Norges Bank Investment Management (NBIM)

Presentation of investment performance in compliance with Global Investment Performance Standards (GIPS)

Manual

Laid down: **31st January 2010**

Contents

1. Introduction to GIPS

GIPS – Global Investment Performance Standards – is a global standard for the calculation and presentation of asset managers' investment results. GIPS was created by CFA Institute (formally known as the Association for Investment Management and Research (AIMR)) and the European Federation of Financial Analysts' Societies (EFFAS), and is based upon the voluntary North American performance presentation standards AIMR-PPS, which was established in the beginning of the 1990's. Founded in January 1990, CFA Institute is an international, non-profit organization of more than 50.000 investment practitioners and educators in over 100 countries. EFFAS is an European umbrella organization of national analysts' societies. EFFAS comprises some 20 members representing about 15.000 investment professionals, represented in Norway by "Norske Finansanalytikers Forening (NFF)". In February 2005, a revised GIPS standard was published with implementation date of 1 January 2006.

GIPS is an ethical and voluntary standard to be used by investment managers for creating performance presentations that ensure fair representation and full disclosure. Global standardization of investment performance reporting will allow investors to compare investment managers and will allow managers to compete for new business in foreign markets.

When presenting investment performance in compliance with GIPS, an investment management firm must state how it defines itself as a "Firm". In other words, for which part (s) of the firm the performance presentation is relevant and representative.

Firms must follow the required elements of GIPS to claim compliance with GIPS. Firms are strongly encouraged to adopt and implement the recommendations to ensure that the firm fully adheres to the spirit and the intent of GIPS.

Once a firm has met all of the required elements of GIPS, the firm may use the following "Compliance Statement" to indicate that the performance presentation is in compliance with GIPS: "NBIM has prepared and presented this report in compliance with the Global Investment Performance Standards (GIPS®)."

To further increase the level of confidence of the NBIM's claim of compliance an independent third party should perform verification. Verification is not required, but is strongly recommended. The Investment Performance Council – the global body sponsored by the CFA Institute responsible for administering GIPS – has indicated that verification may become required in the future.

- *NBIM complies with all the required elements of GIPS.*

- *NBIM has further engaged Ernst & Young to perform independent verification and to ensure that the Firm's performance presentation complies with the requirements in GIPS.*

Based on these facts, NBIM uses the GIPS "Compliance Statement" in the performance presentations:

NBIM has prepared and presented this report in compliance with the Global Investment Performance Standards (GIPS®).

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2. Organisation

Norges Bank Investment Management (NBIM) is a separate part of the Norwegian Central bank (Norges Bank) and is responsible for investing the international assets of the Norwegian Government Pension Fund.

NBIM also manages the major share of Norges Bank's foreign exchange reserves and the Government Petroleum Insurance Fund.

NBIM invests in international equities and fixed income instruments, money market instruments and derivatives.

3. Definitions and Fundamental Information

Firm Definition
The GIPS Firm NBIM includes all mandates managed by NBIM including "The Government Pension Fund Global", "The Investment Portfolio of Norges Bank's Foreign Exchange Reserves " and "The Government Petroleum Insurance Fund". The verification includes the history as defined below:
- o The Government Pension Fund Global:

    - o Fund Level,   31st December 1997

    - o Fixed Income Asset Level,   31st December 1997

    - o Equity Asset Level,   31st December 1998

o The Investment Portfolio of Norges Bank's Foreign Exchange Reserves:

    o Fund Level,   31st December 1997

    o Fixed Income Asset Level,   31st December 1997

    o Equity Asset Level,   31st December 2001

o The Government Petroleum Insurance Fund:

    o Fund Level,   31st August 1998

Definition of Firm Assets

NBIM's total assets under management are defined by the market value of all segregated accounts, irrespective of whether the mandate is defined as discretionary or non-discretionary.

NBIMs total assets at year-end are presented in the table below:

Year	Firm Assets (NOK MLN)
2009	2 844 448
2008	2 475 234
2007	2 247 316
2006	2 023 386
2005	1 624 733
2004	1 215 050
2003	1 000 524
2002	714 138
2001	731 262
2000	503 715
1999	326 946
1998	279 205
1997	244 299

Definition of Discretion

Discretion is the ability of NBIM to implement its intended strategy. If documented restrictions significantly hinder the firm from fully implementing its intended strategy NBIM will determine that the portfolio is non-discretionary.

The following situations are judged by the NBIM to entail significant restrictions that cause a portfolio to be classified as non-discretionary:

- Accounts which are advisory in nature where the client in co-operation with NBIM carries out asset allocation (this mean that the underlying portfolios are discretionary, while the total account is not) and/or where assets in the portfolio (e.g. strategic investments or "old" assets that the client wishes to keep due to tax reasons) hinder the Firm from managing the account in line with relevant composites' intended strategy;

- Cash flow requirements that significantly hinder the implementation of the intended strategy (e.g. the client requires large cash distributions on a regular basis);

- New accounts during establishment or accounts under liquidation as a result of being closed;

- The lack of quoted market prices (e.g. private equity);

- Accounts where the sole purpose is to invest in units of a single "parent" account, where the account would consist of a holding of only one unit fund and a minimum cash balance (used to handle in/out-flows of the account).

Irrespective of a portfolio is classified as discretionary or non-discretionary, its market value will be included in the Firm's assets.

4. Composites

The composite return is the asset-weighted average of the performance results of all the portfolios in the composite. The Standards require that firms include all discretionary fee-paying portfolios in at least one composite that is managed according to a particular strategy or style.

Composite	Category	Benchmark	Start Date	Market Value 2009 (NOK MLN)	Currency
The Government Pension Fund Global	Balanced	60% FTSE Equity Indices and 40% Barclays Global Aggregate Bond Indices	31st December 1997	2 640 043	NOK and CCY
The Government Pension Fund Global - Equity	Equity	FTSE Equity Indices	31st December 1998	1 644 106	NOK and CCY
The Government Pension Fund Global – Fixed Income	Fixed Income	Barclays Global Aggregate Bond Indices	31st December 1997	995 937	NOK and CCY
The Investment Portfolio of Norges Bank's Foreign Exchange Reserves	Balanced	40% FTSE Equity Indices and 60% Barclays Global Aggregate Bond Indices	31st December 1997	185 444	NOK and CCY
The Investment Portfolio of Norges Bank's Foreign Exchange Reserves - Equity	Equity	FTSE Equity Indices	31st December 2001	82 865	NOK and CCY
The Investment Portfolio of Norges Bank's Foreign Exchange Reserves – Fixed Income	Fixed Income	Barclays Global Aggregate Bond Indices	31st December 1997	102 578	NOK and CCY
The Government Petroleum Insurance Fund	Fixed Income	Barclays Global Aggregate Treasury Indices	31st August 1998	18 962	NOK and CCY

Minimum Asset Level
NBIM has not established a minimum asset level for a composite to identify portfolios that are too small to be representative of the intended strategy.

Inclusion Policy
A new mandate is included in the relevant composite from the first full month it is fully invested.

Exclusion Policy
A discontinued portfolio is included in at least one composite up to and including the last month it is fully invested. From the time the liquidation has started, the portfolio is no longer included in any composite. However, the discontinued portfolio's historic performance remains with the composite.

Change of composite
Not applicable.

Carve-outs
Not applicable.

5. Input Data

Consistency of input data is critical to effective compliance with GIPS and establishes the foundation for full, fair, and comparable investment performance presentations. The Standards provide the blueprint for a firm to follow in constructing this foundation.

All data and information necessary to support a firm's performance presentation and to perform the required calculations must be captured and maintained.

NBIM has the underlying data necessary to recreate the performance of our composites for all periods for which performance is presented, including beginning and ending period market values and cash flows for composites.

Portfolio valuations based on market values
GIPS require the use of market values in order to best identify the fair economic value of the firm's portfolios. The standards also recommend that firms disclose their valuation sources and methods.

NBIM uses market values in valuation of all assets and values all portfolios daily, and therefore already is in compliance with the anticipated requirement.

Pricing sources

The Valuation Policy is a separate document and outlines the methodologies governing the valuation process and is linked to the framework given by the Ministry of Finance. The ultimate prices will be used NBIM wide.

- Every asset and liability should be valued according to its fair value at the time of measurement. Fair value is defined as the realisable value of an asset or the cost of settling a liability in an arm's length transaction between independent parties.

- Price sources should be independent from NBIM and those who make the investment decisions.

- Holding constituents of the benchmark indices given by the Ministry of Finance should be valued in accordance with the prices provided by the index provider given the pricing methodology behind the index is pursuant to fair value.

- Closing exchange prices should be used for securities that are traded in an active market.

- In the absence of transactions, quoted (or alternatively independently evaluated) bid prices should be used.

- Prices derived from models should be used in price hierarchies at levels lower than directly observable fair values. Where available, industry standard models should be used.

- The pricing hierarchies are maintained in a separate document.

- Any situation where the Pricing Hierarchy is not to be applied is referred to as an override. An override takes place whenever a price source is considered inaccurate and is executed by Operations, the Fund Accountant or Performance, Attribution and Valuation (PAV). Any overrides to the price hierarchies must be well documented. PAV is authorized to confirm overrides.

Trade-date accounting

Trade-date accounting determines the correct economic value of the portfolio assets as of the transaction date. Because of the lengthy settlement periods of some markets, GIPS strongly recommend the use of trade-date accounting to achieve accurate performance results.

NBIM uses trade-date accounting.

Interest Income

Accrual accounting must be used for fixed-income securities and all other assets that accrue interest income. When determining what market value to report, firms must include the income that would have been received had the security actually been sold at the end of the performance period. Accrued interest income must be included in the beginning and ending portfolio market values.

NBIM uses accrual accounting for fixed-income securities and all other assets that accrue interest income.

Dividends

Accrual accounting is recommended for dividends (as of the ex-dividend date). Dividends are payable if the stock was owned on the ex-dividend date. Therefore, dividends should be accrued as income on the ex-dividend date.

NBIM uses accrual accounting for dividends.

6. Calculation Methodology

Achieving comparability among investment management forms' performance presentations requires uniformity in methods used to calculate returns. The Standards mandate the use of certain calculation methodologies.

Portfolio

In calculating the performance of the portfolios within a composite, GIPS require firms to use a total rate of return. A total return includes income and realized and unrealized gains and losses.

NBIM includes income and realized and unrealized gains and losses when calculating performance.

The Standards require firms to use a time-weighted rate of return, or an appropriate approximation, using a minimum of monthly valuations and adjusting for cash flows. Interim returns must be geometrically linked. Methods that include adjustments to remove the effect of cash flows from the performance return are called time-weighted rate-of-return.

NBIM uses time-weighted rate of return, using daily valuations and adjustments for cash flows.

Returns for cash and cash equivalents held in portfolios must be combined with the returns of other assets to calculate the total portfolio return.

NBIM includes cash and cash equivalents in total-return calculations.

Performance must be calculated after the deduction of all trading expenses. Trading expenses refer to the direct transaction costs incurred in the purchase or sale of securities. These costs must be included when calculating performance because these are costs that must be paid in order to implement the investment strategy. Trading expenses can be direct, as in the case of brokerage commissions, or indirect, as in the case of a bid/ask spread.

NBIM calculates performance after deduction of all direct trading expenses.

Gross-of-fee performance

GIPS recommend that firms present gross-of-fee performance. The Gross-of-fees return is defined to be the return on assets reduced by any direct trading expenses incurred and non-reclaimable withholding taxes paid during the period. Because the Gross-of-fees return includes only the return on assets and the associated cost of buying and selling those assets, it is the best measure of the firm's investment management ability and can be thought of as the "investment return". The Net-of-fees return is defined to be the Gross-of-fee return reduced by the Investment Management Fees paid by clients.

NBIM presents gross-of-fee performance after deductions of direct trading expenses and non-reclaimable withholding taxes paid during the period but before deduction of custodian fees.

Composite
Every composite within NBIM contains of only one portfolio or one carve out.

Taxes

Returns should be calculated net of non-reclaimable withholding taxes on dividends, interest, and capital gains. Reclaimable withholding taxes should be accrued. Global investment requires recognition of the tax consequences of investing in different countries. Some countries allow certain investor types to reclaim a portion of the withholding taxes that are paid when transactions or payments occur. GIPS recommend that reclaimable withholding taxes to be recognized when incurred.

NBIM recognizes withholding taxes when incurred. The actual amount of withholding tax may differ slightly from the estimated figure. This difference is posted as an income/cost when the actual figure is known. All portfolios are calculated net of non-reclaimable withholding tax.

Benchmarks
NBIM measure the Composites against benchmarks adjusted for tax on dividends according to NBIM's tax position in different markets. The return of the benchmarks is calculated daily on the respective indices' value at close. The conversion from the index's quotation currency to other currencies is based on WM Company's exchange rates (mid-rate 16:00 GMT).

Relative Return
NBIM calculate the excess return as the arithmetical difference between the returns on the actual portfolio and the benchmark portfolio for the period to be presented.

7. Error Correction Guideline

The purpose of this guideline is to ensure that NBIM has an error correction framework which is consistently applied in all GIPS compliant presentations (the GIPS report) produced by NBIM. Included in this guideline is the framework for assessing the materiality of errors and for recalculating, documenting and correcting errors. NBIM aims to proactively respond to errors in accordance with the GIPS requirements in order to maintain the quality and integrity of NBIM performance measurement and reporting.

Defining error

For numerous reasons, errors can arise in a previously verified GIPS presentation and as a result corrections are required to be made. For GIPS compliant presentations errors exist when any component of the GIPS report is inaccurate or missing. In the GIPS report, errors can be related to the market values, return numbers, risk/return numbers as well as the qualitative notes following each composite. NBIM strives to minimize the probability of errors through establishment of solid operational controls within key processes.

Assessing materiality of error

The one year composite return and the one year benchmark return are used as the relevant metrics when evaluating quantitative errors. If the error occurred on the composite side the portfolio return is evaluated. If the error occurred on the benchmark side the benchmark return is evaluated. The metrics capture the main quantitative aspects of the GIPS report (portfolio return, benchmark return, relative return, market values and risk properties). The assessment of materiality will depend on the following three error categorizations:

- **Immaterial error: ± [≤ 1 basis point]**
  In the case of an immaterial quantitative error, the error does not significantly affect returns meaning there is no significant effect on the one year composite return or benchmark return. No significant effect means within a ± 0.01% (1 basis point) tolerance range. In the case of an immaterial qualitative error, the error does not alter the common understanding of the current disclosures. This categorization applies to all composites.

- **Not material error: ± [> 1 basis point but ≤ 5 basis points]**
  In the case of a not material quantitative error, the error leads the one year composite return or benchmark return to change by less than ± 0.05% (5 basis points) but more than ± 0.01% (1 basis point). In the case of a not material qualitative error, the error does not alter the common understanding of the current disclosures but the informational content

is deemed to be important for the evaluation of the composite. This categorization applies to all composites.

- **Material error: ± [> 5 basis points]**
  In the case of a material quantitative error, the error leads the one year composite return or benchmark return to change by more than ± 0.05% (5 basis points). In the case of a material qualitative error, the error does alter the common understanding and/or the evaluation of the composite and may specifically be associated with the omission of a required disclosure. This categorization applies to all composites.

Procedures for recalculating, documenting and correcting errors

Errors are corrected retrospectively in the period where the error occurred. The actions taken will depend on the categorization of the error which is determined for:

- Quantitative errors; after a recalculation of returns. The one year composite return or benchmark return will be calculated for the year in which the error occurred in order to identify the materiality. For example, if today an error is discovered in the month of September 2007, the yearly composite or benchmark return for 2007 will be measured. The original composite or benchmark return will then be compared to the recalculated number. A correction will then be made accordingly in September 2007 and hence for 2007 in total. For potential systematic errors persisting over a year, yearly returns will be calculated for all years affected and the errors will be assessed on a per year basis. A systematic not material error across several years may be corrected as a material error.

- Qualitative errors, after an evaluation of the disclosures. Potential errors of calculation (for example with regards to the calculation of standard deviation or information ratio) are assessed as qualitative errors.

Recalculation of returns is performed within the performance calculation system in NBIM.

- **Immaterial error**
  Whether the error is quantitative or qualitative the presentation will be corrected. However, no further actions beyond this are required. An incident describing the error will be formally recorded according to NBIM's framework for operational risk.

- **Not material error**

  Whether the error is quantitative or qualitative the presentation will be corrected. A note will be included in the disclosure section for the impacted composites stating the change. An incident describing the error will be formally recorded according to NBIM's framework for operational risk and the NBIM CEO and CCO and the asset owner will be notified. NBIM's third party GIPS verifier will be informed and consulted.

- **Material error**

  Whether the error is quantitative or qualitative the presentation will be corrected. A note will be included in the disclosure section for the impacted composites stating the change. This note will be maintained for a 12 month period after the change has been made. Efforts to redistribute the presentation will be made by publicly announcing on our website (www.nbim.no) that an updated GIPS presentation is available. An incident describing the error will be formally recorded according to NBIM's framework for operational risk and the NBIM CEO and CCO and the asset owner will be notified. NBIM's third party GIPS verifier will be informed and consulted.

8. Formulas

Absolute Performance (Portfolio Return)

Time Weighted Rate of Return (TWRR):

$$R_t = \frac{V_{E(t)} - V_{S(t)} - C_{(t}}{V_{S(t)}}$$

Where:
  R_t = Percentage performance in period t
  $V_{E(t)}$ = Value at the end of period t, market value
  $V_{S(t)}$ = Value at the start of period t, market value
  $C_{(t)}$ = Total Net Cash flow within period t
  t = period <1, 2>

NBIM has the ability to value the portfolio at any day. Market values are determined on the day of an external cash flow. Transfers to the funds and between portfolios are normally made on the last business day of each month, but can also take place intra-month. When there is only one transfer done on a monthly basis the period, denoted t above, is irrelevant. When there are two transfers in a month, period 1 becomes last month-end to first transfer while period 2 is first transfer to month-end (second transfer). V_E in period 1 ($V_{E(1)}$) is then the closing market value on the first transfer day.

In earlier days (to and including 1999), the Modified Dietz return calculation was implemented.

Modified Dietz Method:

$$RMDietz_t = \frac{V_{Et} - V_{St} - C_t}{V_{St} + \sum(C_i \times W_i)}$$

Where:
  $RMDietz_t$ = Modified Dietz Return
  V_{Et} = Value at the end of period t
  V_{St} = Value at the start of period t
  C_t = Cash flow in period t
  C_i = Cash flow i
  W_i = $\dfrac{\text{Calendar days in month} - \text{day of cash flow i}}{\text{Calendar days in month}}$

Monthly Return:

$R_M = [(1+R_t) \times (1+R_t)] - 1$

Where: R_M = Monthly percentage performance
R_t = Percentage performance in period t
t = period <1, 2>

This is a geometric linking of the periodic returns in order to obtain the total return for the month. If there is only one transfer within the month this linking is irrelevant and the monthly return becomes R.

Quarterly Return:

$R_Q = [(1+R_{M1}) \times (1+R_{M2}) \times (1+R_{M3})] - 1$

Where: R_Q = Quarterly percentage performance
R_{M1} = Percentage performance in month 1
R_{M2} = Percentage performance in month 2
R_{M3} = Percentage performance in month 3

This is a geometric linking of the monthly returns in the quarter in order to obtain the total return for the quarter. Geometrically linked returns are also known as cumulative returns.

Annual Return:

$R_A = [(1+R_{Q1}) \times (1+R_{Q2}) \times (1+R_{Q3}) \times (1+R_{Q4})] - 1$

Where: R_A = Annual percentage performance
R_{Q1} = Percentage performance in Q1
R_{Q2} = Percentage performance in Q2
R_{Q3} = Percentage performance in Q3
R_{Q4} = Percentage performance in Q4

This is a geometric linking of the quarterly returns in the year in order to obtain the total return for the year. Alternatively and equivalently, one could geometrically link the twelve monthly returns. These formulas can be extended to longer periods as well.

Annualized Absolute Performance (Portfolio Return)

Return = $[(1+R)^{(1/n)}] - 1$

Where: $\quad$ R $\quad$ = Geometrically linked absolute return for a period exceeding 12 months
$\qquad\quad$ n $\quad$ = Number of periods, needs to be consistent with the linked return

For periods greater than 12 months absolute performance, benchmark performance and relative performance is annualized. For example, a cumulative return over exactly three years generates an *n* of 3. A cumulative return over 16 months should be scaled by *n = 12/16*. This formula is implemented for the benchmark performance as well.

Returns Measured in International Currency (in the following CCY for currency)

Absolute Return in CCY:

$R_{ACC(CCY)} = [(1+R_{ACC(NOK)}) / (1+R_{CCYBASKET})] - 1$

Where: $\quad$ $R_{ACC(CCY)}$ $\qquad$ = Absolute performance in CCY, any period
$\qquad\qquad$ $R_{ACC(NOK)}$ $\qquad$ = Absolute performance in NOK, any period
$\qquad\qquad$ $R_{CCYBASKET}$ $\qquad$ = Absolute performance of currency basket, any period

This is a geometrical difference. The currency basket corresponds to the currency weights in the benchmark portfolio, and the return on the currency basket indicates how much the NOK has appreciated/depreciated against the currencies in the benchmark portfolio. This formula is implemented for the benchmark performance in CCY as well.

Composite Performance

Composite Return:

$$R_{Composite} = \sum \left[\frac{\sum R_p \times MV_p}{\sum MV_p} \right]$$

Where: $\quad$ $R_{composite}$ $\qquad$ = Portfolio return on Composite
$\qquad\qquad$ R_p $\qquad\qquad$ = Portfolio return on individual portfolio
$\qquad\qquad$ MV_p $\qquad\qquad$ = Market value of individual portfolio

$$R_{Fund} = \sum \left[\frac{\sum R_{composite} \times MV_{composite}}{\sum MV_{composite}} \right]$$

Where: R_{Fund} = Portfolio return on Fund

                     R_p = Portfolio return on composite

                     MV_p = Market value of composite

Each individual portfolio's return is weighted according to its ingoing market value weight. The sum of the weighted individual portfolios returns is the total return on composite level. Each composite's return is weighted according to its ingoing market value weight. The sum of the weighted composite returns is the total return on Fund level.

Benchmark Performance

Benchmark Return:

$$R_{BMK} = \frac{IV_t}{IV_{t-1}} - 1$$

Where: R_{BMK} = Return on benchmark

                     IV_t = Benchmark value at time t

                     IV_{t-1} = Benchmark value at time t-1

Relative Performance (Relative Return)

Arithmetic Relative Return Methodology:

$$R_{REL} = R_{ACC} - R_{BMK}$$

Where: R_{REL} = Relative performance, any period

                     R_{ACC} = Absolute performance, any period

                     R_{BMK} = Benchmark performance, any period

Risk Statistics & Risk-adjusted Performance

3.1.1   Sample Standard Deviation:

The standard deviation reflects the level of risk in the composite. This statistical measure shows how much the return has varied during the measurement period. The larger the standard deviation, the larger the risk is estimated to be. The standard deviation is calculated using the following formula:

$$\sigma = \sqrt{\frac{\sum (r - r_{avg})^2}{n-1}}$$

Where: σ = sample standard deviation of monthly portfolio returns
   r = monthly portfolio returns
   r_{avg} = average of monthly portfolio returns
   n = number of months

The measure is annualised by multiplying with the square root of 12.

Tracking Error ex post

Tracking error ex post measures to what extent the composite's return differ from the benchmark's return. The larger the difference is, the larger is the tracking error (also called active risk). The monthly tracking error is the standard deviation of the difference between the monthly returns of a composite and its associated benchmark. The tracking error ex post is calculated as follows:

$$TE = \sigma_{relative\ return}$$

Where: TE = tracking error ex post
   $\sigma_{relative\ return}$ = sample standard deviation of monthly relative returns

The measure is annualised by multiplying with the square root of 12.

Information Ratio

Information Ratio is a risk adjusted return measure. It measures a composite's monthly returns in excess of its benchmark divided by the standard deviation of the monthly excess returns (see tracking error). The higher the information ratio is, the greater is the return per unit of risk. The information ratio is calculated as follows:

$$IR = \frac{Relative\ return}{TE}$$

Where: *Relative return= annualized composite return less annualized benchmark return*
        TE   = annualized tracking error