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Norwegian Government Pension Fund - Global Annual Performance Evaluation Report – 2008

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Norwegian Ministry of Finance

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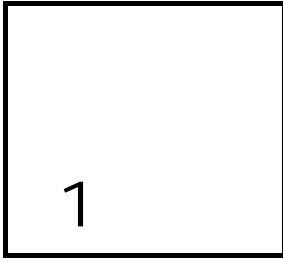
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The Role of Mercer and BNY Mellon Asset Servicing

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 a contract awarded by the Ministry to Mercer Limited (“Mercer”). The terms of reference for this work are set out in the Invitation to Tender issued by the Ministry on 11 February 2008.

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.

2

Summary of Control Function

2.1 Scope of Control Function

- Mercer has, in conjunction with BNY MAS, performed control and verification functions throughout 2008, 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 2008

- During the course of 2008 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 2008 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's calculations, when measured to two decimal places (e.g. a 0.01% difference in absolute terms), further checks are made, the results of which are reported to the Ministry by means of a report 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.

3

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 (Barclays Capital Global Aggregate indices from 20 September 2008). 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 forty-six countries. This has increased due to the addition of emerging markets to the portfolio. 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.
- In the third quarter of 2008, the composition of the equity benchmark was extended further to include companies from emerging market countries.

- 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 2008, 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 2008. Section 4.3 considers longer term performance for the Pension Fund.

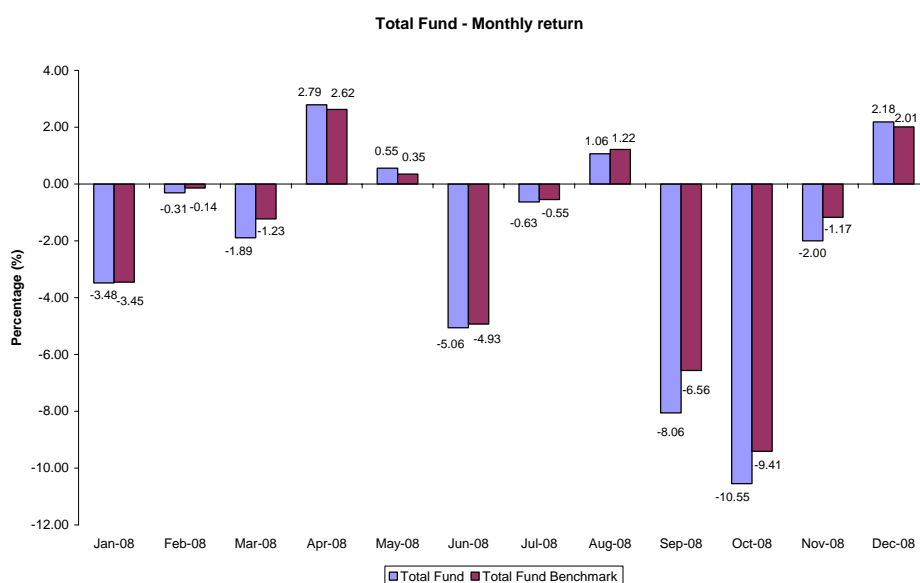
Norges Bank and BNY MAS both independently calculate performance returns in NOK initially and then convert them to 'currency basket terms' using currency weights at the beginning of each month and the returns of each currency relative to NOK over that month. The return in 'currency basket terms' provides the return to the Pension Fund as if the Pension Fund were a local investor for each asset held, effectively stripping out the impact of foreign currency fluctuations on NOK returns. The currency returns for the Equity and Fixed Income Segments and the Total Fund are calculated based on the relative weights of each asset and the return for each asset. To change these returns to 'currency terms', the component of the return that is due to currency fluctuations is removed leaving the actual asset return in local currency terms.

Discrepancies between the currency basket returns reported by BNY MAS and Norges Bank may occur due to the following reasons; BNY MAS rebalances the currency basket at each month end, whereas Norges Bank rebalances mid-month, the returns used for each currency may differ and the relative currency weights (for the Equity and Fixed Income Segments) and the asset weights (for the Total Fund) may differ. These differences may cause discrepancies of usually no more than 0.01% to two decimal places. Due to volatile currency fluctuations over the second half of 2008, the magnitude of discrepancies exceeded those expected in more usual market conditions.

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 calculated by BNY MAS and Norges Bank in the range of 0.10% to 1.00%.

4.1 Pension Fund Returns (Currency Basket)

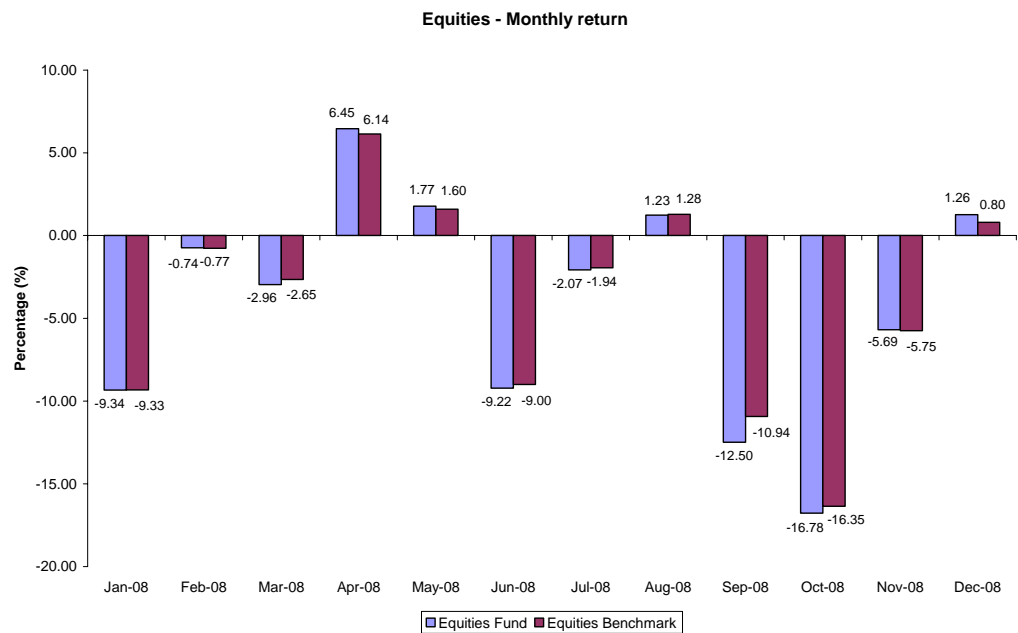
4.1.1 Pension Fund – Total Returns (Currency Basket)



Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2009 BNY Mellon Asset Servicing.

- Over the twelve month period to 31 December 2008, the Pension Fund produced a cumulative return of -23.39%, below the benchmark return of -19.93% by 3.46%. Norges Bank have calculated the twelve month Pension Fund return to be -23.30%. The 0.09% difference between the cumulative twelve month return calculated by BNY MAS and that calculated by Norges Bank is mainly attributed to the transfer of bonds from JPMorgan Chase to Citigroup in October and November. JPMorgan Chase reported these transfers using historic exchange rates to value the bonds, while Citigroup used current exchange rates. The difference between BNY MAS and Norges Bank can also be attributed to the timing of significant cashflows, which occurred during June and September, and the difference between how Norges Bank and BNY MAS allowed for these cashflows within their respective performance calculations. In addition, Please refer to Section 6 of this report for an explanation of the returns deviations between BNY MAS and Norges Bank experienced during March, April, June, July, August, September, October, November and December.
- Over the twelve month period to 31 December 2008, both BNY MAS and Norges Bank reported a twelve month benchmark return of -19.93%.
- Total Fund performance outperformed the benchmark in April, May and December by 0.16%, 0.21% and 0.18% respectively. In all other months, the Pension Fund underperformed the benchmark. The months where underperformance was greatest were September and October where the Pension Fund underperformed the benchmark return of -6.56% and -9.41% by 1.50% and 1.13% respectively.

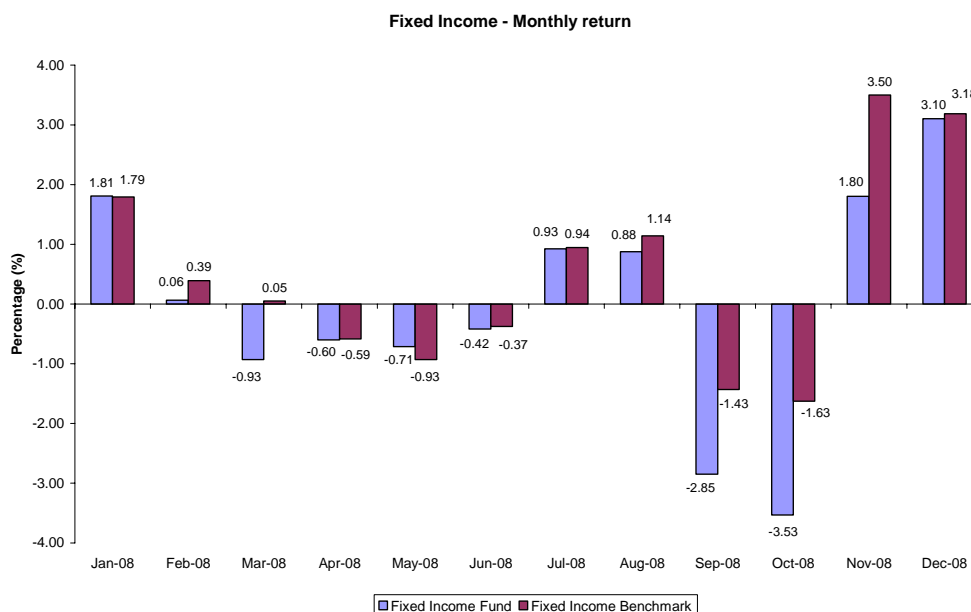
4.1.2 Pension Fund - Equity Returns (Currency Basket)



Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2009 BNY Mellon Asset Servicing.

- Over the twelve month period to 31 December 2008, the Equity Segment of the Pension Fund produced a cumulative return of -40.79%, below the benchmark return of -39.59% by 1.20%. Norges Bank have calculated a twelve month Pension Fund return for the Equity Segment to be -40.70%. The 0.09% difference between the cumulative twelve month return calculated by BNY MAS and that calculated by Norges Bank is mainly attributed to the timing of significant cashflows, which occurred during June and September, and the difference between how Norges Bank and BNY MAS allowed for these cashflows 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, April, May, June, September, November and December.
- Over the twelve month period to 31 December 2008, BNY MAS reported a twelve month benchmark return of -39.59% whereas Norges Bank has reported -39.56%. This difference is mainly attributed to timing of rebalancing within the benchmark and the differences between how Norges Bank and BNY MAS allowed for this rebalancing within their respective calculations.
- On a month-by-month basis, the performance of the Pension Fund's Equity Segment underperformed the benchmark in most months, with the exception of February, April, May, November and December, where performance exceeded the benchmark. Outperformance was greatest during April and December where the Equity Segment outperformed the benchmarks of 6.14% and 0.80% by 0.32% and 0.47% respectively. The greatest underperformance occurred in September where the Pension Fund underperformed the benchmark return of -10.94% by 1.56%.

4.1.3 Pension Fund - Fixed Income Returns (Currency Basket)

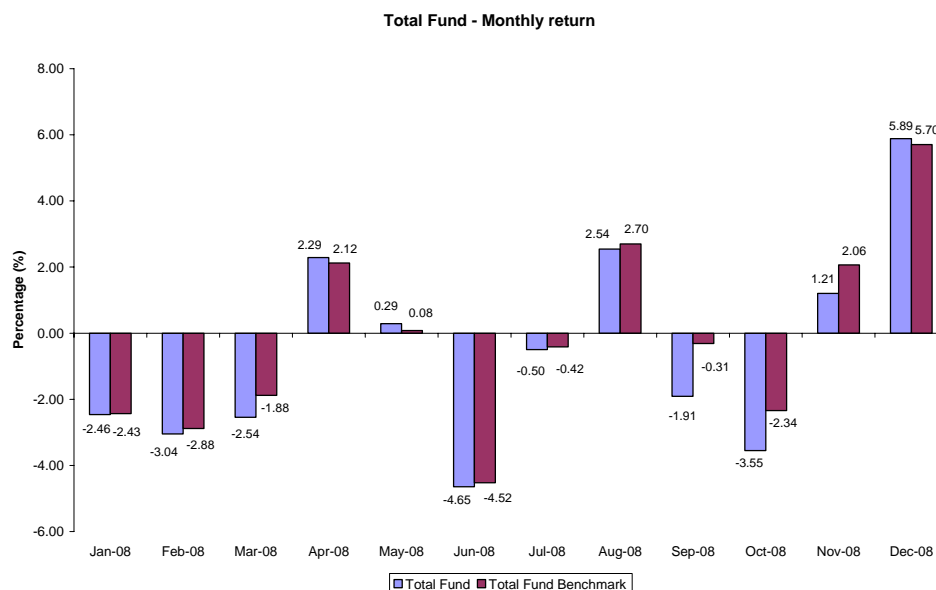


Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2009 BNY Mellon Asset Servicing.

- Over the twelve month period to 31 December 2008, the Fixed Income Segment of the Pension Fund produced a cumulative return of -0.67%, below the benchmark return of 6.07% by 6.73%. Norges Bank have calculated the twelve month Pension Fund return for the Fixed Income Segment to be -0.52%. The 0.14% difference between the cumulative twelve month return calculated by BNY MAS and that calculated by Norges Bank is mainly attributed to the transfer of bonds from JPMorgan Chase to Citigroup in October and November. JPMorgan Chase reported these transfers using historic exchange rates to value the bonds, while Citigroup used current exchange rates. The difference between BNY MAS and Norges Bank can also be attributed to the fact that Norges Bank and the custodians recorded different cashflows in July and August as a result of book keeping errors at the custodians. These errors have subsequently been corrected. 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, July, August, October, November and December.
- Over the twelve month period to 31 December 2008, BNY MAS reported a benchmark return of 6.07% whereas Norges Bank has reported a benchmark return of 6.08%. This 0.01% difference is within the tolerance stated in section 2.
- On a month-by-month basis, the Pension Fund's Fixed Income Segment exceeded the benchmark in two of the twelve month periods. The greatest outperformance occurred in May where the Fixed Income Segment outperformed the benchmark return of -0.93% by 0.22%. Underperformance was greatest in September, October and November where the Fixed Income Segment underperformed the benchmark returns of -1.43%, -1.63% and 3.50% by 1.42%, 1.91% and 1.70% respectively.

4.2 Pension Fund Returns (Norwegian Kroner)

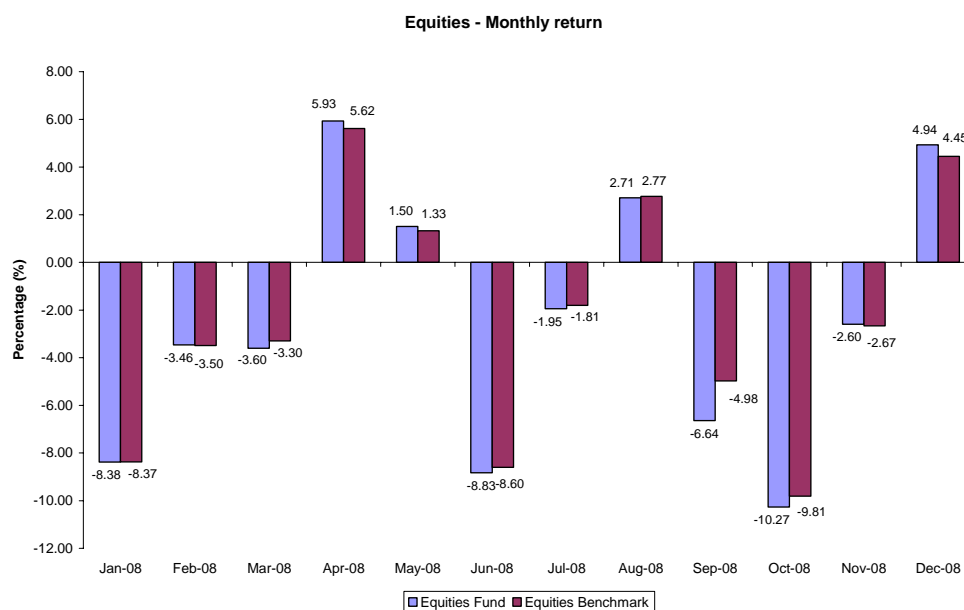
4.2.1 Pension Fund - Total Returns (Norwegian Kroner)



Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2009 BNY Mellon Asset Servicing.

- Over the twelve month period to 31 December 2008, the Pension Fund produced a cumulative return of -6.74%, underperforming the benchmark return of -2.53% by 4.20%. Norges Bank have calculated a twelve month Pension Fund return of -6.66%. The 0.07% difference between the cumulative twelve month return calculated by BNY MAS and that calculated by Norges Bank is mainly attributed to the transfer of bonds from JPMorgan Chase to Citigroup in October and November. JPMorgan Chase reported these transfers using historic exchange rates to value the bonds, while Citigroup used current exchange rates. The difference between BNY MAS and Norges Bank can also be attributed to the timing of significant cashflows, which occurred during June and September, and the difference between how Norges Bank and BNY MAS allowed for these cashflows 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, April, June, July, August, September, October, November and December.
- Over the twelve month period to 31 December 2008, BNY MAS reported a benchmark return of -2.53% whereas Norges Bank has reported -2.56%. This 0.03% difference is mainly attributed to timing of rebalancing within the benchmark and the differences between how Norges Bank and BNY MAS allowed for this rebalancing within their respective calculations.
- Total Fund performance underperformed the benchmark in most months with the exception of April, May, and December where performance was ahead of the benchmark returns of 2.12%, 0.08% and 5.70% by 0.16%, 0.21% and 0.18% respectively. Underperformance was greatest in September and October where performance was below the benchmark returns of -0.31% and -2.34% by 1.60% and 1.21% respectively.

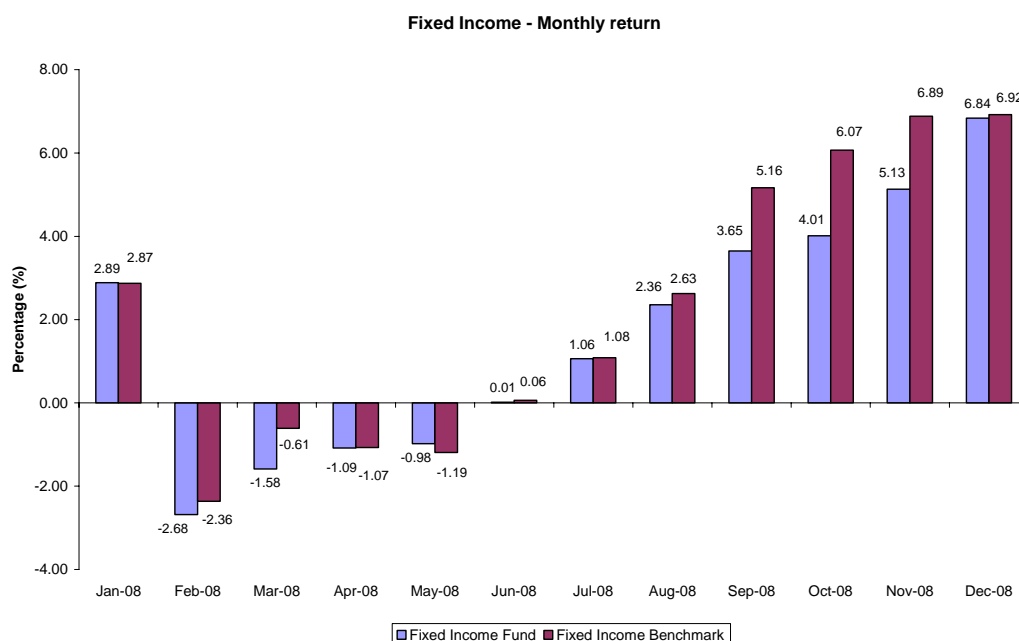
4.2.2 Pension Fund - Equity Returns (Norwegian Kroner)



Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2009 BNY Mellon Asset Servicing.

- Over the twelve month period to 31 December 2008, the Equity Segment of the Pension Fund provided a cumulative return of -27.92%, underperforming the benchmark return of -26.46% by 1.46%. Norges Bank have calculated the twelve month return for the Pension Fund Equity Segment to be -27.84%. The 0.08% difference between the cumulative twelve month return calculated by BNY MAS and that calculated by Norges Bank is mainly attributed to the timing of significant cashflows, which occurred during June and September, and the difference between how Norges Bank and BNY MAS allowed for these cashflows 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 February, April, May, June and September, October, November, and December.
- Over the twelve month period to 31 December 2008, BNY MAS reported a twelve month benchmark return of -26.46% whereas Norges Bank has reported -26.45%. This 0.01% difference is within the tolerance stated in section 2.
- On a month-by-month basis, the performance of the Pension Fund's Equity Segment exceeded the benchmark in five of the twelve months, February, April, May, November and December with returns ahead of benchmark by 0.03%, 0.32%, 0.18%, 0.07% and 0.49% respectively. The greatest underperformance was in the month of September where the Equity Segment underperformed the benchmark return of -4.98% by 1.66%. Other months of notable underperformance occurred in March, June, July and October where underperformance was below the benchmark by 0.31%, 0.23%, 0.14% and 0.46% respectively.

4.2.3 Pension Fund - Fixed Income Returns (Norwegian Kroner)



Data source: Returns calculated by BNY Mellon Asset Servicing (c) Copyright 2009 BNY Mellon Asset Servicing.

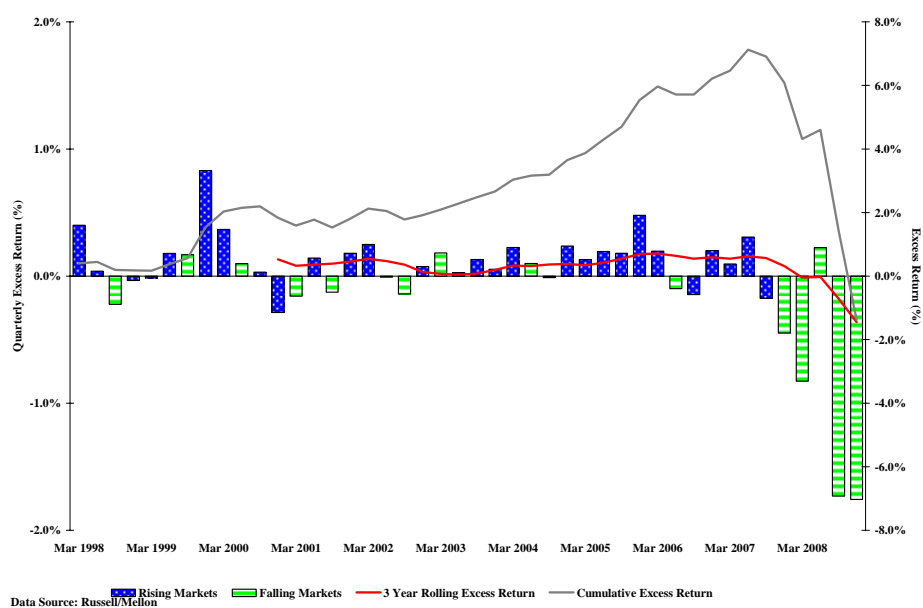
- Over the twelve month period to 31 December 2008, the Fixed Income Segment of the Pension Fund produced a cumulative return of 20.92%, underperforming the benchmark return of 29.12% by 8.20%. Norges Bank have calculated the Fixed Income Return as 21.05%, a difference of 0.13%. The difference between the cumulative twelve month return calculated by BNY MAS and that calculated by Norges Bank is mainly attributed to the transfer of bonds from JPMorgan Chase to Citigroup in October and November. JPMorgan Chase reported these transfers using historic exchange rates to value the bonds, while Citigroup used current exchange rates. The difference between BNY MAS and Norges Bank can also be attributed to the fact that Norges Bank and the custodians recorded different cashflows in July and August as a result of book keeping errors at the custodians. These errors have subsequently been corrected. Please refer to Section 6 of this report for an explanation of the return deviations experienced during February, March, July, August, September, October, November and December.
- BNY MAS reported a benchmark return of 29.12% whereas Norges Bank has reported 29.08%. This 0.04% difference is mainly attributed to timing of rebalancing within the benchmark and the differences between how Norges Bank and BNY MAS allowed for this rebalancing within their respective calculations.
- On a month-by-month basis, the Pension Fund's Fixed Income Segment underperformed the benchmark in all but two of the twelve months with marginal outperformance in the months of January and May of 0.02% and 0.22%. Underperformance was greatest in the month of October where the Fixed Income Segment underperformed the benchmark of 6.07% by 2.05%. Other months where underperformance was notable were September and November with underperformance in the respective months of 1.51 % and 1.75%.

4.3 Pension Fund (Currency Basket) Longer term performance

The following charts show quarterly performance relative to benchmark for the eleven year period ending 31 December 2008 for the Pension Fund and the Fixed Income Segment, and the ten and three quarter year period ending 31 December 2008 for the Equity Segment. In addition, the charts illustrate the three-year rolling and cumulative excess returns over the period ending 31 December 2008. 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.

4.3.1 Pension Fund – Total Returns (Currency Basket)



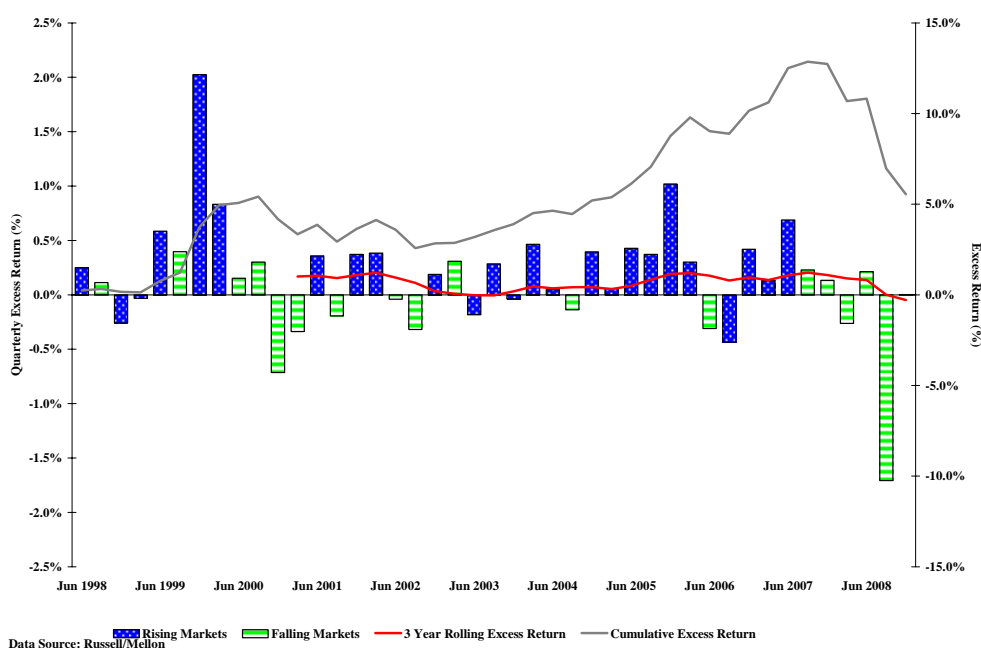
Source: Mercer MPA, Norges Bank and (c) Copyright 2009 BNY Mellon Asset Servicing.

- The Pension Fund has outperformed its benchmark on a quarterly basis in twenty eight of the forty four quarters under review.
- Long term relative performance became negative in 2008, primarily as a result of the significant decrease in latter half of the year. The three year rolling annualised excess return became negative for the first time in September 2008. Rolling three-year annualised excess performance had a value of -1.4% p.a. as at 31 December 2008, in agreement with Norges Bank's calculations. The cumulative excess return became negative for the first time in December 2008. The cumulative excess return over the eleven years ending 31 December 2008 also stood at -1.4%; the annualised cumulative excess return over the period was -0.1% p.a. Norges Bank calculated the

cumulative excess return over eleven years ending 31 December 2008 to be -1.2% and the annualised cumulative excess return over the period to be 0.0% p.a.

- It is notable that during periods of rising markets, the portfolio has had a tendency to outperform and that in falling markets, the portfolio has a tendency to underperform. This is based on observations and not statistical analysis.

4.3.2 Pension Fund - Equity Returns (Currency Basket)

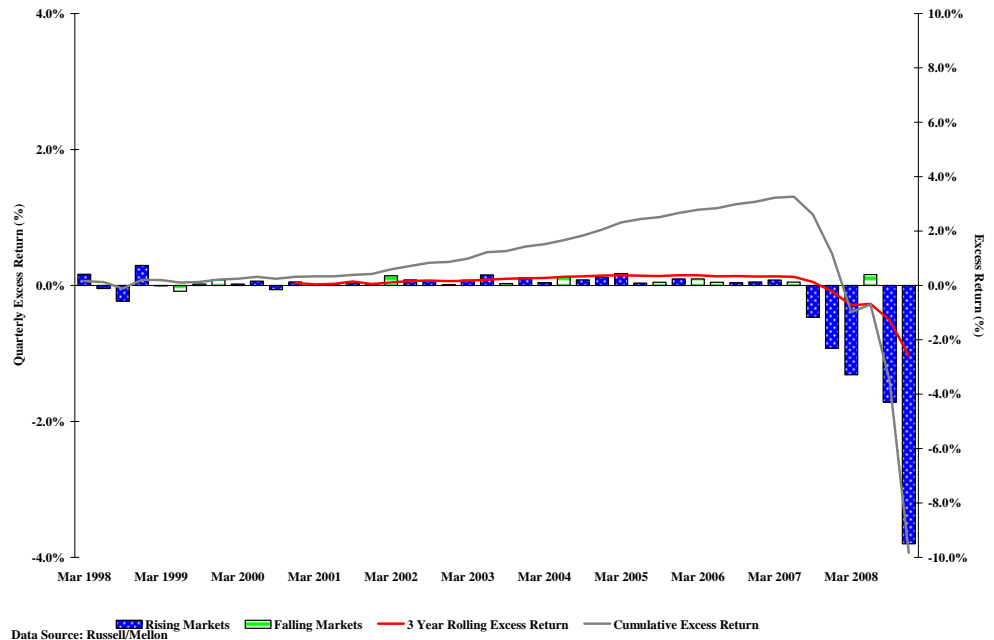


Source: Mercer MPA, Norges Bank and (c) Copyright 2009 BNY Mellon Asset Servicing.

- The Equity Segment has outperformed its benchmark in twenty nine out of the forty three quarters, underperforming in the remainder.
- Rolling three-year excess performance was strong in the periods to 2001 and the first part of 2002. Performance dipped to a low point in mid 2003 before recovering in later quarters. Rolling three-year annualised excess performance has now become negative, primarily as a result of underperformance in September 2008, with a value of -0.3% p.a. as at 31 December 2008. This is in agreement with Norges Bank's calculations.
- The cumulative excess return for the period since inception, 1 February 1998, to 31 December 2008 is positive at 5.5%; however it has seen a sharp decline since 31 December 2007 where the cumulative excess was 12.7%. The annualised cumulative excess return over the period was 0.5% p.a. Norges Bank calculated the cumulative excess return over the period since inception to be 5.8% and the annualised cumulative excess return over the period to be 0.5% p.a.

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

4.3.3 Pension Fund - Fixed Income Returns (Currency Basket)



Source: Mercer MPA, Norges Bank and (c) Copyright 2009 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. The fund then had marginal outperformance in the quarter to June 2008 with significant underperformance in the remaining quarters. The most significant underperformance was in the fourth quarter of 2008 with the quarterly excess return 3.8% below benchmark.
- Rolling three-year excess returns have been consistently positive up to 30 June 2007, however, as a result of underperformance since the second half of 2007, rolling three-year annualised excess returns have fallen into negative territory with a value of -2.6% p.a. as at the 31 December 2008. Norges Bank calculated the rolling three-year annualised excess returns to be -2.5% p.a.
- The cumulative excess return has become negative, with a value of -9.8% over the eleven year period to 31 December 2008. Cumulative performance has risen steadily over the nine and a half year period to 30 June 2007, but has fallen back sharply following the significant underperformance in recent quarters. The annualised cumulative excess return over the period was -0.6% p.a. Norges Bank calculated the cumulative excess return over the period since inception to be -9.2% and the annualised cumulative excess return over the period to be -0.5% p.a.

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 2008.
- 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 2008, 30 June 2008, 30 September 2008 and 31 December 2008. In addition, the style characteristics as at 31 December 2006 and 31 December 2007 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 greater 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.

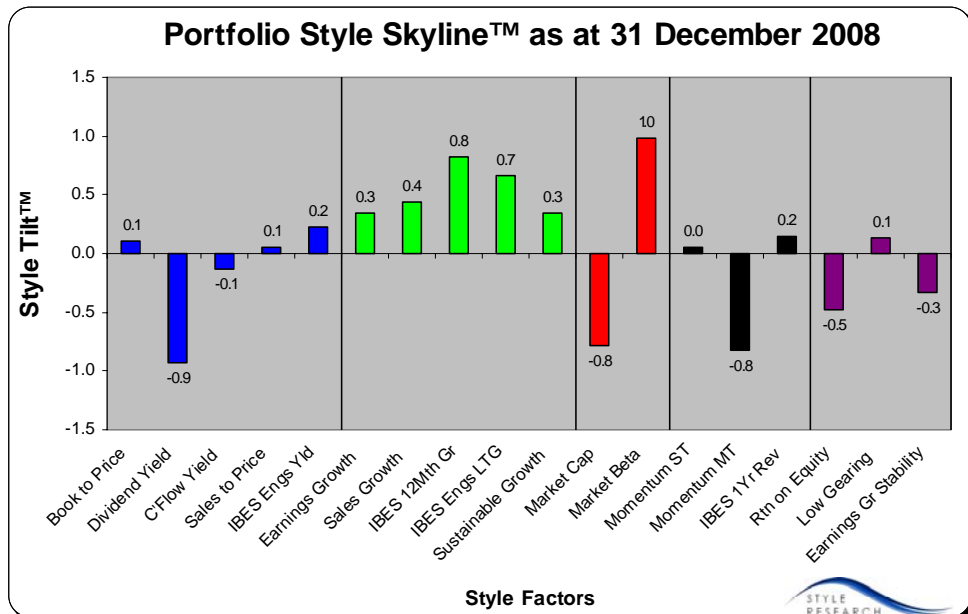
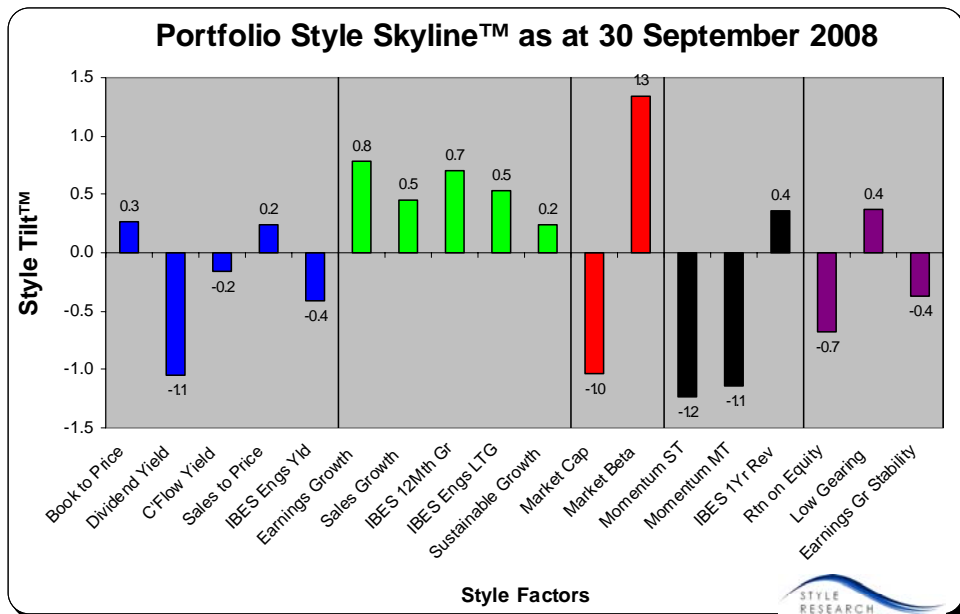
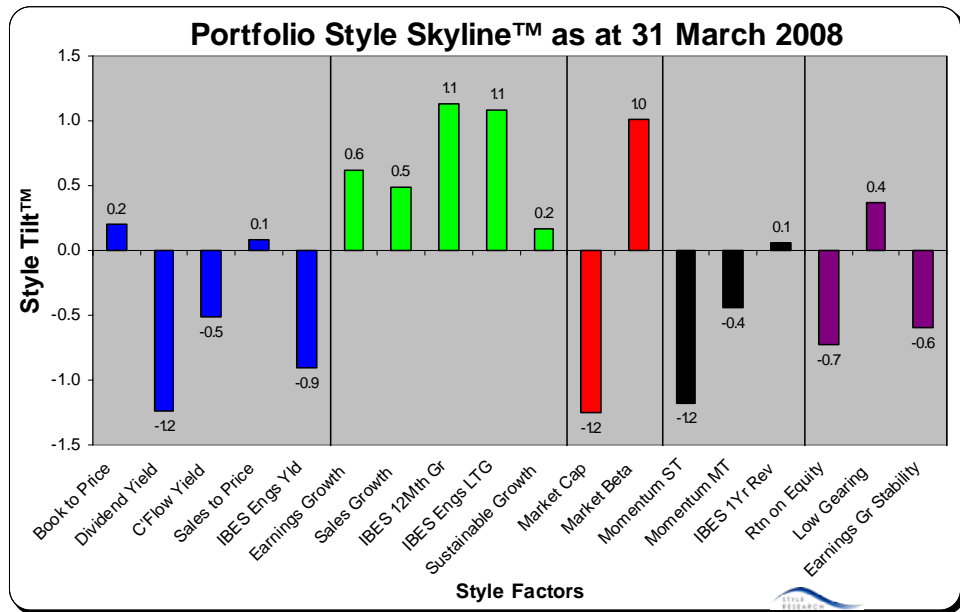
- The term “coverage” referred to in the charts contained within Section 5.3 is a measure of the Equity Segment’s exposure to the indices against which it is benchmarked. The output shown in Section 5.3 indicates a coverage level of circa 80% indicating that the Equity Segment has an overlap of circa 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 2008, 30 June 2008, 30 September 2008 and 31 December 2008 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 2006 and 31 December 2007 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 sources:

- Security holdings have been sourced from BNY Mellon Asset Servicing © Copyright 2009.
- 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.

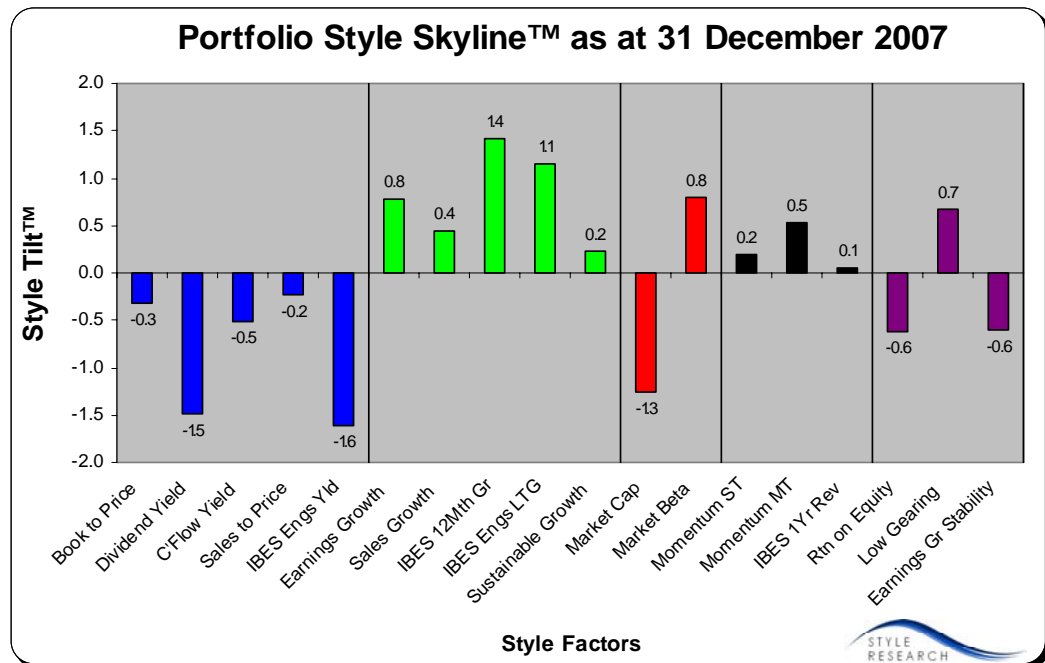
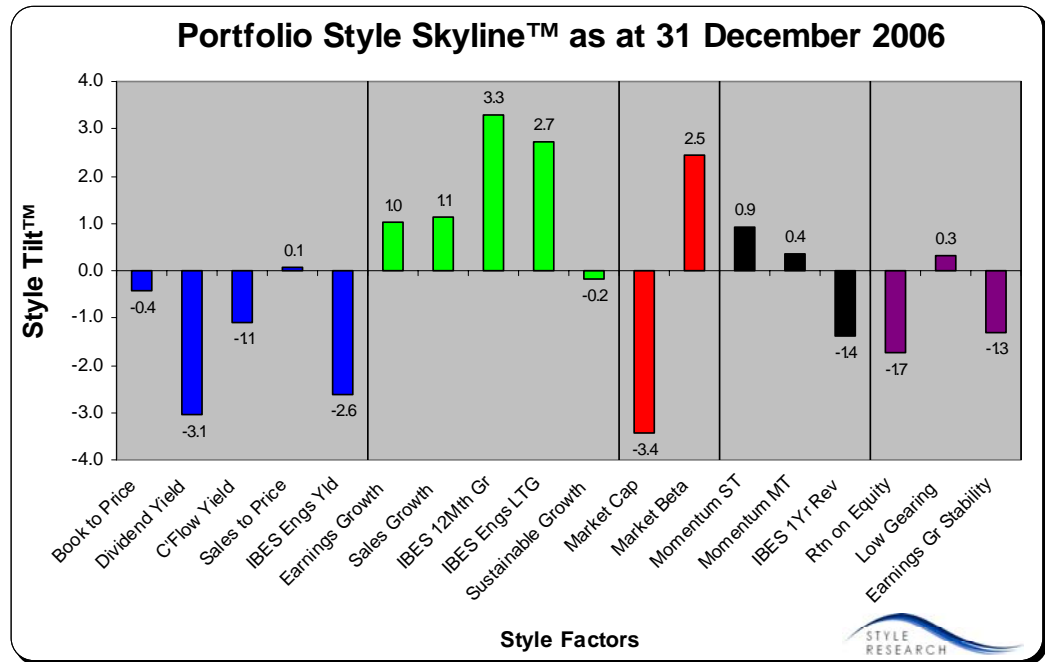
5.2 The Portfolio Style Skyline

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 2008 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.



- Continuing the trend observed in 2007, the Equity Segment's tilt away from value stocks and towards growth stocks became less pronounced over 2008.
- 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.
- At the end of March 2008, the portfolio displayed a bias towards the growth factors IBES 12 Month Growth and IBES Earnings Long Term Growth, as at the end of June 2008 the portfolio was biased towards IBES Earnings Long Term Growth. As at both 30 September 2008 and 31 December 2008, the portfolio did not display a significant tilt towards any growth indicator, although all were positive implying an overall tilt to growth stocks.
- The Equity Segment displayed significant tilts away from Dividend Yield and IBES Earnings Yield as at the end of March and June 2008 respectively. As at the end of September 2008 the portfolio was biased away from Dividend Yield and overall broadly neutral to value stocks. The portfolio displayed no significant value factors as at 31 December 2008.
- 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 has remained consistent throughout 2008 to 30 September 2008 however this factor was no longer significant as at 31 December 2008.
- The consistent and positive 'Market Beta' indicator shows that the Equity Segment has on average been biased towards stocks with a beta higher than the benchmark mean. Market Beta can be characterised as sensitivity to movement in the total market. The extent of this bias has remained consistent throughout 2008 to 31 December 2008.
- The Short Term Momentum factor was significantly negative as at 31 March 2008; both the Short and Medium Term Momentum factors were significantly negative at the 30 September 2008. This reflects underperformance of the Equity Segment over the year.
- 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.

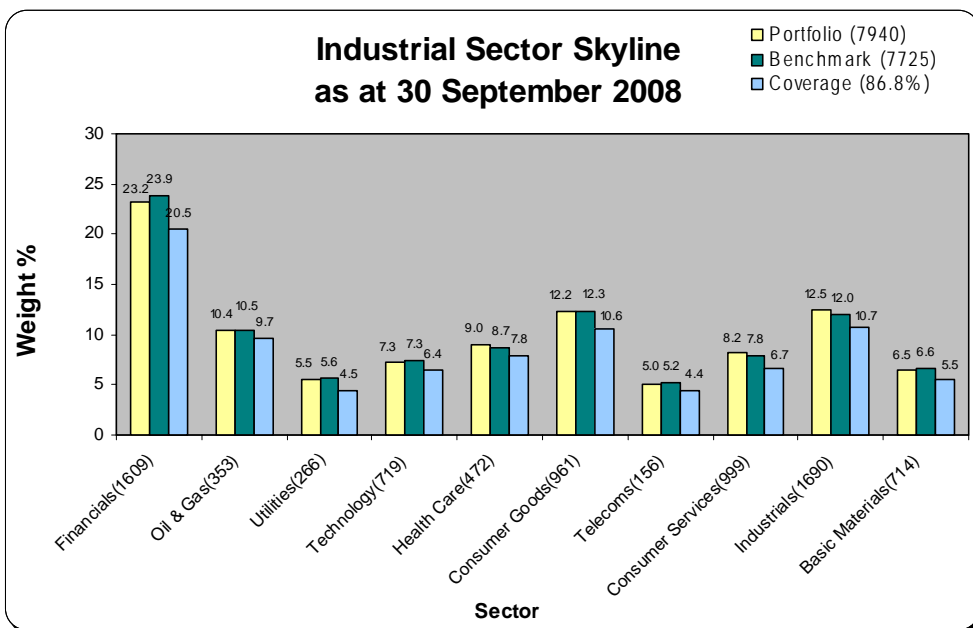
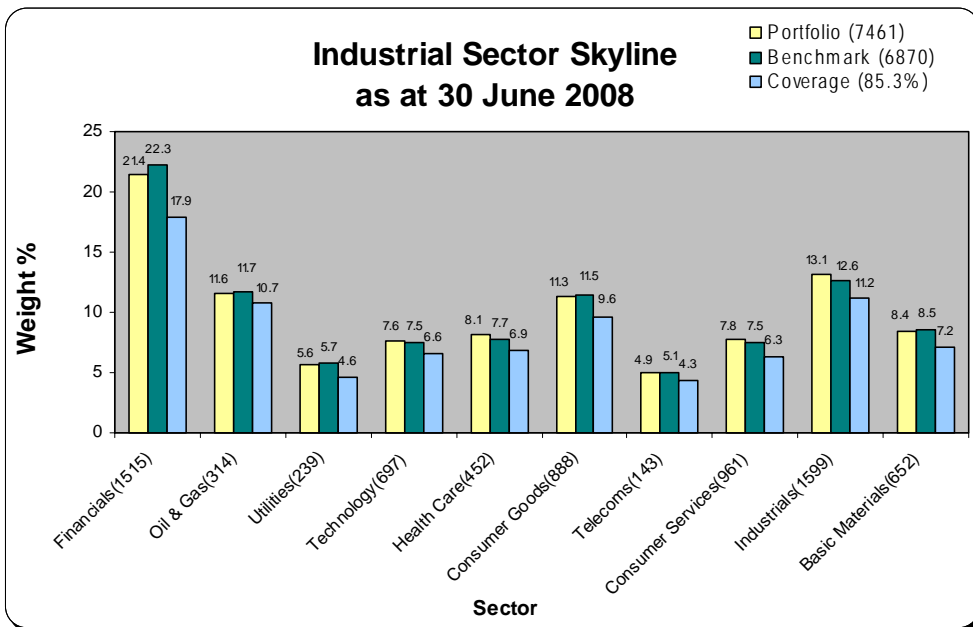
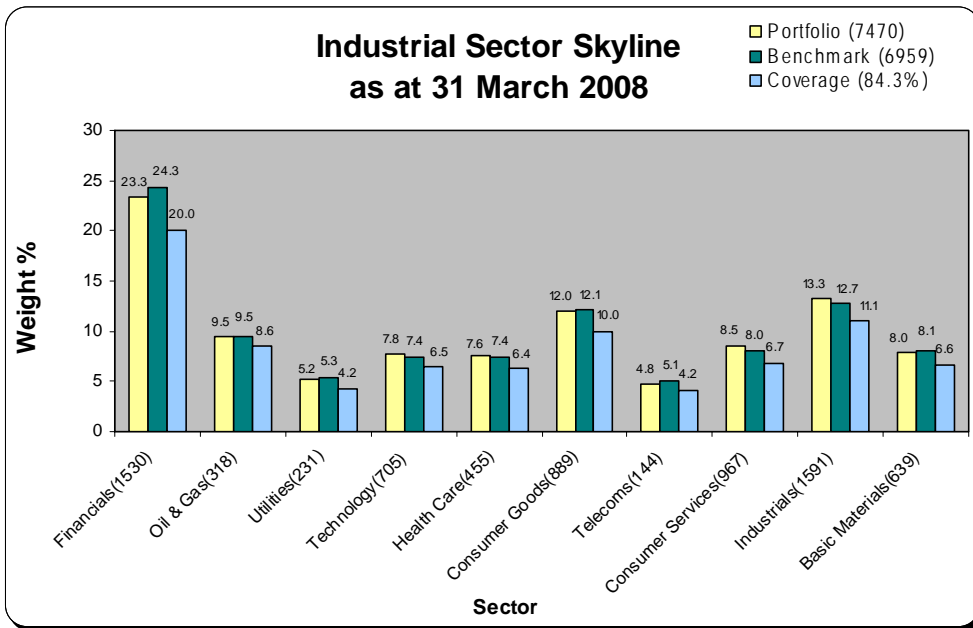
To demonstrate the development of the Equity Segment’s style and risk characteristics over the last three years, the portfolio style skylines as at 31 December 2006 and 31 December 2007 are shown below.

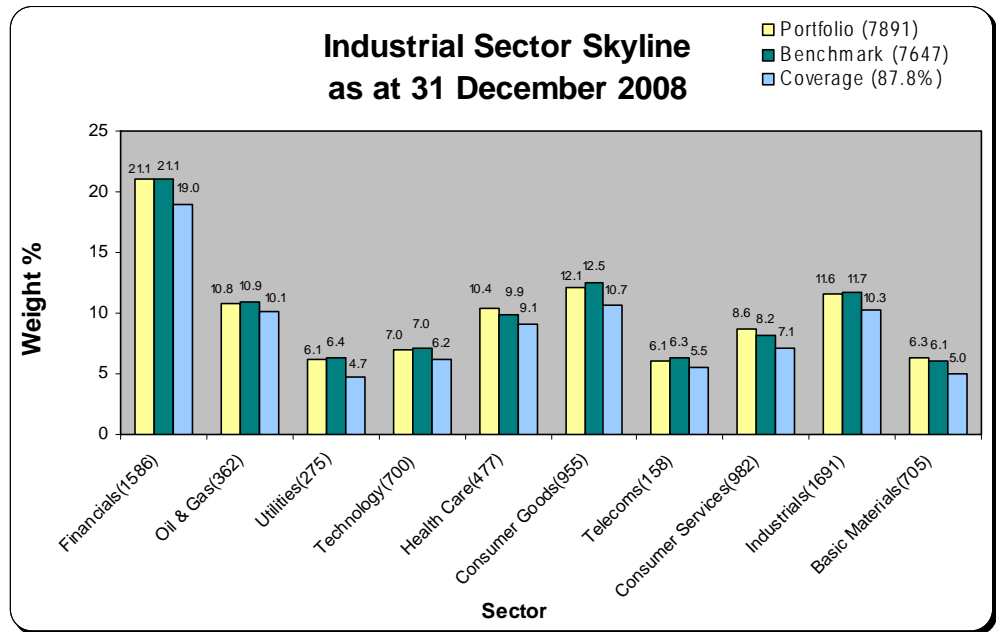


- The Equity Segment's tilt towards growth stocks and away from value stocks was more pronounced in 2006 compared to previous years and throughout the year the portfolio's biases increased in significance. At each quarter end over the course of 2006, the Equity Segment had a significant negative bias 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 significant positive bias away from the benchmark mean.
- The Equity Segment's bias towards growth and away from value factors lessened over 2007. At each quarter end, the portfolio had a significant positive bias towards the growth factors, IBES 12 Month Growth and IBES Earnings Long Term Growth; and a significant bias away from the value factors Dividend Yield and IBES Earnings Yield, however the significance of each bias reduced over the course of the year.
- A consistent negative "market cap" indicator over 2006 reflected the portfolio's bias towards small cap companies relative to benchmark. 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 was against a market back-drop where smaller companies had a tendency to underperform the broader market benchmark.
- The Equity Segment was biased towards stocks with a beta higher than the benchmark mean in 2006, although this position became insignificant towards the end of 2007. The portfolio was biased towards Market Beta over 2008; however, the significance of this bias was less than in 2006.
- Biases within the portfolio skyline of the Equity Segment have become progressively less significant over the last three years. In part, this can be explained by the extension of the benchmark universe to include small cap stocks in the fourth quarter of 2007 and emerging market stocks in the third quarter of 2008. These changes have resulted in a benchmark that more closely reflects the assets held within the Equity Segment.

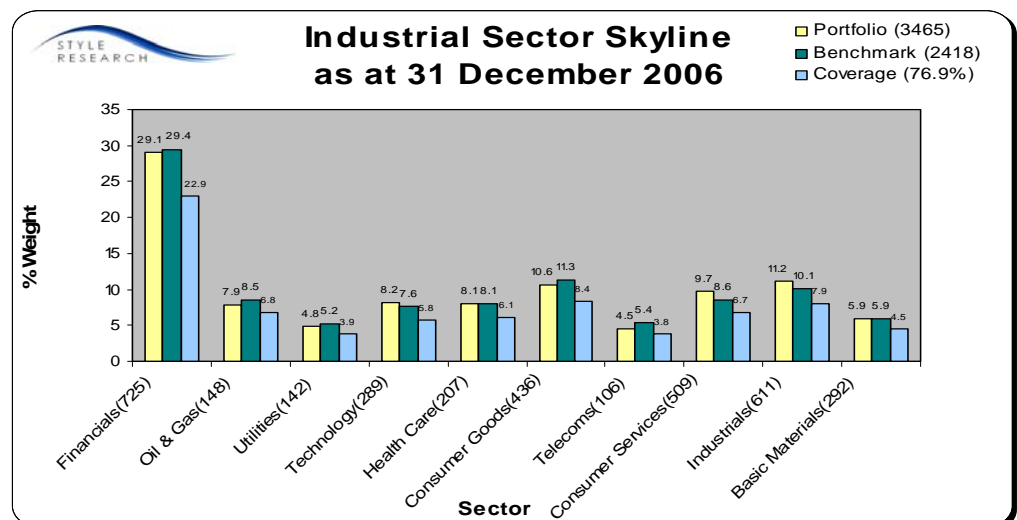
5.3 The Portfolio Sector Skyline

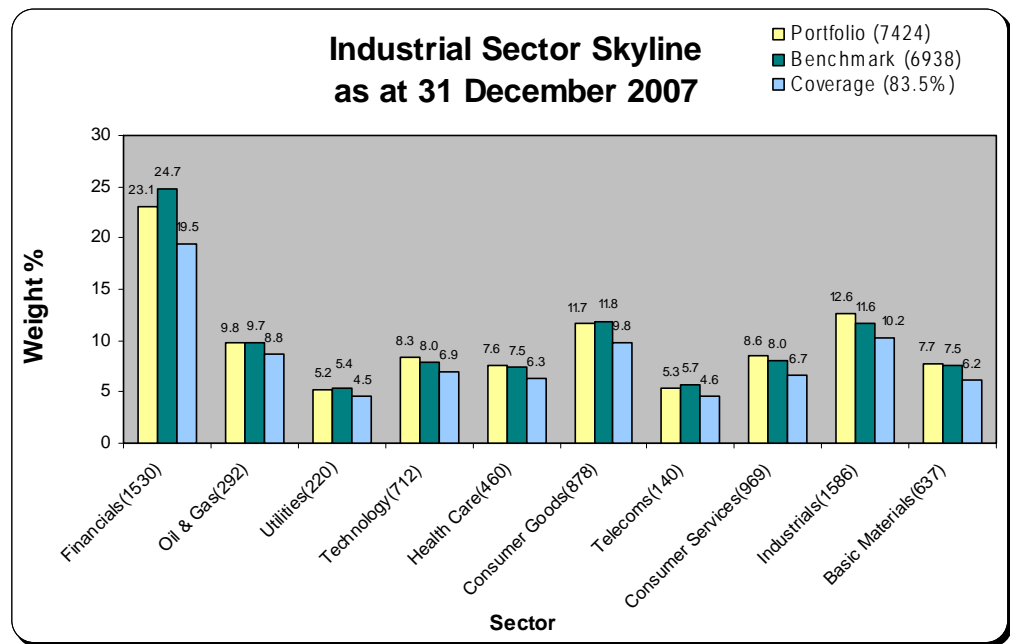
To give a better impression of the development of the sector characteristics of the Equity Segment, industrial sector skylines as at the end of each quarter during 2008 are shown below. Please note that each quarter's analysis is based on a "snap-shot" of the stocks held in the Equity Segment at an aggregate level as at the end of every quarter.





- Small cap companies were phased into the benchmark over the fourth quarter of 2007 and the first quarter of 2008. As at 30 June 2008, the portfolio was invested in sixteen countries that was outside of the benchmark universe. As at 31 December 2008, after the inclusion of emerging market countries, the benchmark included three countries that was not represented by the portfolio. Despite this, the number of stocks held in the portfolio continued to exceed the number of holdings in the benchmark at each quarter end over 2008 to 31 December 2008.
- Throughout 2008 to 31 December 2008, 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 2006 and 2007 (as shown in the analysis below).
- To demonstrate the development of the sector characteristics of the Equity Segment over the last three years, industrial sector skylines as at 31 December 2006 and 31 December 2007 are shown below.

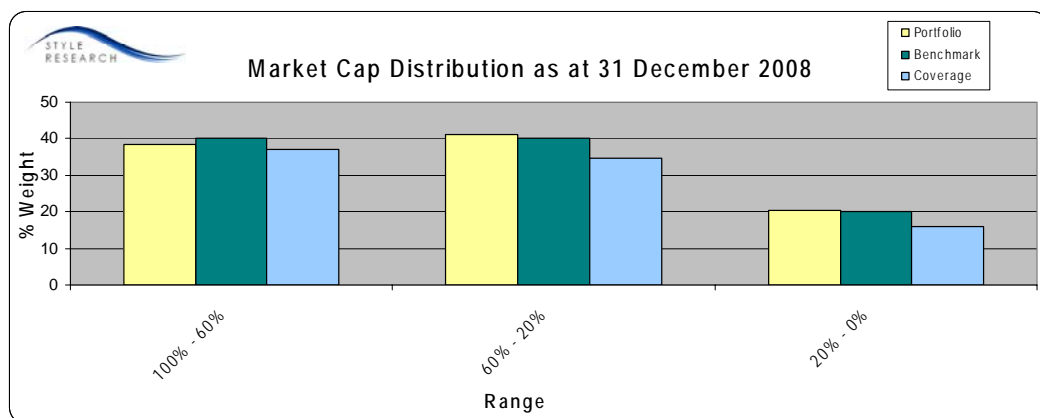




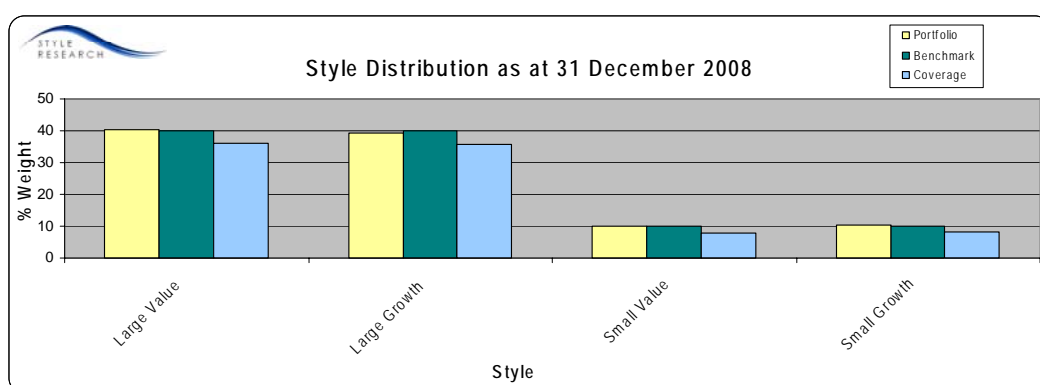
- Consistent with 2008, the number of companies held within the Equity Segment at the end of 2006 and 2007 exceeded the number of holdings within the benchmark. This corresponds with Norges Bank's exposure to companies within emerging markets, which were not contained within the benchmark before the third quarter of 2008.
- Throughout 2006 and 2007, 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 2008, the largest sector weight differences from the benchmark were Health Care (+0.5%), Consumer Goods (-0.4%) and Consumer Services (+0.4%) sectors. An overweight to Health Care and Consumer Services have been consistent themes displayed by the portfolio throughout 2008.
- 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 and into 2008.
- As at 31 December 2006, the Financials sector represented under a third of the Equity Segment's benchmark weight; as at 30 September 2008, this sector has reduced to just under a quarter of the benchmark weight as the sub prime crisis has affected financial institutions globally.
- Coverage of the benchmark has increased from 76.9% as at 31 December 2006 to 87.8% as at 31 December 2008. This can largely be attributed to the addition of small cap companies and emerging markets companies to the benchmark over this period.

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 companies held within the portfolio that make up the bottom 20% of the market capitalisation of the portfolio. As at 31 December 2008, in this instance, a company with a market capitalisation of below circa 29bn NOK would be classified as being a small cap company.



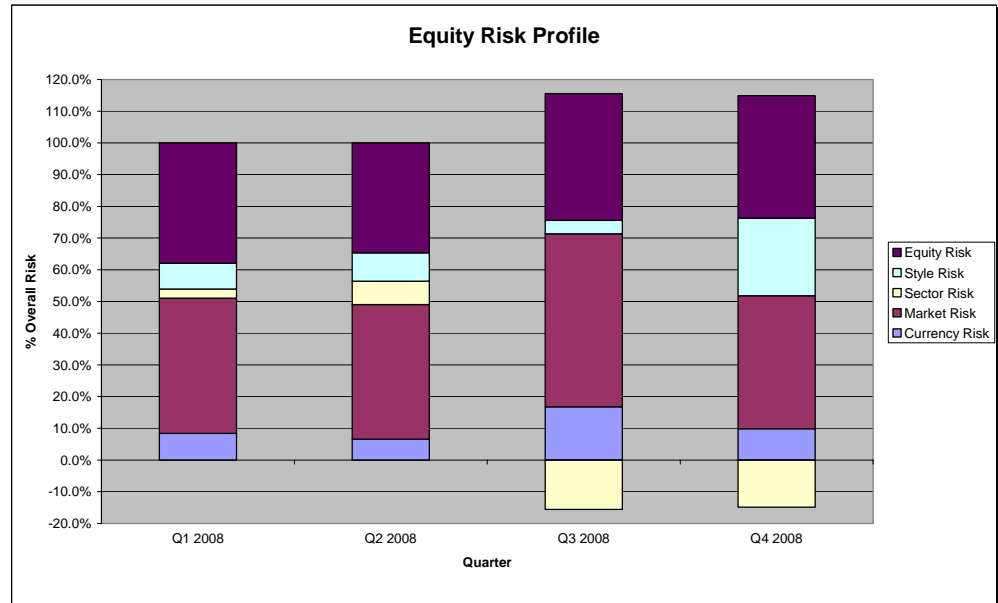
- As at 31 December 2008, the Pension Fund was overweight small cap companies by 0.6%. A small cap bias was observed throughout the year. However, this bias has decreased since September 2008 and can be attributed to the introduction of emerging market companies to the benchmark in the third quarter of 2008.
- 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 2006 and 2007 of 7.5% and 2.5% respectively. This bias has fallen significantly since 2006 due to the inclusion of small cap companies in the benchmark in 2007.
- 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 companies held within the portfolio that make up the bottom 20% of the market capitalisation of the portfolio. Conversely, large cap companies, as defined by SRPA, are the companies held by the portfolio that make up the top 20% of the market capitalisation of the portfolio.



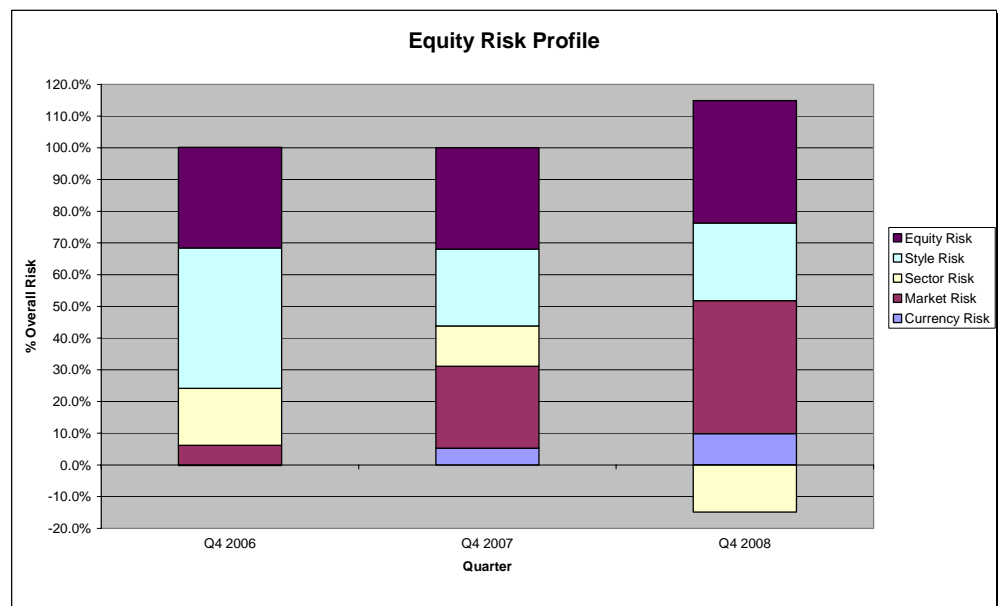
- As at 31 December 2008, the Pension Fund was overweight both small cap growth companies and large cap value companies, and underweight large cap growth companies. The Pension Fund broadly matched the benchmark in respect of small cap value companies. A bias towards small cap growth companies is consistent with the position as at 31 December 2006 and 31 December 2007.

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 2008. The second chart shows the contribution to risk as at 31 December 2006, 31 December 2007 and 31 December 2008. 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 2009 BNY Mellon Asset Servicing. Benchmark data sourced from FTSE; Risk model output sourced from SRPA.



Note: Security holdings are sourced by (c) Copyright 2009 BNY Mellon Asset Servicing. Benchmark data sourced from FTSE; Risk model output sourced from SRPA.

- Since the introduction of emerging markets to the benchmark in the third quarter of 2008, Sector risk became negative. The calculation methodology used takes into account the correlation of each term with other terms. The order in which risks are measured does affect the outcome to some extent because we look at incremental additions to risk (we calculated risk in the following order: currency, market, sector, style, equity). The correlation between Style Risk and Sector Risk has impacted the Sector Risk value to the extent that Sector Risk is shown as negative and therefore the sector positions taken reduced overall the risk taken as at the end of the third and fourth quarters. The net value of all risk components each quarter is 100%.

- 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 which point Equity Risk became the most prominent. Throughout 2008, Market risk has been the dominating contributor to risk.
- Similar to 2004, 2005, 2006 and 2007, Currency Risk remains (overall) the smallest component of total risk over 2008.
- Throughout 2008, the main contributor to risk (as calculated by SRPA), from a size and style perspective, was an active position in larger cap growth (the portfolio was underweight large cap growth until emerging markets were introduced to the benchmark in the third quarter of 2008 upon which the portfolio became overweight large cap growth) and a tilt away from larger cap value.
- Throughout 2008, the main contributor to risk from a sector perspective (as calculated by SRPA) was a tilt away from the Financials sector.
- The risk profile of the portfolio should be assessed within the context of the absolute predicted tracking error as measured by SRPA as at each quarter end. Over 2006 and 2007, the predicted tracking error of the Equity Segment was c.0.7% p.a. Over 2008, the predicted tracking error has fallen to c.0.3% p.a. This can be attributed, in part, to the widening of the portfolio and benchmark investment universe resulting in the portfolios holdings more closely reflecting that of the benchmark. It should be noted that due to the small predicted tracking error over 2008, the analysis is more sensitive to the contribution to risk of each component.

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 2008.

Month	Market Value (NOK Millions)		
	Equity	Fixed Income	Total Fund
January	925,283	1,076,602	2,001,885
February	932,921	1,037,523	1,970,445
March	934,672	1,011,232	1,945,904
April	1,027,759	989,952	2,017,711
May	1,082,642	970,247	2,052,889
June	1,030,877	960,420	1,991,297
July	1,060,964	959,263	2,020,227
August	1,141,282	972,203	2,113,485
September	1,122,454	997,315	2,119,769
October	1,063,057	1,028,798	2,091,855
November	1,076,032	1,074,100	2,150,132
December	1,129,175	1,146,908	2,276,083

Data source: Calculations by BNY Mellon Asset Servicing. (c) Copyright 2009 BNY Mellon Asset Servicing

Norwegian Ministry of Finance – Explanation of differences

BNY MAS will adjust data from the custodians in order to maintain consistency with Norges Bank in two situations:

- i. In the case of write downs of Mortgage Backed Securities (“MBS”), this is explained in more detail below; and
- ii. The value of swaps held with Citibank is agreed between Citibank and Norges Bank after Citibank release valuation statements to BNY MAS. BNY MAS will use the valuations agreed between Citibank and Norges Bank.

In any other situation, differences between custodian data and equivalent data at Norges Bank will result in differences in market values and performance reported between BNY MAS and Norges Bank, the majority of which 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 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 has prompted Norges Bank to perform a write down against the Pension Fund’s MBS holdings as at the end of each month over 2008, 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 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. The performance returns provided within the body of this report therefore include the write downs at

Norges Banks. Provide below is a summary of performance to 31 December 2008 without the impact of the write downs at Norges Banks:

- i. At Total Fund level, the write down adjustments each month end over 2008 had the impact of reducing the Total Fund return from -6.43% to -6.74% over the twelve month period to 31 December 2008 (in NOK terms).
- ii. Norges Bank's write down adjustments did not affect the valuation of the Equity Segment, therefore the write down process did not impact the Equity Segment over the twelve month period to 31 December 2008.
- iii. Before Norges Bank's write down adjustment has been taken into account the Fixed Income Segment, as calculated by BNY MAS, returned 21.52% over the twelve month period to 31 December 2008 (in NOK terms). After the write down adjustment has been taken into account Fixed Income Segment returned 20.92% over the twelve month period to 31 December 2008.

Important Notices

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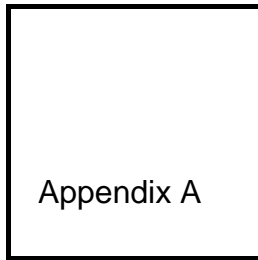
In addition:

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.

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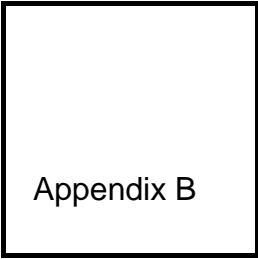


Calculation Methodology

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 2008, 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 (Barclays Capital Global Aggregate indices from 20 September 2008) that constitute the fixed income benchmark. These have been sourced directly from the Lehman Live website. Using monthly weights and Barclays Capital Global Aggregate 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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2009

The Norwegian Government Pension Fund - Global – BNY Mellon Asset Servicing role during 2008

Our role in 2008

During 2008, 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 (Barclays Capital Inc. from 20 September 2008), 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 (FTSE All Country (FTSE-AC) from 31 December 2008) and Lehman (now Barclays Capital Inc.) 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 2008

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.

Differences in methodologies used by Norges Bank and BNY MAS in the treatment of cashflows can also give rise to differences in returns. For the twelve months to 31 December 2008, equity returns calculated by BNY MAS and Norges Bank differed by 0.08% in NOK terms. The majority of this difference can be attributed to the timing of a significant cashflow which occurred during June and September, along with differences between the transaction amounts throughout 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 2008, Fixed Income returns calculated between BNY MAS and Norges Bank differed by 0.13% in NOK terms. The majority of this difference can be attributed to the transfer of bonds from JPMorgan Chase to Citigroup in October and November. JPMorgan Chase reported these transfers using historic exchange rates to value the bonds, while Citigroup used current exchange rates. The difference between BNY MAS and Norges Bank can also be attributed to the fact that

Norges Bank and the custodians recorded different cashflows in July and August as a result of book keeping errors at the custodians.

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 0.07% in NOK terms.

Yours sincerely
Stephen Hayes-Allen

Appendix C

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 = $\alpha + \beta * \text{Market Monthly Return} + \text{Random Error}$

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 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 be 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)

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

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:

$$R_{C(j)}^\phi = \frac{er_{C(j),t}^\phi - er_{C(j),t-1}^\phi}{er_{C(j),t-1}^\phi}$$

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

In matrix notation the Equity returns are:

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

The covariance matrix is then:

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

The covariance between r_i and r_j is:

$$\begin{aligned} Cov(r_i, r_j) &= Cov(R_{C(i)}^{\phi}, R_{C(j)}^{\phi}) + Cov(R_{C(i)}^{\phi}, R_{M(j)}) + Cov(R_{C(i)}^{\phi}, R'_{I(j)}) + Cov(R_{C(i)}^{\phi}, R'_{S(j)}) + Cov(R_{C(i)}^{\phi}, r'_j) \\ &\quad + Cov(R_{M(i)}, R_{C(j)}^{\phi}) + Cov(R_{M(i)}, R_{M(j)}) + Cov(R_{M(i)}, R'_{I(j)}) + Cov(R_{M(i)}, R'_{S(j)}) + Cov(R_{M(i)}, r'_j) \\ &\quad + Cov(R'_{I(i)}, R_{C(j)}^{\phi}) + Cov(R'_{I(i)}, R_{M(j)}) + Cov(R'_{I(i)}, R'_{I(j)}) + Cov(R'_{I(i)}, R'_{S(j)}) + Cov(R'_{I(i)}, r'_j) \\ &\quad + Cov(R'_{S(i)}, R_{C(j)}^{\phi}) + Cov(R'_{S(i)}, R_{M(j)}) + Cov(R'_{S(i)}, R'_{I(j)}) + Cov(R'_{S(i)}, R'_{S(j)}) + Cov(R'_{S(i)}, r'_j) \\ &\quad + Cov(r'_i, R_{C(j)}^{\phi}) + Cov(r'_i, R_{M(j)}) + Cov(r'_i, R'_{I(j)}) + Cov(r'_i, R'_{S(j)}) + Cov(r'_i, r'_j) \end{aligned}$$

The component parts of the covariance matrix are:

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

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

Pure Market term: $Cov(R_{M(i)}, R_{M(j)})$

Industry cross terms:

$$Cov(R_{C(i)}^{\phi}, R'_{I(j)}) + Cov(R_{M(i)}, R'_{I(j)}) + Cov(R'_{I(i)}, R_{C(j)}^{\phi}) + Cov(R'_{I(i)}, R_{M(j)})$$

Pure Industry term: $Cov(R'_{I(i)}, R'_{I(j)})$

Style cross terms:

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

Pure Style term: $Cov(R'_{S(i)}, R'_{S(j)})$

Equity cross terms:

$$\begin{aligned} &Cov(R_{C(i)}^{\phi}, r'_j) + Cov(R_{M(i)}, r'_j) + Cov(R'_{I(i)}, r'_j) + Cov(R'_{S(i)}, r'_j) + Cov(r'_i, R_{C(j)}^{\phi}) \\ &+ Cov(r'_i, R_{M(j)}) + Cov(r'_i, R'_{I(j)}) + Cov(r'_i, R'_{S(j)}) \end{aligned}$$

Pure Equity term: $Cov(r'_i, r'_j)$

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