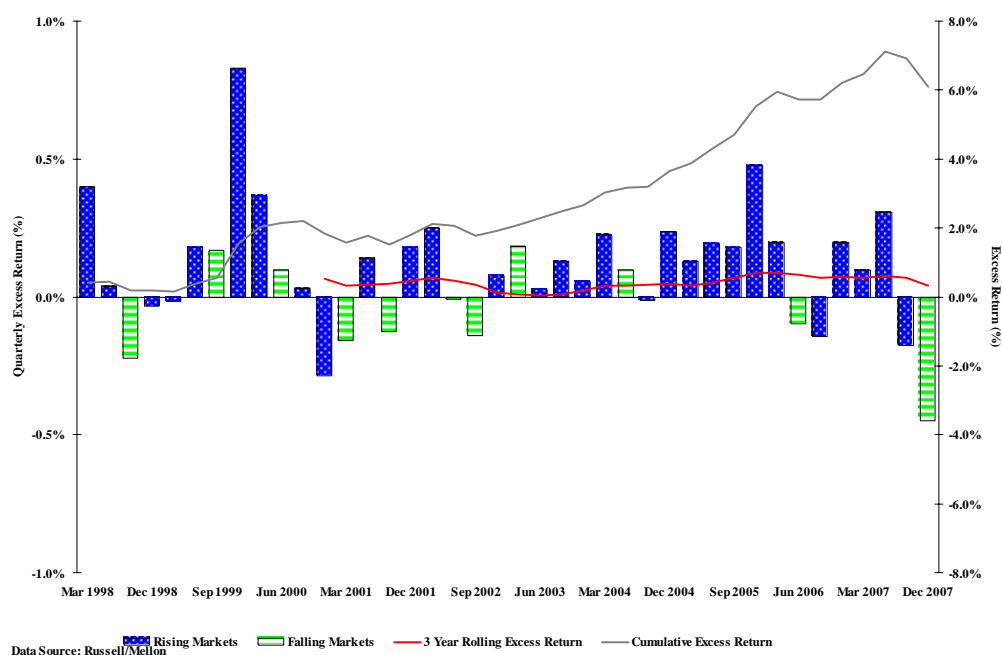Mellon Asset Servicing.

- Over the twelve month period to 31 December 2007, the Fixed Income
  Segment of the Pension Fund returned -5.09%, in-line with Norges
  Bank's calculations, underperforming the benchmark return of -3.90%
  by 1.18%. Please refer to Section 6 of this report for an explanation of
  the return deviations experienced during February, March, July,
  August, September and December.

- On a month-by-month basis, the Pension Fund's Fixed Income
  Segment exceeded the benchmark five months of the twelve month
  period. In February, June, July, August, October, November and
  December, performance was behind benchmark. Outperformance
  was greatest during March and September, where performance
  exceeded benchmark by 0.15% and 0.12% respectively.
  Underperformance was greatest over the months of August,
  November and December during which the Fixed Income Segment
  underperformed the benchmark by 0.34%, 0.57% and 0.31%
  respectively.

4.2   **Pension Fund (Currency Basket) Longer term performance**

The following charts show quarterly performance relative to benchmark for the ten-year period ending 31 December 2007 for the Pension Fund and the Fixed Income Segment, and the nine and three-quarter year period ending 31 December 2007 for the Equity Segment. In addition, the charts illustrate the three-year rolling and cumulative excess returns over the period ending 31 December 2007. 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 use 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 since 1 January 2004 has been sourced from BNY Mellon. Prior performance has been sourced from Norges Bank.

4.2.1   **Pension Fund – Total Returns (Currency Basket)**

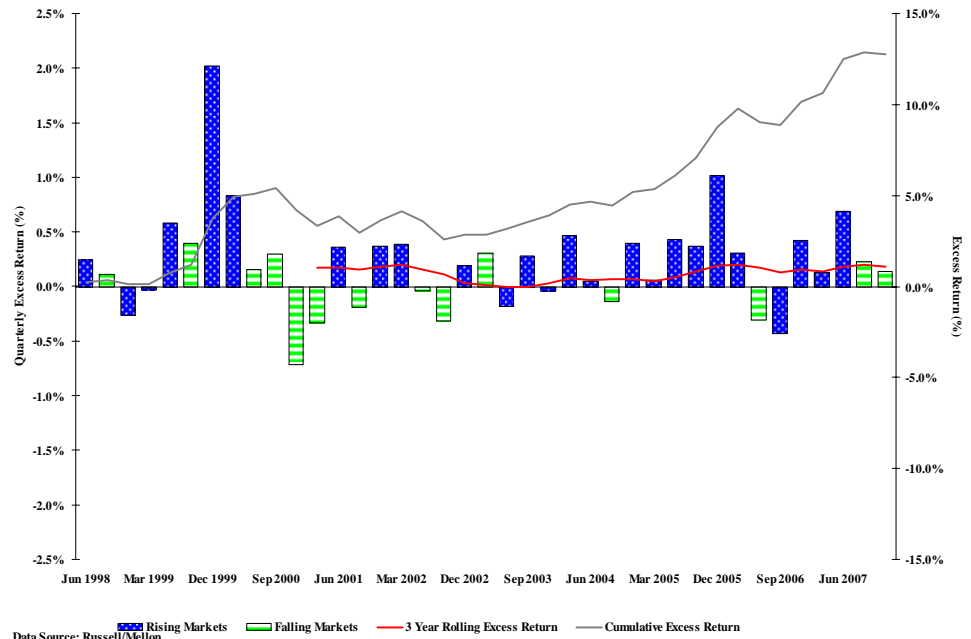Source: Mercer MPA, Norges Bank and (c) Copyright 2008 BNY Mellon Asset Servicing.

- The Pension Fund has outperformed its benchmark on a quarterly basis in twenty seven of the forty quarters under review.

- Long term relative performance remains positive, although there was a slight decrease in latter half of 2007. The cumulative excess return over the ten years ending 31 December 2007 stood at 6.1%.

- Rolling three-year excess returns have been consistently positive.

- It is notable that during periods of rising markets, the portfolio has had a tendency to outperform. This is based on observations and not statistical analysis.
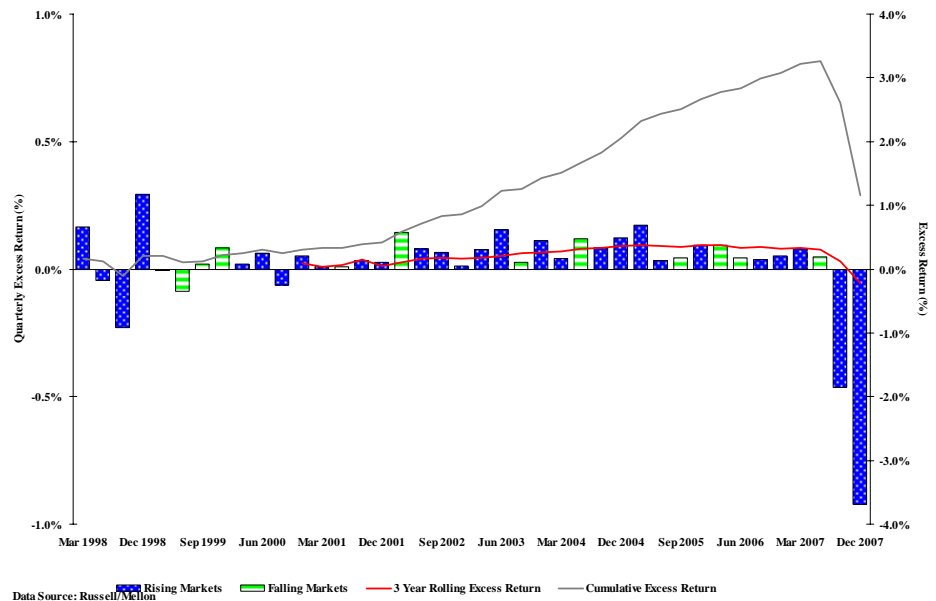
4.2.2 **Pension Fund - Equity Returns (Currency Basket)**

Source: Mercer MPA, Norges Bank and (c) Copyright 2008 BNY Mellon Asset Servicing.

- The Equity Segment has outperformed its benchmark in twenty seven out of the thirty nine quarters, underperforming in the remainder.

- Rolling three-year performance was strong in the periods to 2001 and the first part of 2002. Performance dipped to a low point in mid 2003 but has since been above benchmark.

- The cumulative excess return for the period since inception, 1 February 1998, to 31 December 2007 is positive at 12.7%.

- During periods of rising markets, the portfolio has had a tendency to outperform. This is based on observations and not statistical analysis.

4.2.3   **Pension Fund - Fixed Income Returns (Currency Basket)**

Source: Mercer MPA, Norges Bank and (c) Copyright 2008 BNY Mellon Asset Servicing.

- With the exception of the first three years, where performance was mixed, the Fixed Income Segment of the Pension Fund has consistently outperformed its benchmark over the nine and a half year period to 30 June 2007. Over the last two quarters of 2007 the Fixed Income Segment underperformed. Underperformance has been significant in relation to historical excess returns, returning 0.46% and 0.92% below the benchmark over the third and fourth quarters of 2007 respectively.

- Rolling three-year excess returns have been consistently positive up to 30 June 2007, however, as a result of underperformance in the final two quarters of 2007, rolling three-year excess returns have fallen into negative territory.

- The cumulative excess return over the ten year period to 31 December 2007 is positive at 1.1%. Cumulative performance has risen steadily over the nine and a half year period but has fallen back sharply following two quarters of underperformance on the final half of 2007.

5

Style Research Portfolio Analysis

5.1   **Introduction**

- This section takes a closer look at the style characteristics of the Equity Segment of the Pension Fund over the four quarters to 31 December 2007.

- When analysing the Equity Segment's style characteristics we have used an analytical software package called Style Research Portfolio Analysis ("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. The snap-shot analysis is based on a detailed, multi-dimensional examination of the Equity Segment's composition at a point in time – it is not based on historical returns.

- The SRPA risk attribution model is different from the risk model used by Norges Bank. Norges Bank uses a risk model called RiskManager (developed by Riskmetrics) to measure expected tracking error.

- The charts shown in Section 5.2 highlight specific style characteristics of the Equity Segment as at 31 March 2007, 30 June 2007, 30 September 2007 and 31 December 2007. In addition, the style characteristics as at 31 December 2005 and 31 December 2006 are also shown to highlight changes over the last three years. The set of charts shown in Section 5.2 emphasise the key style features of the Equity Segment in terms of any "value" tilts (represented by the first group of blue bars) and "growth" tilts (represented by the second group of green bars). The analysis is conducted relative to the customised benchmark of the Equity Segment of the Pension Fund. When interpreting SRPA outputs, tilts (represented as Standard Deviations away from the benchmark mean) greater than ± 1 but less than ± 2 are regarded as statistically significant. Tilts great than ± 2 are regarded as statistically very 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 customised benchmark.
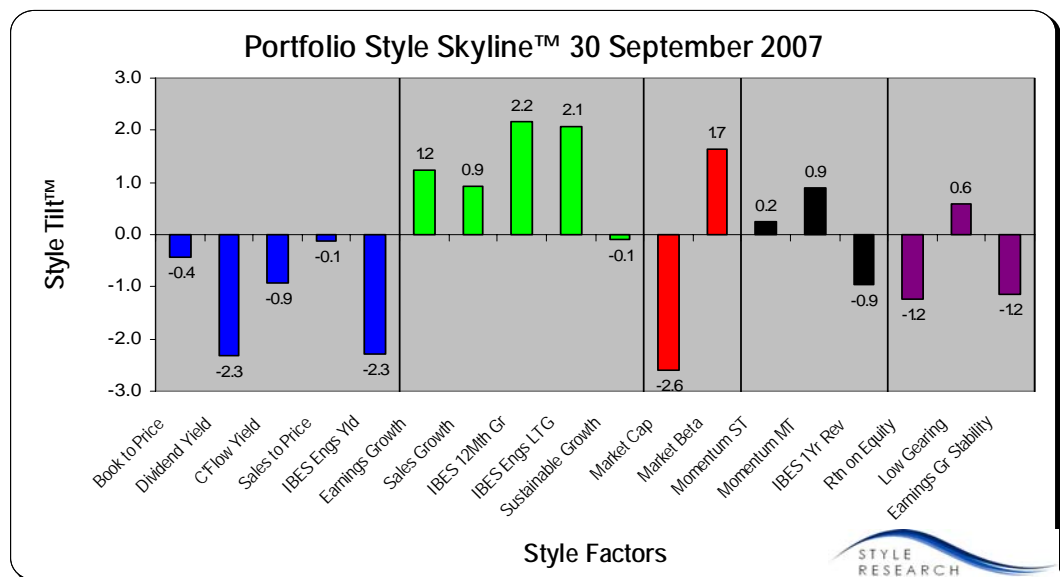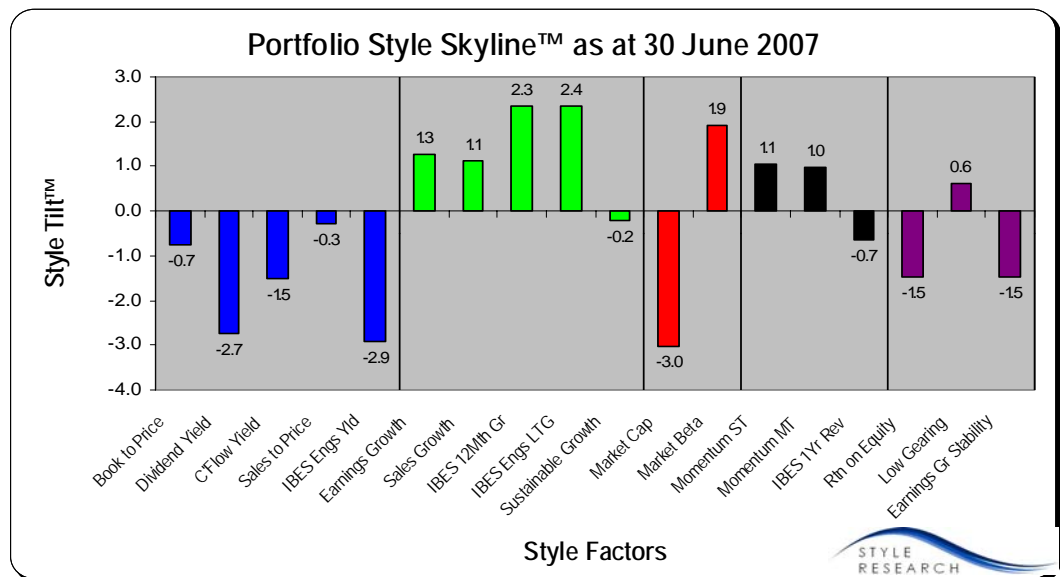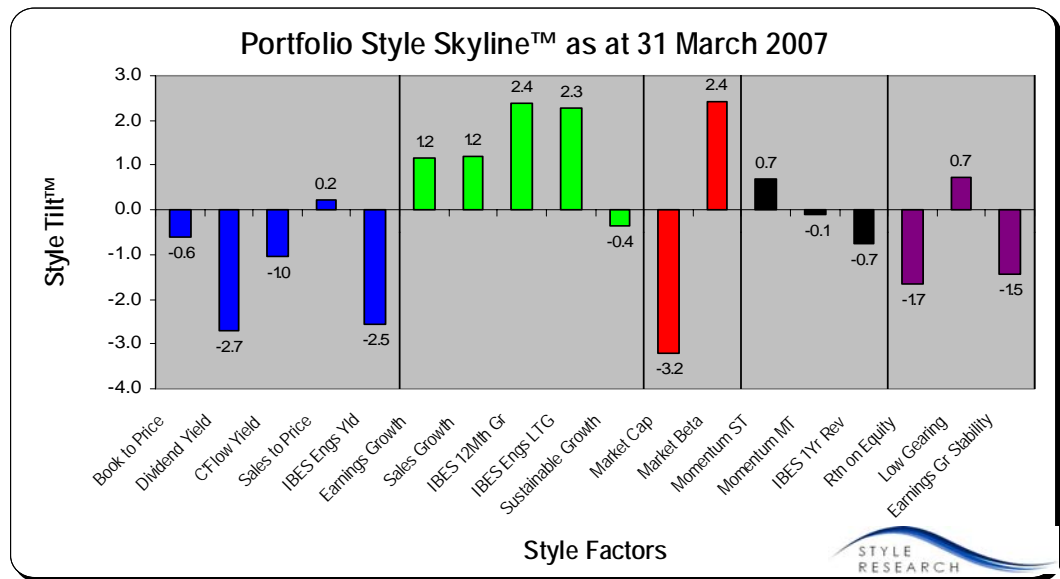
- The term "coverage" referred to in the charts contained within Section 5.3 is a measure of the Equity Segment's exposure to the indices against which it is benchmarked. The output shown in Section 5.3 indicates a coverage level of circa 80% indicating that the Equity Segment has an overlap of circa 80% with the constituents of the indices against which the Equity Segment is benchmarked. Please refer to Appendix C for a more detailed explanation of the term "coverage".

- The market capitalisation distribution of the Pension Fund and benchmark is illustrated in the charts shown in Section 5.4. The first chart shows a breakdown to the largest 40%, the next 40% and smallest 20% sized companies, as measured by market capitalisation. The second chart shows a breakdown of the largest 80% and the smallest 20% size companies, as measured by market capitalisation, and broken down between value and growth.

- The final chart shown in Section 5.5 analyses the risk profile of the Equity Segment of the Pension Fund as at 31 March 2007, 30 June 2007, 30 September 2007 and 31 December 2007 and breaks it down into its key risk Segments. In addition, the risk profile of the Equity Segment of the Pension Fund as at 31 December 2005 and 31 December 2006 are also shown to highlight changes over the last three years. For further explanation of Style Research Portfolio Analysis definitions please refer to the Appendix.

Notes on data source:

- Security holdings have been sourced from © Copyright 2008 BNY Mellon Asset Servicing.

- Benchmark data has been sourced from FTSE and adjusted to match the regional weightings as used by Norges Bank.

- Risk Model output has been sourced from SRPA.

5.2   **The Portfolio Style Skyline**

To demonstrate the development of the Equity Segment's style and risk characteristics, the portfolio style skylines as at the end of each quarter during 2007 are shown below. Please note that each quarter's analysis is based on a historical "snap-shot" of the stocks held in the Equity Segments at an aggregate level as at the end of each quarter.

Portfolio Style Skyline™ as at 31 March 2007

Portfolio Style Skyline™ as at 30 June 2007

Portfolio Style Skyline™ 30 September 2007

Portfolio Style Skyline™ as at 31 December 2007
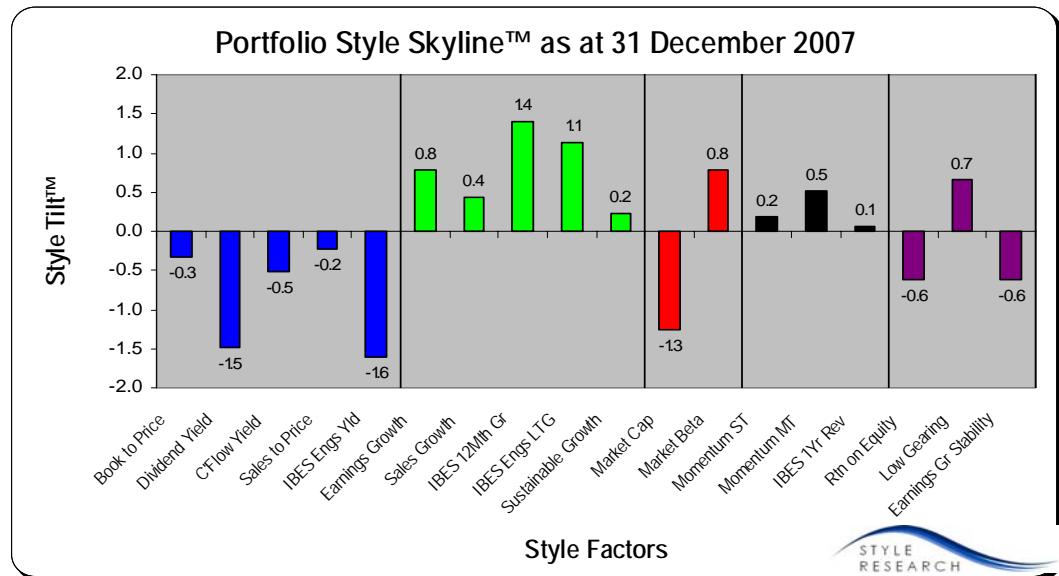
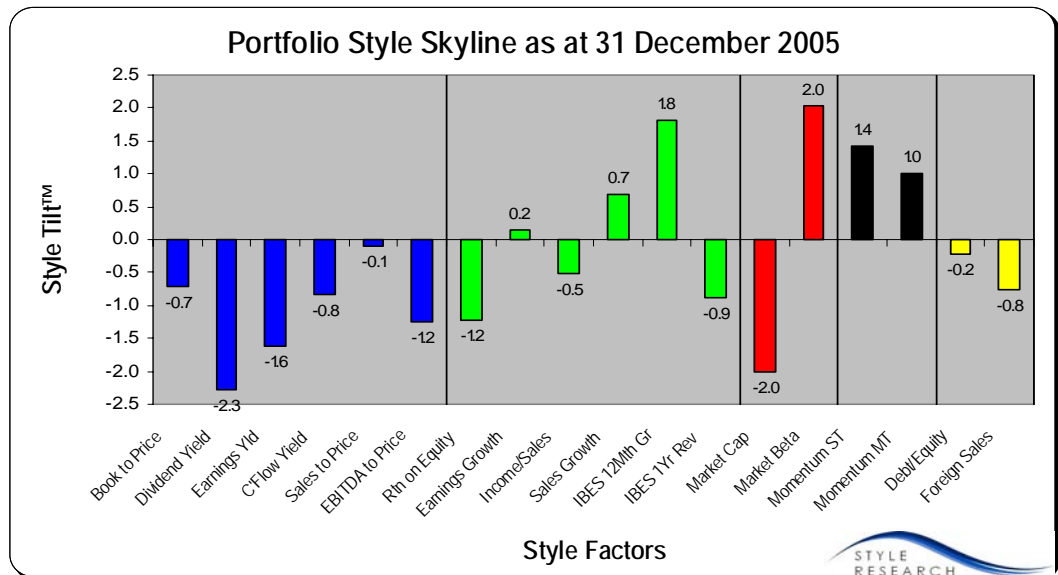- The Equity Segment's tilt towards growth stocks and away from value stocks became less pronounced over the course of 2007. This is a reverse of the trend observed in 2006.

- The results of the analysis indicate that over the course of the year, there have been a number of statistically significant tilts (illustrated by standard deviations of greater than +/-1) away from the benchmark mean and a number of very significant tilts (illustrated by standard deviations of greater than +/-2) away from the benchmark mean.

- At each quarter end over the course of the year, the Equity Segment has had a very significant bias away from the value factors Dividend Yield and IBES Earnings Yield compared with the benchmark mean, although this bias has reduced over the course of the year.

- Similarly, in terms of the growth factors IBES 12 Month Growth and IBES Earnings Long Term Growth, the Equity Segment had a very significant positive bias relative to the benchmark mean in the first three quarters, although this reduced at 31 December 2007

- The negative 'Market Cap' indicator shows that the Equity Segment has consistently held a bias to stocks with lower market capitalisations than the benchmark mean. The extent of this bias decreased significantly when small cap stocks were included in the Equity Segment benchmark in the fourth quarter of 2007. This can be clearly seen by comparison of the 30 September 2007 and 31 December 2007 charts, with the Market Cap indicator decreasing in magnitude from -2.6 standard deviations to -1.3 standard deviations.

- The consistent and positive 'Market Beta' indicator shows that the Equity Segment has been biased towards stocks with a beta higher than the benchmark mean; this position is consistent with the positions held throughout 2005 and 2006. Market Beta can be characterised as sensitivity

to movement in the total market. The extent of this bias decreased to a level that is no longer considered significant during the forth quarter of 2007, when small cap stocks were included in the benchmark. The bias towards smaller companies is against a market back-drop where smaller companies (based on world market indices) had a tendency to underperform the broader market index during 2006 and 2007.

▪ During the first three quarters of 2007, the Equity Segment continued to show a significant tilt away from the benchmark for the quality indicators 'Return on Equity' and 'Earnings Growth Stability'. This negative bias reduced to a not significant levelas at 31 December 2007 for both indicators.

▪ More detailed explanations of the terms used in the Portfolio Style Skyline such as 'Dividend Yield', 'IBES Earnings Yield', 'IBES 12 Month Growth Earnings targets', 'IBES Earnings Long Term Growth', 'Market Beta', 'Market Cap', 'Return on Equity' and 'Earnings Growth Stability' can be found in Appendix C.

To demonstrate the development of the Equity Segment's style and risk characteristics over the last three years, the portfolio style skylines as at 31 December 2005 and 31 December 2006 are shown below.

▪ Note that in 2006, Style Research Limited expanded the range of factors that can be selected through SRPA and created the facility to choose the factors displayed on the portfolio skyline. As a result of this change, the information shown in the charts from 31 March 2006 onwards was changed to display the factors which Mercer believe best define the portfolio's style orientation. The format of the 31 December 2005 chart below therefore differs slightly to the other styles charts in this section.

Portfolio Style Skyline as at 31 December 2005

Portfolio Style Skyline™ as at 31 December 2006
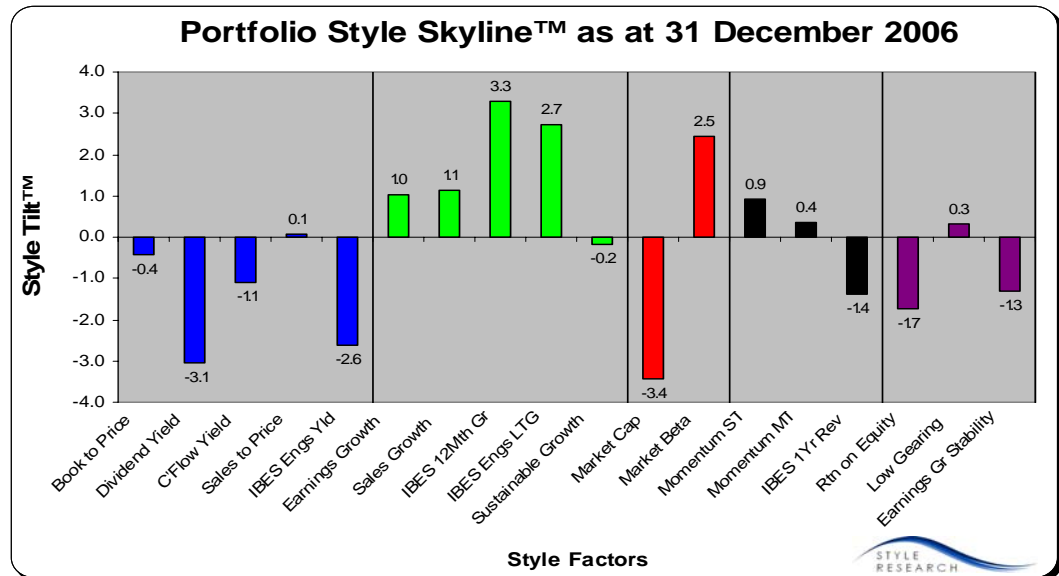
- Throughout 2005, the Equity Segment exhibited a slight bias towards growth stocks and against value stocks. This bias became more pronounced over the course of the year. Notable deviations away from the benchmark as at 31 December 2005 included the bias away from the value factors High Dividend Yield and High Earnings Yield and towards the growth factor IBES 12 Month Growth Earnings Forecasts.

- A similar picture was observed throughout 2006, although the Equity Segment's tilt towards growth stocks was more pronounced compared to the tilt in 2005. At each quarter end over the course of 2006, the Equity Segment has had a very significant negative bias to the value factors Dividend Yield and IBES Earnings Yield compared with the benchmark mean. Similarly, in terms of the growth factors, IBES 12 Month Growth and IBES Earnings Long Term Growth, the Equity Segment has consistently had a very significant positive bias away from the benchmark mean.

- A consistent negative "market cap" indicator over 2005 and 2006 reflects the portfolio's bias towards small cap companies relative to benchmark. A positive "market beta" indicator was observed over 2005 and 2006, indicating the Equity Segment's consistent bias towards companies with a beta higher than the benchmark mean.

5.3   **The Portfolio Sector Skyline**

To give a better impression of the development of the sector characteristics of the Equity Segment, industrial sector skylines as at the end of each quarter during 2007 are shown below. Please note that each quarter's analysis is based on a "snap-shot" of the stocks held in the Equity Segment at an aggregate level as at the end of every quarter.

Industrial Sector Skyline as at 31 March 2007

Industrial Sector Skyline as at 30 June 2007

Industrial Sector Skyline as at 30 September 2007
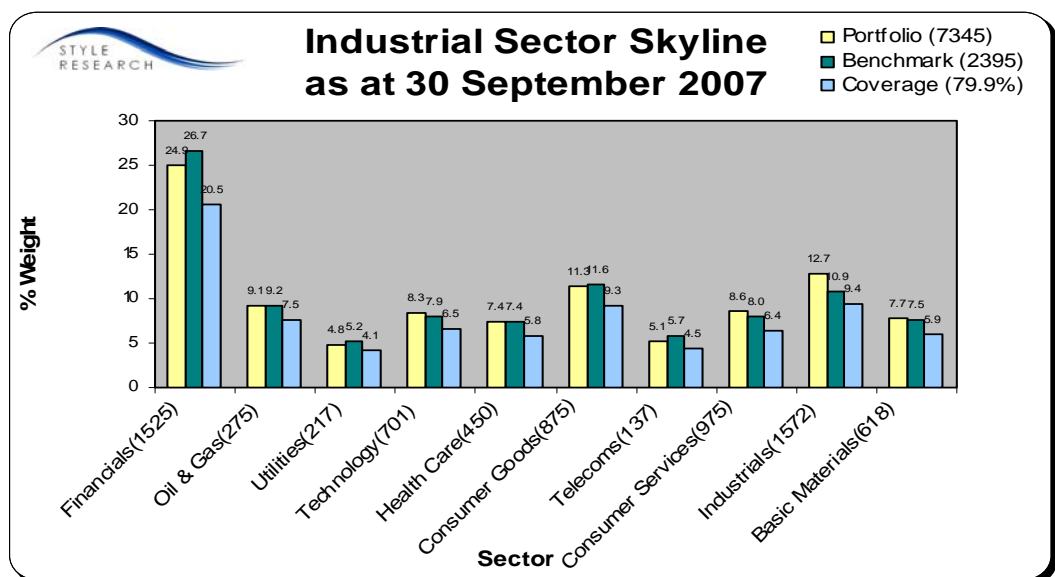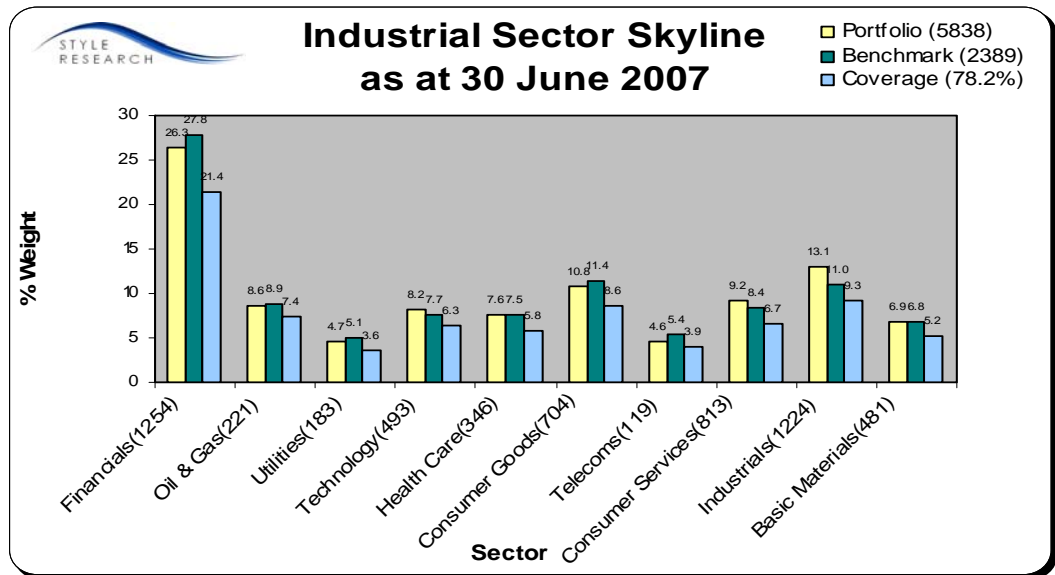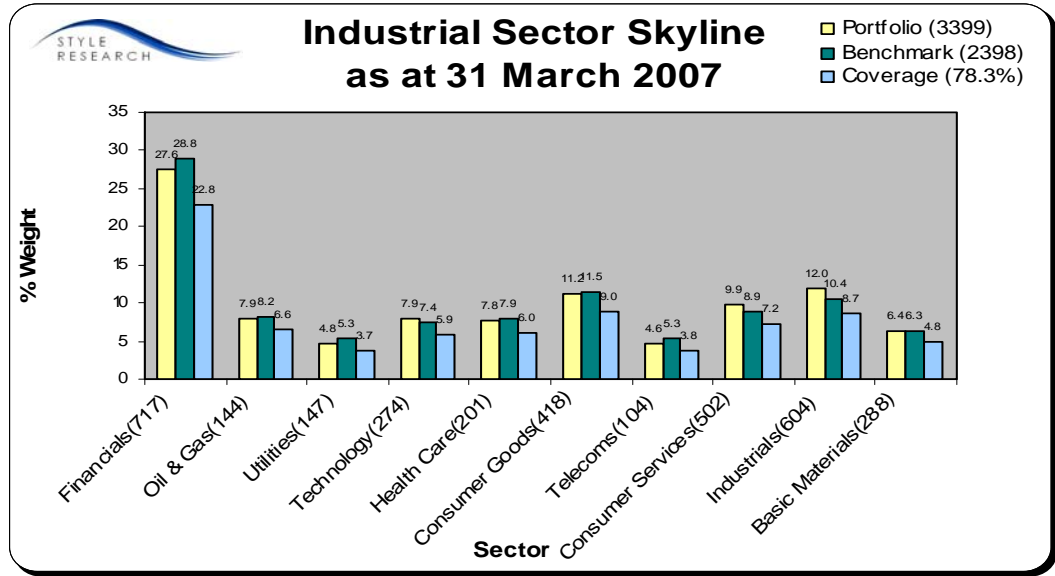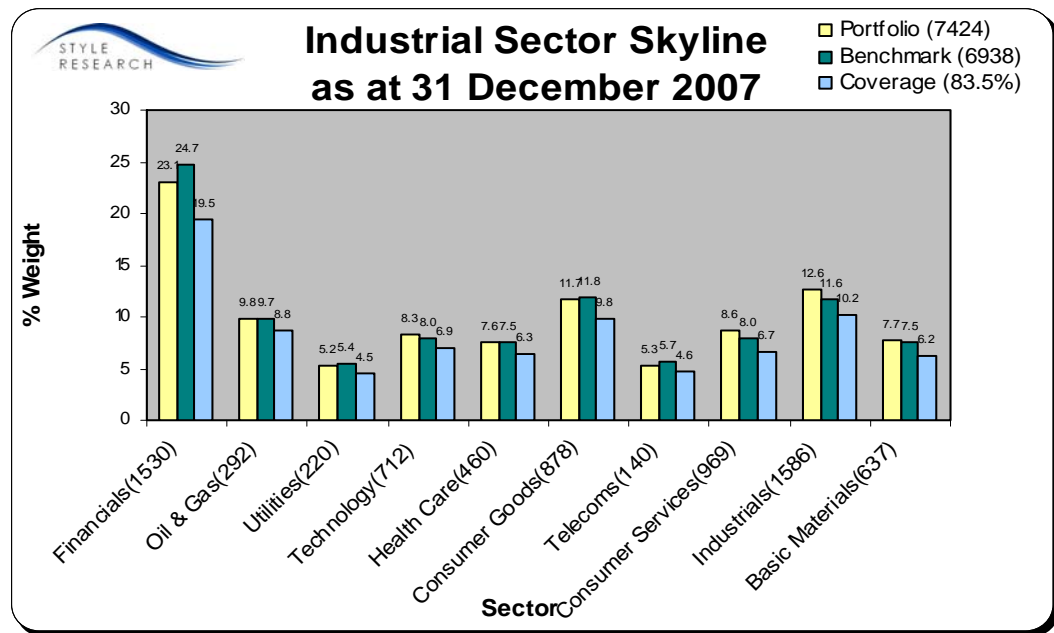
- The number of stocks held within the Equity Segment at the end of each quarter exceeds the number of holdings within the benchmark; this corresponds with Norges Bank's exposure to small cap companies, which were not contained within the benchmark until the fourth quarter of 2007. Small cap companies were introduced to the benchmark for the fourth quarter of 2007; despite this, the number of stocks held in the portfolio continued to exceed the number of holdings in the benchmark as at 31 December 2007. This can be explained by the fact that the investment universe continues to be greater than the benchmark universe as the portfolio is invested in eleven countries that are outside of the benchmark universe.

- Throughout 2007, the industrial sector skyline has remained largely unchanged; furthermore, the charts illustrate that Norges Bank is not taking significant sector positions away from the benchmark in the management of the Equity Segment of the Pension Fund. Relative sector positions are similar to those taken during 2005 and 2006 (as shown in the analysis below).

- As at 31 December 2007, the largest sector weight differences from the benchmark were the Financials (-1.6%) and Industrials (+1.0%) sectors. Underweighting Financials and overweighting Industrials are a continuation of the Equity Segment's position throughout 2007 and are consistent with the positions held throughout 2006.

- Throughout 2006, the Financials sector represented over a quarter of the Equity Segment's benchmark weight; as at 31 December 2007, this sector has reduced to just under a quarter of the benchmark weight as the sub prime crisis affected financial institutions globally.

To demonstrate the development of the sector characteristics of the Equity Segment over the last three years, industrial sector skylines as at 31 December 2005 and 31 December 2006 are shown below.
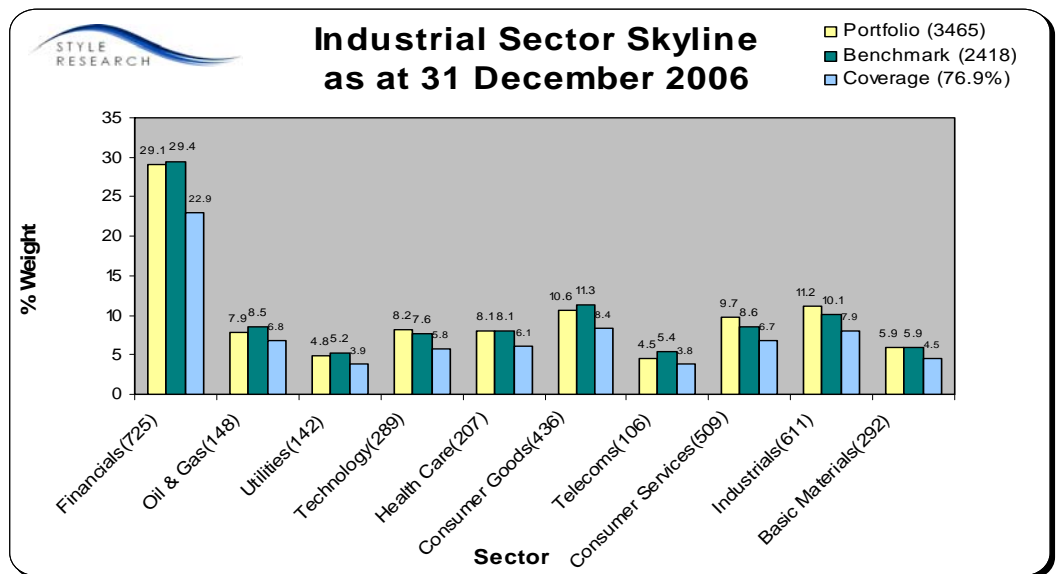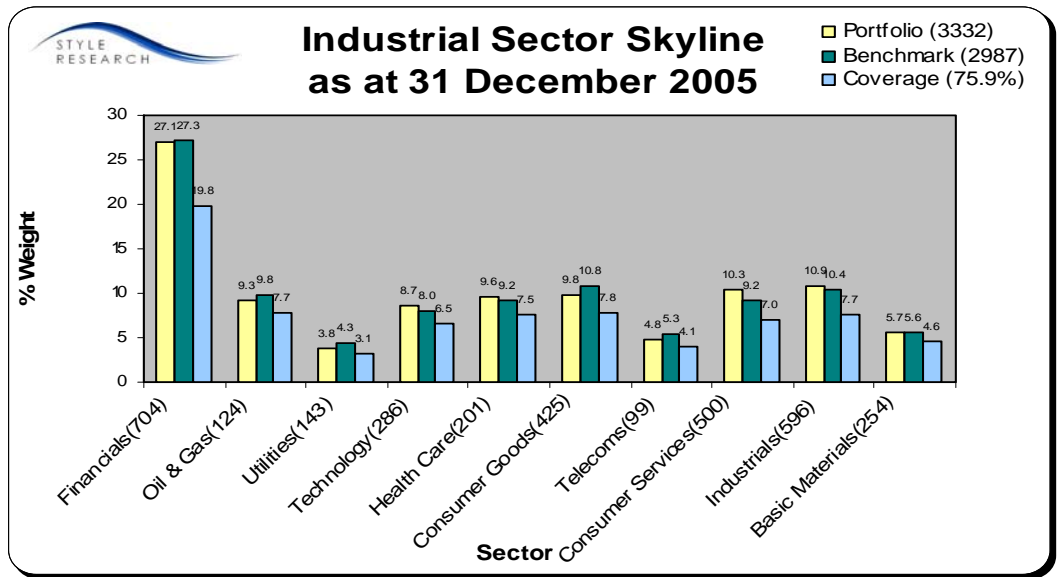
- Consistent with 2007, the number of companies held within the Equity Segment at the end of each quarter over 2005 and 2006 exceeded the number of holdings within the benchmark. This corresponds with Norges Bank's exposure to small cap companies, which were not contained within the benchmark before the fourth quarter of 2007.

- Throughout 2005 and 2006, the industrial sector skyline remained largely unchanged; furthermore, the charts illustrate that Norges Bank did not take significant sector positions away from the benchmark in the management of the Equity Segment of the Pension Fund.

- As at 31 December 2005, the largest active sector positions included the Consumer Services (+1.1%) and the Consumer Goods (-1.0%) sectors. These positions as well as an overweight position in the Industrials sector were the three most persistent active positions throughout 2005. Throughout 2005, the Equity Segment's exposure to the Technology Sector, relative to benchmark, increased steadily.

- As at 31 December 2006, the largest active sector positions included the Consumer Services (+1.1%) and Industrials (+1.1%) sectors. Overweighting Consumer Services is a continuation of the Equity Segment's position during 2005.

- Throughout 2006, the Financials sector represented over a quarter of the Equity Segment's benchmark weight; consistent with 2005, an underweight position in the sector was held over 2006. Furthermore, the overweight position in the Technology was maintained over 2006.

5.4   Market Capitalisation Distribution

- The chart below describes the market capitalisation distribution of the Pension Fund and the benchmark. Smaller cap companies, as defined by SRPA, are the smallest 20% of companies held within the portfolio, as measured by market capitalisation. As at 31 December 2007, in this instance, a company with a market capitalisation of below circa 54bn NOK would be classified as being a small cap company.
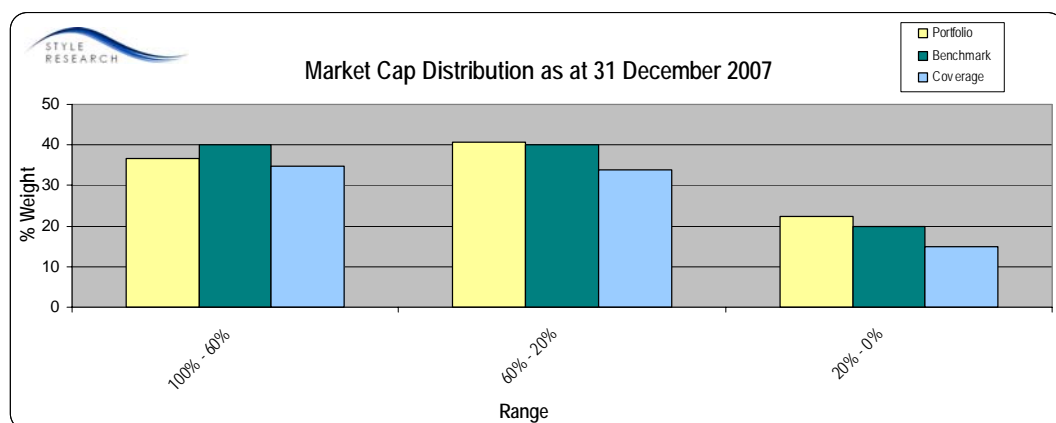
- As at 31 December 2007, the Pension Fund was overweight small cap companies by 2.5%. This small cap bias was observed throughout the year within the Portfolio Skyline analysis; again this bias has decreased due to the introduction of small cap companies to the benchmark in the fourth quarter of 2007.

- A small cap bias has been observed throughout the last three years with an overweight position to small cap companies as at the end of 2005 and 2006 of 5.0% and 7.5% respectively.

- The chart below describes the market capitalisation distribution of the Pension Fund and the benchmark in value and growth terms. Consistent with what has been described above, small cap companies, as defined by SRPA,

are the smallest 20% of companies held within the portfolio, as measured by market capitalisation. Conversely, large cap companies, as defined by SRPA, are the largest 20% of companies held within the portfolio, as measured by market capitalisation.
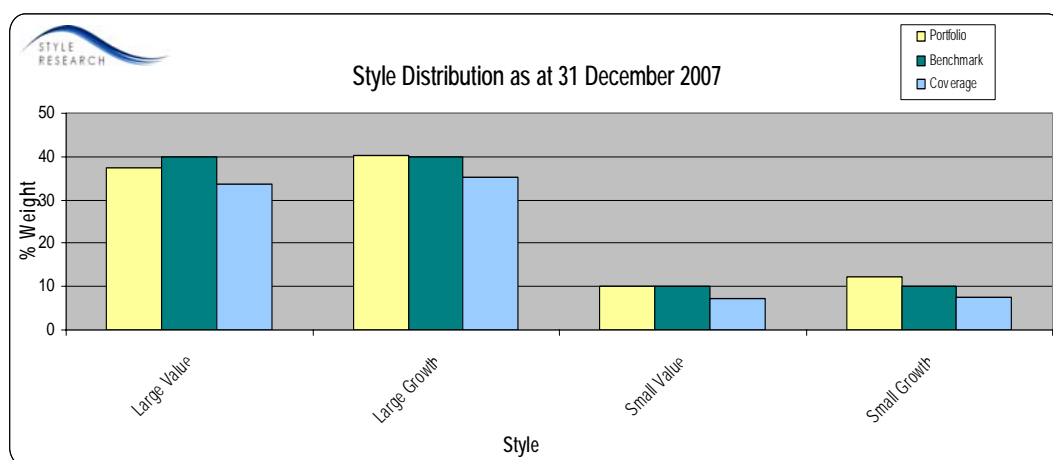
- As at 31 December 2007, the Pension Fund was overweight small cap growth companies, and underweight large cap value companies. The Pension Fund broadly matched the benchmark in respect of large cap growth and small cap value companies. A bias towards small cap growth companies is consistent with the position as at 31 December 2005 and 31 December 2006. The portfolio has continued to be underweight large cap growth companies.

5.5   **The Pension Fund – Equity Risk Profile**

- Portfolio risk can be decomposed into contributions from Stock Selection ("Equity Risk"), Style Tilts, Sector Allocation, Market Allocation and, for multi-currency portfolios Currency Allocation. The Equity Risk Profile chart above decomposes the Tracking Variance (the square of Tracking Error) into these components and expresses them as percentages of the overall Tracking Variance. The actual risk level is dependent on the level of deviation from the benchmark and the correlation between the position the Equity Segment has taken and the benchmark position.

- A brief explanation of the risk terms referred to are as follows:

    – Currency Risk is the risk created by holding assets denominated in different currencies in different proportions to the benchmark.

    – Market Risk is the risk created by investing in different markets, or asset classes, in different proportions to the benchmark.

    – Sector risk is the risk created by taking different industrial sector positions to the benchmark.

    – Style Risk is the risk created by investing in stocks with different style attributes to the benchmark. For example, overweight growth stocks would cause style risk.

    –   Equity Risk is stock specific risk from individual stocks and is the residual risk after assigning risk to the categories described above.

- The first chart below shows the risk in the Equity Segment broken down into different factors or segments as at the end of each quarter of 2007. The second chart shows the contribution to risk as at 31 December 2005, 31 December 2006 and 31 December 2007. Details of the methodology behind the analysis are set in Appendix C.

- The analysis is prepared according to a SRPA risk model for multi-market risk attribution and provides a "snap - shot" breakdown of the different segments of portfolio risk relative to benchmark.
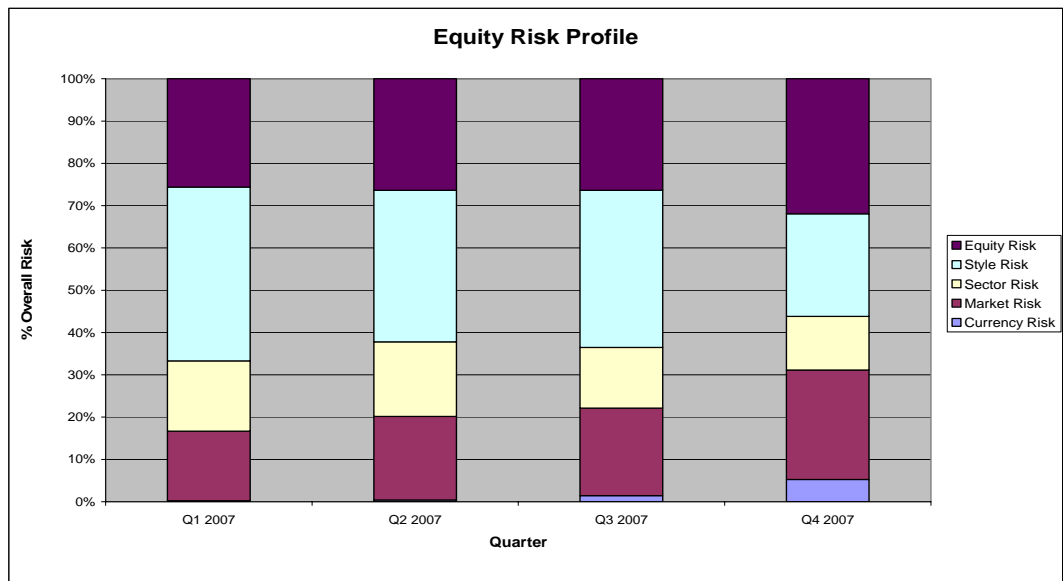
Note : Security holdings are sourced by (c) Copyright 2008 BNY Mellon Asset Servicing. Benchmark data sourced from FTSE; Risk model output sourced from SRPA.
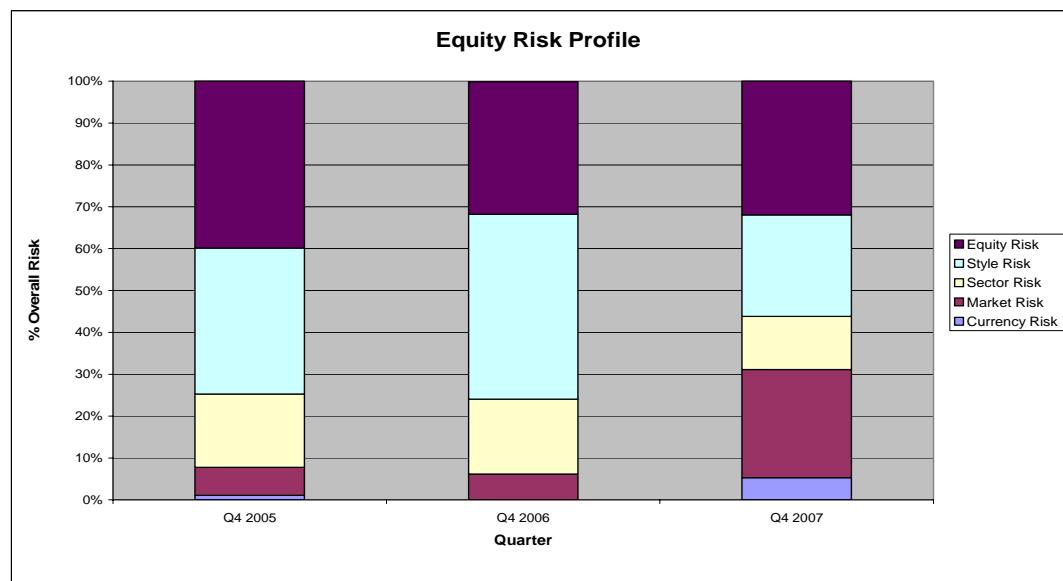
Note : Security holdings are sourced by (c) Copyright 2008 BNY Mellon Asset Servicing. Benchmark data sourced from FTSE; Risk model output sourced from SRPA.

- Over 2004 and 2005, Equity Risk was the largest component of risk of the portfolio. Throughout 2006, Style Risk was the largest component of risk and became more prominent over the course of year at the expense of Sector Risk. This profile remained similar throughout 2007, until the last quarter (when the benchmark changed). At this point Equity Risk became the most prominent.

- Similar to 2004, 2005 and 2006, Currency Risk remains the smallest component of total risk over 2007.

- Throughout 2007, the main contributor to risk (as calculated by SRPA), from a size and style perspective, was a tilt towards small cap growth and away from larger cap value.

- Throughout 2007, the main contributor to risk from a sector perspective (as calculated by SRPA) was the Financials sector.

6

Pension Fund Assets Under Management

The table below shows the market value of the Pension Fund as at the end of every month during 2007.

Month	Market Value (NOK Millions)		
	Equity	**Fixed Income**	**Total Fund**
January	736,724	1,086,815	1,823,539
February	721,107	1,122,999	1,844,105
March	752,580	1,123,529	1,876,109
April	771,648	1,136,784	1,908,433
May	806,943	1,157,213	1,964,156
June	819,392	1,120,036	1,939,427
July	829,277	1,114,882	1,944,160
August	856,025	1,110,525	1,966,550
September	878,076	1,054,266	1,932,342
October	950,628	1,058,471	2,009,099
November	993,140	1,091,624	2,084,764
December	957,818	1,060,609	2,018,427

Data source: Calculations by BNY Mellon Asset Servicing. (c) Copyright 2008 BNY Mellon Asset Servicing

Norwegian Ministry of Finance – Explanation of differences

The majority of differences in market values and performance reported between BNY MAS and Norges Bank can be explained by one or a combination of reasons which include the following (where relevant we also discuss differences in transfer values reported):

▪ Norges Bank discounts income from sell / buy backs and buy / sell backs whilst Citibank uses an accrued income accounting methodology.

▪ Changes in swap prices which occurred after Citibank closed their books.

▪ Citigroup uses their own systems to calculate accrued interest whilst Norges Bank's performance systems use Bloomberg.

▪ Delays in reporting on hedge fund Net Asset Values, thus not correctly reported by JP MorganChase.

▪ Estimated income from securities lending allowed for by Norges Bank but not allowed for by the custodians.

▪ Throughout the year differences in transfer values were observed between those values reported by Norges Bank and those reported by JP Morgan to BNY MAS. This was due to interest rate compensation that JP Morgan includes in transitions, which Norges Bank does not.

▪ The performance methodology employed by BNY MAS makes an assumption that all cash flows occur at month end. The performance methodology employed by Norges Bank does not make this assumption. Therefore, if cash flows occur mid month, this can lead to differences between the performance returns calculation by BNY MAS and Norges Bank.

▪ A decline of liquidity in the Mortgage Backed Securities ("MBS") market, on the back of the credit crisis which began in the latter half of 2007, caused the pricing of MBS securities to become difficult and to not necessarily provide a true representation of their fair market value. This prompted Norges Bank to perform a write down against the Pension Fund's MBS holdings as at the end of December 2007, to what Norges Bank view as fair market value. This write down process did not take place at the custodians and therefore differences existed between BNY MAS's reported December 2007 market values (calculations based on custodian data) and those reported by Norges Bank. To overcome this discrepancy, and to allow BNY MAS's calculations to reflect the fair market value adjustments made by Norges Bank, BNY MAS have sourced the write down values from Norges Bank and applied them to their custodian sourced data for both valuation and performance calculations. The adjustments made by Norges Bank occur after data has been published by the custodians. A summary of the adjustment made by Norges Bank in December 2007, and the corresponding impact on performance, is given below:

   i. The write down adjustment value assumed by Norges Bank for December 2007 was NOK -4,336,670,370.00.

ii. Before Norges Bank's write down adjustment has been taken into account the Fixed Income Segment, as calculated by BNY MAS, returned 0.24% in December 2007 and 3.40% over the year to 31 December 2007 (in currency basket measure terms).

iii. After Norges Bank's write down adjustment has been taken into account the Fixed Income Segment, as calculated by BNY MAS, returned -0.17% in December 2007 and 2.98% over the year to 31 December 2007 (in currency basket measure terms).

iv. At Total Fund level, the write down adjustment in December 2007 had the impact of reducing the Total Fund return from 4.51% to 4.28% over the year to 31 December 2007 (in currency basket measure terms).

Risk Warning

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Mercer gives no representations or warranties as to the accuracy of information provided to us by BNY Mellon Asset Servicing, Norges Bank or any third party, and accepts no responsibility or liability (including for indirect, consequential or incidental damages) for any error, omission or inaccuracy in such information other than in relation to information which Mercer would be expected to have verified based on generally accepted industry practices.

In addition:

- Past performance cannot be relied upon as a guide to future performance.

- The value of stocks, shares, bonds and other fixed income investments, including unit trusts, can go down as well as up and you may not get back the amount you have invested.

- Investments denominated in a foreign currency will fluctuate with the value of the currency.

Appendix A
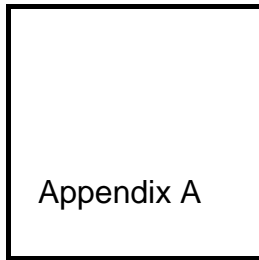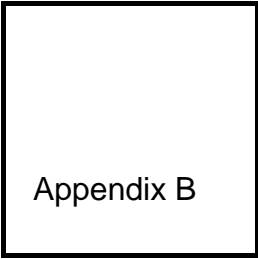
Calculation Methodology

BNY MAS 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.

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 BNY MAS 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.

At the total fund level BNY MAS calculates time-weighted return using market values at the start and end of the month and net injection details.

Appendix B

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 outsources the role of performance verification to BNY MAS, an independent performance measurer appointed by Mercer.

Mercer has, in conjunction with BNY MAS, performed control and verification functions throughout 2007, 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.

BNY MAS' Role and Control Function

BNY MAS' Role

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

BNY MAS 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.

BNY MAS' Control Function

Market value reconciliation check

Having constructed performance data, BNY MAS will check that the total values for the various segments of the fund agree with those values calculated by Norges Bank. BNY MAS 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%, BNY MAS will raise queries with the data providers.

Transfers

When transfers occur at the month end BNY MAS ensure that the transfers into the fund shown in the data agree with those detailed in the letter supplied by Norges Bank. BNY MAS create their own independent verification of the transfer portfolio.

Fund return checks

In addition to the data checks above, BNY MAS carry out sense checks on individual asset class and total returns.

Asset class return check

BNY MAS carry out sense checks on returns for individual asset classes against the relevant index return. If the asset class return is unexpectedly divergent from the index return then BNY MAS will raise a query with the relevant data provider.

Total return check

After constructing data for individual portions of the fund, BNY MAS produces a consolidated data set for the fund as a whole. BNY MAS 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

Pension Fund Benchmark

Fixed Income benchmark

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

BNY MAS 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, BNY MAS will calculate Fixed Income benchmark returns in NOK terms.

On completion of the reconciliation exercise BNY MAS will verify agreement to the Fixed Income benchmark weights and benchmark returns by email notification. If returns and/or weights cannot be agreed then BNY MAS 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, BNY MAS 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 BNY MAS have received customised benchmark indices directly from FTSE.

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

Overall Pension Fund benchmark

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

Using monthly weights and Fixed Income and Equity benchmark returns calculated above, BNY MAS will calculate overall benchmark returns.

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

Environmental Fund Benchmark (prior to 1 December 2004)

From December 2003 onwards BNY MAS 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 Pension Fund and hence since 1 December 2004 this control function ceased to exist.

Combined Total Fund Benchmark

Prior to 1 December 2004, BNY MAS calculate the Combined Fund total return benchmark on a monthly basis by weighting the Pension Fund and Environmental Fund total benchmark returns by their respective start market values. Since then the Total Fund benchmark is the same as the overall Pension Fund benchmark.

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2008

The Norwegian Government Pension Fund - Global – BNY Mellon Asset Servicing role during 2007
Our role in 2007

During 2007, BNY Mellon Asset Servicing "BNY MAS" have provided independent performance measurement in respect of the Norwegian Government Pension Fund – Global.

To perform this task BNY MAS collect data on a monthly basis from three data sources namely: JP Morgan Chase, Citigroup, Lehman Brothers, FTSE and Norges Bank "the data suppliers".

BNY MAS 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.

BNY MAS 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.

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, BNY MAS 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.

At the total fund level BNY MAS calculates time-weighted returns using market values at the start and end of the month and net injection details.

BNY MAS 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 Norwegian Government Pension Fund - Global 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. BNY MAS also independently calculate the fund and benchmark returns in the currency basket.

Performance discrepancies in 2007

Different valuation methodologies between Norges Bank and Citigroup in respect of money market instruments may give rise to differences in market value between BNY MAS and Norges Bank reporting. These in turn may lead to small differences in return between BNY MAS and Norges Bank. These are usually no more than 0.01% to two decimal places. For 2007, Fixed Income returns calculated between BNY MAS and Norges Bank were in line with each other.

Differences in methodologies used by Norges Bank and BNY MAS in the treatment of cashflows can also give rise to differences in returns. For 2007, equity returns calculated by BNY MAS and Norges Bank differed by 0.08%. The majority of this difference can be attributed to the timing of a significant cashflow which occurred during November, along with differences between the transaction amounts in the second half of the year, which mainly stem from how JPMorgan and Norges Bank treat interest compensation.

The different methodologies in the calculation of currency rates between BNY MAS 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 BNY MAS. The small differences are usually no more than 0.01% to two decimal places.

For a number of individual months there were return discrepancies between BNY MAS and Norges Bank (measured in both Norwegian Kroner and the currency basket measure) of greater magnitude than 0.01% for reasons other than those set out above.
Twelve month Total Fund returns for the Norwegian Government Pension Fund - Global differed between BNY MAS and Norges Bank by 0.02% in NOK terms.

Yours sincerely

Charles Ward

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Appendix C

</div>

Style Research Portfolio Analysis Definitions

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.

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.

IBES Earnings Yield

The consensus 1 year forecast annual earnings per share divided by the share price.

Growth Criteria

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.

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 Earnings Long Term Growth – This factor takes the longest available 2 year earnings growth forecast for a stock. For stocks with a 5 year forward consensus forecast the growth rate will be calculated from fiscal year 3 to fiscal year 5.For stocks with a 4 year forward consensus forecast the growth rate will be calculated from fiscal year 2 to fiscal year 4.For stocks with a 3 year forward consensus forecast the growth rate will be calculated from fiscal year 1 to fiscal year 3.If forecasts are not available for fiscal years 3 to 5, then the factor is set to null.

Sustainable Growth – This is defined as follows:
Sustainable Growth Rate = [RoE] * (1 – (DPS/EPS))
RoE = Return on Equity, DPS = Dividend per share, EPS = Earnings per share
This Growth factor aims to provide an insight into the future growth potential of a company. The rationale behind this is that the growth rate one can reasonably expect from a company, assuming it is able to generate a return on equity similar to the recent past, is related to how much of its profits are reinvested back into the company.

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

Momentum ST   Short Term Momentum is calculated using a 6 month "memory" of monthly total returns. The past period returns are weighted using a "decay ratio" of 2/3, per month.This weighted historic return factor measures the degree of performance trend following. It is useful in recognizing trading character of specific markets and in noticing occasional changing patterns through the market cycle.

Momentum MT   **Medium Term Momentum is** is the 12 month total return of the stock.

Historic Relative   The Historic Relative Return is calculated using a 6 month **Return** "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.

IBES 1 Year Earnings Revisions   IBES balance of Earnings forecast revisions for the next annual reporting period. It is calculated as the difference between the upwards revisions minus the downwards revisions (as sampled over the past 3month period), expressed as a percentage of the number of estimates.

Quality Criteria

Return on Equity   Net Income before Preferred Dividends divided by the Book Value of Shareholders' Common Equity.

Return on Equity measures the profitability of the operations of the company as a proportion of the total amount of equity in the company. Since Return on Equity 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, Return on Equity is a very usual measure of a company's growth potential.

Low Gearing   The negative of Debt to Equity. Low geared companies can regarded as being of higher 'Quality' as they are less burdened by debt repayment costs.

Earnings Growth Stability   This 'Quality' factor is calculated as the negative of the standard deviation of Earnings Growth over the most recent 3 years of growth data.

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 segments 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.

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:

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

The covariance between r_i and r_j is:

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

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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