



PRINCIPLES FOR RISK MANAGEMENT IN NORGES BANK INVESTMENT MANAGEMENT

LAI D DOWN BY THE EXECUTIVE BOARD 10 JUNE 2009
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1. PURPOSE AND OBJECTIVES

The Executive Board recognises that the investment activities differ in nature from the other functions performed by Norges Bank in its capacity as a central bank and that the risks arising from the investment management activities are of a different nature than those relating to such other functions. These risk principles address the manner in which the portfolios shall be managed with respect to such risks and represent our objectives and commitment to risk management. Management of risks shall be embedded in NBIM's practices and business processes, strategic planning, and change management procedures. They shall further include measures to control and validate the on-going status of risks and the controls put in place to minimise such risks. Every asset and liability shall be valued according to its fair value at the time of measurement and in accordance with the International Financial Reporting Standards ("IFRS") methodology. Performance measurement shall be calculated and presented in accordance with Global Investment Performance Standards ("GIPS").

Our approach to risk management applies similarly to all portfolios, unless a separate approach is required due to the objectives, investment universe or risk profile of the respective portfolio.

2. ROLES AND RESPONSIBILITIES

Norges Bank Investment Management's (NBIM), investment management activities shall be organised to ensure an appropriate segregation of duties between the investment activities (1st line of defence) and the risk management and control functions (2nd line of defence).

Norges Bank's internal and external auditors (3rd line of defence) perform their own independent controls of NBIM's operations and of external service providers.

3. RISK IDENTIFICATION

NBIM shall have clear methodologies and processes for the identification and capture of risks.

All new investment activities or significant operational changes (e.g. business policies, providers, systems or organisational changes) shall be subject to an assessment in order to identify potential risks. Prior to the implementation of investments in new instruments or markets, a thorough and documented process must be completed. In each individual case the process must provide an



overview of the relevant issues relating to valuation, return measurement, as well as the management and control of risks associated with the investments activities. All new property investments in the real estate portfolio shall be subject to due diligence. Through the due diligence process the investments, market, liquidity, credit, counterparty, operational, legal, tax, technical and environmental risk must be identified, assessed and documented. The approval document shall also assess whether necessary systems and procedures are in place to manage the investment properly. Implementation of the investment is subject to formal approval.

Risk factors associated with environmental, social and corporate governance (ESG) related issues are to be considered in accordance with the Principles for responsible investment management in Norges Bank.

4. RISK CATEGORIES

NBIM shall have an approach to risk management which is:

- tailored to Norges Bank's specific tasks and responsibilities and takes into account the distinguishing features of Norges Bank as a central bank and government institution;
- systematic and structured throughout the organisation;
- integrated into the organizational and internal decision making processes;
- compliant with legal and regulatory requirements as well as guidelines laid down by the fund owners.

We view the following as the main risk categories relating to Norges Bank's investment management activities:

Market Risk, Credit Risk, Counterparty Risk and Operational Risk.

There are certain investment activities which cut across risk categories and where further principles for risk management may be required. These are thus referred to in a separate section, as special investment activities.

Each category of risk is further defined below. Specific risk tolerance limits and requirements for each investment risk category are laid down in the Executive Board's investment mandate for the respective funds and portfolios or in separate Executive Board decisions.

Market Risk

Market Risk is defined as the risk of loss/change in market value of a fund as a result of movements in financial market variables. This also includes movements of credit spreads.

To the extent possible, the risk principles apply equally to the absolute and the relative market risk of the portfolios.

Market Risk is to be managed through the establishment of specified limits allocated to investment strategies through the issuance of investment mandates.



NBIM shall establish complementary market risk measurement methods to capture all relevant market risk in the management of the portfolios. The four main dimensions of market risk are: *Benchmark Deviation Risk (Concentration Risk), Volatility/Correlation Risk, Factor Risk and Liquidity Risk.*

To the extent possible, similar methods and principles should be applied across all asset classes. The principles should be in accordance with internationally recognized standards. Within each market risk dimension the measurement methodology applied should decompose the risk to adequate levels of detail and be measured at regular intervals.

For ex-ante volatility and correlation measurement, NBIM shall apply methods, parameters and confidence intervals according to the investment strategies and risk prediction horizon. Instruments not appropriately modelled by risk measurement systems shall be limited and documented. NBIM shall compare its risk predictions with the realized portfolio returns and/or portfolio losses (back testing).

NBIM shall perform stress testing on the equity and fixed income portfolios from a market risk perspective. Such tests shall constitute both historic market events as well as scenarios for market risk factors.

NBIM must document that the market risk of the portfolios are within the risk limits laid down.

Credit Risk

Credit risk is defined as the risk that the issuer of a security may default on interest and/or principal payments or become bankrupt.

To the extent possible, the risk principles apply equally to the absolute and the relative credit risks of the portfolios.

Credit Risk is to be managed through establishment of specified limits allocated to investment strategies through the issuance of investment mandates.

NBIM shall establish complementary credit risk measurement methods to capture relevant credit risk in the management of the portfolios. The two main categories of credit risk are: *Single Issuer Risk Exposures and Portfolio Credit Risk.*

The principles for credit risk measurement shall be in accordance with internationally recognized standards. Within each credit risk dimension the measurement methodology applied should decompose the risk to adequate levels of detail and be measured at regular intervals. The Executive Director of NBIM defines the intervals such measurement shall be conducted.

Instruments not appropriately modelled by credit risk measurement systems shall be limited and documented.

NBIM shall perform stress testing on the fixed income portfolios from a credit risk perspective.

NBIM shall document that the credit risk of the portfolios is within the risk limits laid down.



Counterparty Credit Risk

A counterparty is defined as a financial institution or company which trades with or is approved by Norges Bank for trading in financial instruments. The category also includes custodian banks and joint venture partners.

Counterparty exposure is defined as the cost of replacing the value of a transaction or a number of transactions entered into with a counterparty due to the counterparty's non-payment or default under its obligations towards Norges Bank. Counterparty exposure includes exposure arising from bank deposits. NBIM shall perform stress testing of counterparty exposure.

Counterparty risk is limited through investment mandates.

The framework for counterparty credit risk measurement shall follow internationally recognized standards. The measurement methodology applied shall calculate both gross and net potential future exposure, aggregate and decompose the counterparty credit exposure to adequate levels of detail, and be measured at regular intervals.

NBIM shall have in place routines and systems that ensure satisfactory selection and evaluation of counterparties. Furthermore NBIM shall have documented processes for handling of collateral and netting arrangements.

Special investment activities

The Executive Board acknowledges that for certain investment activities, further principles need to be established. NBIM shall define the purpose and objectives of such activities and establish limits in investment mandates. The list of approved counterparties shall identify counterparties permitted to be used by NBIM in relation to each of the activities. The activities are:

- **Leverage**
NBIM shall measure and manage both gross and net leverage. Gross leverage is defined as the sum of physical leveraged long positions and short positions. Net leverage is defined as the market value of cash positions (cash, loans, deposits, repos, futures cash) and reinvestment of cash collateral from securities lending and securities' financing transactions. Leveraging the portfolio is not permitted beyond what is necessary to minimise transaction costs or is a natural part of normal investment management;
- **Use of derivatives**
Derivatives shall be integrated in market and credit measurement and management, but NBIM shall establish specific monitoring of the use of derivatives in the management of the funds, in particular short positions in non-linear instruments;
- **Securities lending**
Securities lending shall be managed through agreements that ensure adequate handling of collateral. NBIM shall establish collateral criteria as well as reinvestment guidelines for cash collateral. NBIM shall measure and monitor both the lent portfolio and the collateral portfolio on a regular basis;



- **Shorting**
Sale of securities that the funds do not own (short selling) may take place only in cases where NBIM has access to an established borrowing arrangement. NBIM shall establish special monitoring of shorting.

Tax management

As part of the obligation to seek the highest possible return for the fund after costs, NBIM shall manage risks associated with tax and in doing so NBIM shall:

- Comply with applicable local laws and seek to follow prudent market practice;
- Have in place processes that ensure tax risks associated with the investments are assessed and managed appropriately in accordance with the wider risk management framework;
- Ensure that in accordance with local laws and administrative procedures taxes properly due are paid and taxes not properly due are relieved; and
- Protect the tax position that the fund is entitled to obtain as a sovereign Norwegian investor.

The fund's private investments require bespoke structures to address the need for operational efficiency and liability management as well as regulatory, tax and commercial factors. When investing by means of such structures, NBIM shall:

- Ensure a high degree of certainty with respect to the tax position of the fund, its subsidiaries and its investments;
- Consider standards published by international organisations such as the OECD and other appropriate bodies, take into consideration developments in such standards and to global tax trends; and
- Determine whether pre-existing structures into which NBIM invests should be aligned more closely with our tax expectations.

Operational Risk

Operational risk is defined as the risk of financial loss or loss of reputation for NBIM, as a result of breakdown of internal processes, human error, systems failure, or other losses caused by external factors that are not a consequence of the market risk of the portfolio.

Operational risk management in NBIM shall be systematic and structured. Operational risk management shall address uncertainty and be part of the decision-making processes in NBIM. Operational risk management shall create value as an integral part of NBIM's processes and support continual improvement of all processes.



NBIM shall establish a policy statement for operational risk management, supported by a framework for operational risk. The framework shall be based on internationally recognised standards and frameworks.

Operational risk tolerance for NBIM shall be defined with respect to financial and reputational risk management objectives. The risk tolerance for financial exposure to operational risks is set at a P80 level of 750 million Norwegian kroner over a one year time horizon. The operational risk tolerance level shall be reviewed periodically by the Executive Board. The risk tolerance for individual financial (quantitative) and reputational (qualitative) risks are defined by NBIM's risk matrix and its probability/frequency and consequence scales. Critical and significant risks are outside NBIM's operational risk tolerance.

NBIM shall measure the total financial exposure for operational risks and maintain separate scales for *probability and consequence* as defined by the qualitative and quantitative terms.

Critical and significant risks shall be targeted by NBIM with relevant internal controls and actions to reduce the risk level. This shall be done through reducing the probability of the event occurring and / or reducing the consequence. Risks with very high consequence and low probability shall be targeted by the business continuity plans and procedures. Critical and significant operational risks together with risk mitigation actions and controls shall be monitored and followed-up. Operational incidents shall be recorded and followed-up in a structured manner.

5. RISK MANAGEMENT REVIEWS

Internal control in Norges Bank is defined as all measures and systems established and implemented by the Executive Board, administration, and employees, in order to achieve Norges Bank's objectives and mission. Norges Bank's systems for risk reviews and internal controls shall be based on the Regulation on risk management and internal controls in Norges Bank, as issued by Ministry of Finance 17 December 2009.

NBIM shall have systems and routines for internal controls in place at all times to ensure that controls are performed on a regular basis. All control measures shall be subject to appropriate documentation and filing. Such documentation shall contain references to applicable guidelines, instructions, authorisation, and routine descriptions.

NBIM shall carry out a periodical evaluation of its risk management framework to identify and log specific improvement actions.

The Executive Board's review of the routines and systems for internal controls in NBIM will be carried out in accordance with Norges Bank's system for risk management and internal control.

6. RISK REPORTING



The Executive Board shall receive reports on the management of risk at NBIM, in line with the reporting requirements laid down in the Executive Board's Principles for Organisation and Management of Norges Banks Investment Management.