



NORGES BANK

Finansdepartementet  
Boks 8008 Dep.  
0030 Oslo

Dato: 08.02.2016  
Deres ref.:  
Vår ref.:

## Statens pensjonsfond utland – Investeringsmandat til leder av Norges Bank Investment Management

Hovedstyret i Norges Bank vedtok 16. desember 2015 og 27. januar 2016 endringer i investeringsmandat for Statens pensjonsfond utland til leder av Norges Bank Investment Management (NBIM).

16. desember 2015 fastsatte hovedstyret en ramme for forventede ekstremavvik, jf brev 26. juni 2015 fra Finansdepartementet, svarbrev 29. september 2015 fra Norges Bank, og brev 10. desember 2015 fra Finansdepartementet.

27. januar 2016 endret hovedstyret nedre beløpsgrense for eiendomsinvesteringer som skal legges frem for behandling av henholdsvis hovedstyret og Real Estate Investment Board.

Endring av beløpsgrensene for behandling av eiendomsinvesteringer fikk umiddelbar virkning. Vi legger opp til at rammen for forventede ekstremavvik vil tre i kraft 1. mars 2016. Mandatet offentliggjøres på nbim.no etter ikrafttredelse.

### **Nærmere om rammen for forventede ekstremavvik**

Departementet legger vekt på at rammen for forventede ekstremavvik skal supplere rammen for forventet relativ volatilitet. Banken har utformet rammen for forventede ekstremavvik på en måte som søker å hensynta dette.

Rammen for forventede ekstremavvik er formulert i tråd med beskrivelsen i vårt brev 29. september 2015 om rammen for avvik fra referanseindeksen. Rammen er formulert som en expected shortfall-ramme. Expected shortfall er gjennomsnittet av avvikene som kan forventes utover en gitt sannsynlighet, og inkluderer dermed samtlige observasjoner i venstre



halen av fordelingen. Som grunnlag for beregningen benytter vi en historisk simulering med utgangspunkt i dagens portefølje.

Rammen er formulert slik at NBIM skal legge opp forvaltningen med sikte på at annualisert expected shortfall, målt på 97,5 prosent konfidensnivå mellom avkastningen på fondets portefølje av aksjer og obligasjoner og tilhørende referanseindeks, ikke skal overstige en grense angitt i prosentenheter. Grensen er satt til 3,75 prosentenheter.

Rammen for forventede ekstremavvik skal vurderes årlig som en del av den årlige gjennomgangen av investeringsmandatet. Beregningsmetoden godkjennes av hovedstyret. I tråd med omtale i bankens brev 29. september 2015 vil rammen ikke omfatte fondets eiendomsinvesteringer. En beskrivelse av beregningsmetoden følger vedlagt.

Som påpekt i bankens brev 29. september 2015, er det viktig at rammen for forventede ekstremavvik fra referanseindeksen er utformet på en måte som ikke tvinger frem uheldige porteføljetilpasninger i situasjoner med ekstreme markedsbevegelser.

Videre må rammen for forventede ekstremavvik fra referanseindeksen være utformet på en måte som fremdeles gir muligheter til å følge strategier som utnytter fondets egenskaper og fortrinn. Dette er strategier som vil kunne bidra til å øke avvikene mellom sammensetningen av fondet og referanseindeksen, siden vridningen mot disse strategiene ikke er gjenspeilet i referanseindeksen. Dette er også strategier hvor det ikke er urimelig å forvente store avvik fra referanseindeksen i perioder med ekstreme markedsbevegelser. I slike perioder har banken som forvalter av fondet et fortrinn i forhold til andre investorer fordi sannsynligheten for at eier skal foreta store og uventende uttrekk av midler er liten. Rammen må være utformet på en måte som sikrer at banken kan holde fast ved sine investeringsstrategier og vurdere nye investeringsmuligheter som kan oppstå i perioder med svært volatile markeder.

Banken vil ha et rammeverk for å vurdere om markedsbevegelser er ekstreme i denne sammenheng. I slike situasjoner vil måltallet for ekstremavviksrisiko kunne endres betydelig uten at sammensetningen av porteføljen er endret. Måltallet vil for eksempel kunne endres ved at nye ekstremobservasjoner inkluderes i beregningsgrunnlaget. Banken har derfor fastsatt en ramme som i en slik særskilt situasjon innebærer at hovedstyret informeres umiddelbart og foretar en vurdering av tiltak. Leder for NBIM vil i en slik situasjon ha fullmakt til å suspendere rammen inntil hovedstyret har behandlet saken. Tiltak som hovedstyret vil vurdere i en slik situasjon kan være at posisjoner ikke økes, at posisjoner reduseres, eller at hovedstyret fastsetter en ny og høyere ramme, eventuelt at suspensjon av rammen videreføres.



Det er bankens vurdering at rammen vil bidra til at ekstremavviksrisikoen effektivt måles og rammes inn, og samtidig sikrer rom for å unngå uheldige porteføljetilpasninger og for at fondet kan følge strategier som utnytter fondets egenskaper og fortrinn også i ekstreme markedssituasjoner.

Med hilsen

  
Øystein Olsen

  
Yngve Slyngstad

Vedlegg:

Investment Mandate – Government Pension Fund Global  
Metodebeskrivelse for beregning av ekstremavviksrisiko

# INVESTMENT MANDATE - GOVERNMENT PENSION FUND GLOBAL

ISSUED BY NORGES BANK'S EXECUTIVE BOARD TO THE CHIEF  
EXECUTIVE OFFICER OF NORGES BANK INVESTMENT MANAGEMENT,  
LAST AMENDED 27 JANUARY 2016

*The Investment Mandate incorporates applicable investment provisions from the Management Mandate for the Government Pension Fund Global, issued by the Ministry of Finance. These provisions are quoted below and marked in italic and highlighted in grey in this document. In the case of inconsistencies between the Investment Mandate and the Management Mandate the latter will prevail.*

## 1. MANAGEMENT ASSIGNMENT

### 1.1 General provisions

*The Bank shall make investment decisions and exercise ownership rights independently of the Ministry of Finance.*

*The Bank shall seek to achieve the highest possible return after costs measured in the Government Pension Fund Global's currency basket and within the applicable management framework. The Bank shall seek to achieve a net return on the real estate portfolio that at least corresponds to the return on the Investment Property Databank (IPD) Global Property Benchmark excluding Norway, adjusted for the actual effect of leverage and actual management costs.*

NBIM CEO is through this investment mandate ("the Mandate") granted the responsibility for management of the Government Pension Fund Global's ("the Fund" or the "investment portfolio") investments in equities, fixed income and real estate.

The Fund shall be managed subject to the constraints set out below and in accordance with the Executive Board's principles and rules laid down for the management of the Fund and in accordance with the strategy plan.

### 1.2 Investment Advice

NBIM CEO is responsible for providing well-founded and documented advice on investment strategy and other aspects of the investment management of the Fund to Norges Bank Executive Board, including matters concerning changes in the Fund's investment strategy, strategic asset allocation, benchmark indices, investment limits, investment risk and other operating parameters for the Fund.



Investment advice can be provided on the initiative of the Bank or in response to be request from the Ministry of Finance.

### 1.3 Asset allocation

The Fund is to be invested in three asset classes; equities, fixed income instruments and real estate. Real estate can be both listed and non-listed investments.

NBIM CEO is delegated the responsibility for management of the Fund's overall exposure towards different asset classes, segments and countries. NBIM CEO shall manage the overall currency exposure of the Fund.

NBIM CEO shall provide real estate funding to investments in the non-listed real estate portfolio according to set guidelines.

### 1.4 Risk management

The Fund should be invested in a manner that improves the risk-return relationship and exposes it to different systematic risk factors.

The Fund shall be invested in such a way that it is possible, with a reasonable degree of assurance, to manage the Fund within the quantitative risk limits as laid down by the Ministry of Finance and this Mandate. The Fund shall be managed in accordance with the Executive Board's Principles for Risk Management in NBIM.

### 1.5 Delegation of investment mandate

Responsibility for investment management may be delegated subject to applicable restrictions and in accordance with the strategy plan.

Formal investment mandates are to be issued for all internally and externally managed portfolios. These mandates must, as a minimum, contain a specification of the investment universe and risk limits. The overall mandate structure shall ensure the diversification of the Fund.

Within the framework of this mandate, NBIM CEO shall issue a separate investment mandate to NBREM CEO ("the Real Estate Mandate"). NBIM CEO shall inform the Executive Board about any updates and revisions of the Real Estate Mandate.

Investment activities shall at all times comply with relevant laws and regulations in the markets where NBIM invests.



## 1.6 Strategic and actual benchmark index

The strategic and actual benchmark indices applicable to this mandate are described in appendix 1.

*If the equity share of the actual benchmark index on the last trading day of the month deviates by more than four percentage points from the weight in the strategic benchmark index, rebalancing shall take place on the last trading day of the following month.*

*NBIM shall inform the Ministry immediately if the criteria for rebalancing are met. The Bank shall report on the implementation of rebalancing, including estimates of associated costs.*

## 1.7 External managers

*The Bank may use external managers and outsource operational functions, cf section 5 of regulation no. 1630 of 17 December 2009 on risk management and internal control in Norges Bank. The fee structure in agreements with external managers shall be designed to reflect the objectives for the management of the investment portfolio, taking into account the time horizon of the relevant investment strategies. The individual management agreements on performance-based fees shall be structured so that a major proportion of the positive excess return, including provisions for caps on fees, is retained.*

*(See Chapter 3, Management restrictions set by the Executive Board)*

# 2. RESPONSIBLE INVESTMENT MANAGEMENT

## 2.1 Responsible investment management

*The Bank shall integrate its responsible investment management into the management of the GPFG , cf. chapter 2. A good long-term return is considered dependent on sustainable development in economic, environmental and social terms, as well as on well-functioning, legitimate and efficient markets.*

*The Bank shall establish a broad set of principles for the responsible investment management of the investment portfolio. In designing the principles pursuant to the first paragraph, the Bank shall emphasize the long-term horizon for the management of the investment portfolio and that the investment portfolio shall be invested widely in the markets included in the investment universe. The principles shall be based on the considerations of good corporate governance and environmental and social conditions in the investment management, in accordance with internationally recognised principles and standards such as the UN Global Compact, the OECD's Principles of Corporate Governance and the OECD's Guidelines for Multinational Enterprises. In its management of the real estate portfolio, the Bank shall, within the environmental field, consider, among other matters, energy efficiency, water consumption and waste management.*



*The Bank shall make decisions on the observation or exclusion of companies, and on the revocation of such decisions, in accordance with the Guidelines for observation and exclusion from the GPF. The Bank shall inform the Ministry about such decisions.*

## 2.2 Environment-related investments

*The Bank shall establish environment-related mandates within the limits defined in the Management mandate from the Ministry of Finance, section 3-5. The market value of the environment-related investments shall normally be in the range of 30-60 billion kroner.*

# 3. MANAGEMENT OF THE INVESTMENT PORTFOLIO

## 3.1 Investment universe

1. *The investment portfolio may be invested in financial instruments, real estate and cash deposits that have been approved according to the Ministry Mandate section 4-10, with the following restrictions:*
  - a) *the equity portfolio may be invested in equities listed on a regulated and recognised market place, listed securities that are equivalent to listed equities, depository receipts for such equities, and unlisted companies where the board has expressed an intention to seek a listing on a regulated and recognized market place;*
  - b) *the bond portfolio may be invested in tradable bonds and other tradable debt instruments, and depository receipts for such bonds;*
  - c) *The real estate portfolio may be invested in real estate or in equity and interest-bearing instruments issued by listed or non-listed companies, fund structures and other legal entities whose primary business is the acquisition, development and management or financing of real estate. These investments may be made through Norwegian or other legal entities. Investments in listed equity instruments shall be carried out on regulated and recognised markets. Real estate means rights to land and any buildings that are found upon it.*
  - d) *financial derivatives and fund units that are naturally linked to the investments in the equity, bond and real estate portfolio;*
  
2. *The Bank may not invest the investment portfolio in:*
  - a) *securities issued by a Norwegian enterprise, securities denominated in Norwegian kroner, real estate located in Norway or real estate companies, real estate funds or similar structures where the primary purpose is to invest in Norway. The same applies to covered bonds secured against assets in Norway. "Norwegian enterprise" means enterprises whose head office is in Norway.*



- b) *securities that the Bank has excluded from the investment portfolio, cf. the Management Mandate section 2-5 and the Guidelines on observation and exclusion of companies for the GPFG section 2-5;*
  - c) *fixed income instruments issued by governments or government-linked issuers in the exceptional cases where the Ministry has barred such investments based on particularly large-scale UN sanctions or other international initiatives of a particularly large scale that are aimed at a specific country and where Norway supports the initiatives;*
  - d) *unlisted companies and fund structures in a country that Norway does not have a tax treaty with or in a country which Norway cannot request information from relating to tax matters in accordance with other international agreements.*
3. *The real estate portfolio may not be invested in infrastructure such as roads, railways, harbours, airports and other basic infrastructure.*
4. *The Bank may own financial instruments and derivatives that are received by the investment portfolio as a result of corporate actions.*

### 3.2 Management restrictions set by the Ministry of Finance

1. *The Bank shall organise the management with the aim that the expected annualised standard deviation for the relative return between the equity and bond portfolio and the associated benchmark index (expected tracking error) does not exceed 1 per cent, cf the Management Mandate section 4-3 (2).*
2. *The equity and bond portfolio should be composed in such a way that the expected relative return is exposed to several different systematic risk factors.*
3. *The Bank shall organize the management with the aim that high yield bonds (credit rating lower than "investment grade") does not exceed 5 per cent of the market value of the bond portfolio. A credit rating is required for all investments in debt instruments. All internal credit ratings shall be documented.*
4. *The Bank shall seek to take account of differences in fiscal strength between countries in the composition of government bond investments.*
5. *Exposure to equities in the investment portfolio shall be in the range of 50 – 70 per cent. Exposure to equity instruments in the real estate portfolio shall not be counted. In these calculations, derivatives shall be depicted with their underlying economic exposure. Exposure shall be calculated as a share of the Net Asset Value (NAV) of the investment portfolio.*
6. *The equity portfolio may not be invested in more than 10 per cent of the voting shares in an individual company.*
7. *The Bank shall place up to 5 per cent of the investment portfolio in the real estate portfolio, cf section 3-1 (1) c).*
8. *The Bank shall seek to spread the transition to the real estate portfolio over several years and over relevant risk factors. The pace of the transition shall be determined on the basis*





*of the Bank's long-term expectations of return and risk in the real estate market and the investment portfolio's possible investments in other markets*

9. *The real estate portfolio shall be well diversified in geography and over sectors, properties and instruments.*
10. *Leverage may be used with a view to performing the management task in an effective manner, but not with a view to increasing the investment portfolio's exposure to risky assets in the equity and bond portfolio. Leverage may also be used in fund structures and by other legal entities with the aim to implement the management assignment in an effective manner, but such leverage may not be with the aim to increasing the investment portfolio's exposure to risky assets.*
11. *Reinvestment of cash collateral shall not take place with a view to increasing the investments portfolio's financial exposure to risky assets.*
12. *Short selling is only permitted if the Bank has access to the securities through an established borrowing arrangement.*

### 3.3 Management restrictions set by the Executive Board

#### 3.3.1 Equity and fixed income portfolios

*The Bank shall set supplementary limits for risks that, based on experience, are not captured well by expected tracking error, including:*

- a. *limits for the minimum overlap between the equity and bond portfolios and corresponding actual benchmark indices;*

The overlap between actual portfolio and actual benchmark index must be at least 60 per cent for the equity portfolio and 60 per cent for issuers in the fixed income portfolio.

- b. *credit risk limits at the individual issuer level and aggregated for the investment portfolio;*

For a single issuer the maximum holding of high yield bonds (credit rating lower than investment grade) is 1 per cent of the net asset value of the fixed income portfolio.

- c. *Liquidity risk limits;*

A minimum of 10 per cent of the net asset value of the investment portfolio shall be held in liquid instruments. Liquid instruments are defined as treasury bonds issued by the governments of France, Germany, Japan, the United Kingdom and the United States of America.

- d. *Counterparty risk limits;*



- I. Potential future counterparty exposure shall not exceed 0.75 per cent of the net asset value of the investment portfolio for any single counterparty.
- II. Counterparts to unsecured deposits shall have a minimum long-term rating of minimum "A" or the equivalent. Counterparts to collateralised instruments or contracts shall have a minimum long-term rating of at least "BBB" or the equivalent. Counterparts for pre-initial public offerings (pre-IPO) needs separate approval. Guidelines should be in place to ensure that a documented credit and operational risk assessment has been performed.
- III. All securities financing transactions and trading in OTC derivatives shall be subject to adequate collateral criteria. Netting agreements shall be in place before trading takes place.

e. *Leverage limits;*

Leveraging the equity and fixed income portfolio is not permitted beyond what is necessary to minimise transaction costs or is a normal part of investment management, and not in excess of 5 per cent of the net asset value of the combined equity and fixed income portfolios.

f. *Limits for the reinvestment of cash collateral received;*

Cash collateral received can only be invested in cash equivalent instruments.

g. *Limits for securities borrowing;*

The borrowing of securities may not exceed 5 per cent of the net asset value of the investment portfolio.

h. *Limit for expected large negative deviation between the return of the equity and bond portfolio and the associated benchmark index (expected extreme deviation risk)*

NBIM shall organise the management with the aim that the annualised expected shortfall measured at 97.5% confidence level for the relative return between the equity and bond portfolio and the associated benchmark index does not exceed 3.75 per cent.

The methodology for calculation of the expected shortfall shall be presented to the Executive Board.

In situations with extreme market volatility, NBIM CEO may temporarily suspend the limit. In such cases the matter shall be presented to the Executive Board without undue delay.



- i. Lending of securities is permitted, provided that NBIM ensures that adequate security is provided for the loan. Securities lent shall not exceed 20 per cent of the net asset value of the investment portfolio.
- j. When lending securities from the portfolio, one voting share in each company shall, as a minimum, always be retained to ensure that ownership rights can be exercised.
- k. The issue of call options on individual securities that are not held in the Fund is not permitted. Issuing of put and call options (measured as notional value) is limited to 2.5 per cent of the net asset value of the investment portfolio.
- l. A maximum of 1.5 per cent of the net asset value of the investment portfolio may be invested in a single company's equity.
- m. When funding real estate investments from the fixed income portfolio, consideration shall be given to maintaining the total currency risk of the investment portfolio

### 3.3.2 *Real estate portfolio*

The real estate portfolio, ref. section 3.1.1. c) shall be well diversified in geography and over sectors, properties and instruments. All weights shall be calculated by the use of net asset value of the real estate portfolio, unless otherwise is specified.

Restrictions below apply to non-listed real estate investments and listed real estate investments that are included in the real estate portfolio, unless otherwise is specified.

*In addition, the Bank shall limit the risks related to the real estate portfolio through limits for:*

*a. Investments in countries;*

The real estate portfolio shall be diversified in accordance with the following regional allocation:

- 1. United States of America: 30-70 per cent
- 2. United Kingdom: 10-40 per cent
- 3. Germany: 0-20 per cent
- 4. France: 0-20 per cent
- 5. Japan: 0-20 per cent
- 6. Other individual countries: 0-10 per cent

*b. Investments in sectors;*

*The real estate portfolio shall be diversified in accordance with the following sector allocation:*

- I. Office 40-80 per cent
- II. Retail 0-40 per cent



- III. Logistics 0-30 per cent
- IV. Other 0-10 per cent

c. *Investment in emerging markets;*

Investments in emerging markets shall not exceed 10 per cent.

d. *Investments in real estate under development;*

The net asset value invested in property under development shall not exceed 10 per cent of the net asset value of the investment in the non-listed part of the real estate portfolio.

e. *Investments in vacant real estate;*

The average economic vacancy rate for property within the non-listed part of the real estate portfolio shall not exceed 15 per cent. Properties under development shall be excluded from this calculation.

f. *Investments in a single year (vintage);*

Net investment in one calendar year (vintage year) shall not exceed 2 per cent of the net asset value of the investment portfolio.

g. *Investments in interest-bearing instruments;*

Investment in interest bearing instruments shall not exceed 25 per cent of the targeted strategic asset allocation for the real estate portfolio.

h. *Investments in listed equity instruments;*

Investment in listed equity shall not exceed 25 per cent of the targeted strategic asset allocation for the real estate portfolio.

Ownership for the fund in total in a single listed real estate company shall not exceed 20 per cent.

i. *Total debt ratio and maximum leverage for individual investments;*

The debt ratio of the non-listed real estate portfolio shall not exceed 35 per cent. No single investment shall have a debt ratio of more than 70 per cent.

j. For non-listed real estate investments, co-investment with a single investment partner shall not exceed 15 percent. Limits for performance fees paid to a single investment partner shall be established. Annual total fees to one single real estate asset management organisation shall not be above USD 25 million or currency equivalent.

k. Counterparts used for real estate daily cash management can be approved with a minimum rating requirement of BBB. Counterparts related to the acquisition of non-listed real estate needs separate approval. Guidelines should be in place to ensure that a documented credit and operational risk assessment has been performed.



3.3.3 *The Bank shall establish a limit for how large a part of the investment portfolio a single external manager may manage:*

Investment with a single external manager shall not exceed 1 per cent of the net asset value of the investment portfolio. The Chief Executive Officer may make exemptions from this maximum restriction in special circumstances for contingency purposes or transition management. The Executive Board shall be informed of such exemptions.

Agreements with each external manager shall contain provisions to ensure that the total annual fee paid per external mandate does not exceed a maximum amount, which shall not be above USD 25 million or currency equivalent. Performance fees accrued above the maximum amount may be paid the following year, subject to that year's maximum pay out and excess return over the relevant time period.

3.3.4 NBIM CEO may make exemptions from the restrictions in 3.3 in special circumstances. The Executive Board shall be informed of such exemptions without undue delay.

3.3.5 *Limits stated in the management restrictions set by the Executive Board according to the Management Mandate section 3-6 (4) and subsequent changes to these limits, shall be presented to the Ministry at least four weeks prior to their planned implementation, unless special circumstances indicate a shorter time limit.*

## 3.4 Investment Approvals

Non-listed real estate investments above 1,5 billion USD must be approved by the Executive Board.

Investments in non-listed real estate that exceed the value as set out in the Executive Board's mandate to Real Estate Investment Board (REIB) shall be presented to REIB for review and approval. The same applies for investments in public to private transactions and investments that are of significantly different nature from regular non-listed real estate transactions. Such investment may only be carried out subject to REIB approval.

## 4. ENTRY INTO FORCE

This investment mandate enters into force 27 January 2016<sup>1</sup>.

This investment mandate shall be submitted to the Executive Board for review annually.

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<sup>1</sup> Section 3.3.1 h) enters into force 1 March 2016.



## APPENDIX 1

Applicable benchmarks information as reflected in the management mandate for the GPFG issued by the Ministry of Finance.

### **Strategic benchmark index**

(1) *The strategic benchmark index for the investment portfolio has three components:*

- a) The benchmark index for the equity portfolio, cf. section 3-3*
- b) The benchmark index for the bond portfolio, cf. section 3-2*
- c) The real estate portfolio.*

(2) *The benchmark index for the equity portfolio constitutes 60 per cent of the strategic benchmark index. The benchmark index for the bond portfolio constitutes 40 per cent of the strategic benchmark index, less the share of the investment portfolio invested in the real estate portfolio. The value of the real estate portfolio is calculated as a net value. Net value means the value of the real estate portfolio less liabilities related to the investments.*

### **Actual benchmark index**

(1) *The actual benchmark index has three components:*

- a) The benchmark index for the equity portfolio, cf. section 3-3*
- b) The benchmark index for the bond portfolio, cf. section 3-2*
- c) The real estate portfolio.*

*The value of the actual benchmark index shall be the total market value of the investment portfolio at each month-end. The share of the equity, bond and real estate portfolio in the actual benchmark index move with the market value of the benchmark index for the equity portfolio and the bond portfolio, adjusted for developments in the value of the real estate portfolio. The value of the real estate portfolio is calculated as a net value, cf. section 1-4, second paragraph. The values are calculated daily.*

### **Benchmark index for bond portfolio**

(1) *The benchmark index for the bond portfolio has fixed weights with monthly rebalancing to the following sub-indices:*

- a) Government bonds: 70 per cent*
- b) Corporate bonds: 30 per cent*

(2) *The government bond sub-index of the benchmark index for the bond portfolio comprises:*

- a) all securities included in the Barclays Global Inflation-Linked Index (Series L)*
- b) all securities included in the Barclays Global Treasury GDP Weighted by Country Index*

*c) all securities included in the supranational sub-segment (of the government-related segment) of the Barclays Global Aggregate Index*

(3) *Bonds issued by supranational organisations are allocated to countries in the government bond sub-index based on the underlying currency denomination. Bonds issued by supranational organisations in euros are allocated to the category "Suprationals (EUR)".*

(4) *Country weights in the government bond sub-index are calculated on the basis of the rules*

*for the Barclays Global Treasury GDP Weighted by Country Index. GDP weights shall subsequently be adjusted in accordance with the following weighting factors:*



- a) Chile, Hong Kong and Russia shall be assigned a factor of 0.25
- b) Turkey shall be assigned a factor of 0.5.
- c) Other countries shall be assigned a factor of 1.

All weights in the government bond sub-index shall be standardised (sum of all weights equals 1). In addition, special provisions apply to countries in the euro area as described in sub-paragraph (5).

(5) Country weights shall be adjusted for the allocation to "Supranationals (EUR)" in accordance with the following rules:

- a) Proportion of "Supranationals (EUR)" in the euro area = X
- b) Allocation to "Supranationals (EUR)" = X \* total GDP weight for countries in the euro area based on weights calculated using the method specified in sub-paragraph (4).
- c) For all countries in the euro area: Country weight = (1-X)\*GDP weight for the country based on weights calculated using the method specified in sub-paragraph (4).

X is determined for a period of twelve months effective from the index provider's annual reset of GDP weights as the relationship between the market value of "Supranationals (EUR)" and the market value of all euro-denominated bonds included in the government bond sub-index. The market values are calculated as of the end of October, one month prior to the index provider's annual reset of GDP weights, based on index data published by Barclays.

(6) Within each country in the government bond sub-index, the bonds included are weighted using the methodology for the Barclays Global Treasury GDP Weighted by Country Index.

(7) The corporate bond sub-index of the benchmark index for the bond portfolio comprises all securities included in the corporate sub-sector and the covered bond sub-segment (of the securitised segment) of the Barclays Global Aggregate Index. The corporate bond sub-index is restricted to the following approved currencies: USD, CAD, EUR, GBP, SEK, DKK and CHF.

(8) Within the corporate bond sub-index, the bonds are weighted using the methodology for the Barclays Global Aggregate Index.

(9) Securities denominated in Norwegian kroner or classified by Barclays as issued in Norway

shall be excluded from the benchmark index for the bond portfolio. The same applies to securities issued by companies excluded by the Bank pursuant to the Guidelines for observation and exclusion from the GPF. When bonds are excluded from the benchmark index, the remaining bonds in the sub-index in question shall be weighted up.

When a company is reincluded under the aforementioned guidelines, the securities shall be reincluded in the benchmark index, cf. section 3-1, third paragraph.

#### **Benchmark index for the equity portfolio**

(1) The benchmark index for the equity portfolio is composed on the basis of the FTSE Global All Cap Index.

(2) The equities in the benchmark index are assigned the following factors based on their country of origin:

- a) European developed markets excluding Norway: 2.5
- b) USA and Canada: 1
- c) Other developed markets: 1.5
- d) Emerging markets: 1.5

The allocation to countries and regions and the distinction between developed and emerging markets are based on the FTSE Global All Cap Index.

(3) Each country is included in the benchmark index with a weight based on the following formula:



where *i* represents the countries with the factor in question, cf. section 3-3, second paragraph. The calculation of market capitalisation is based on the methodology for the FTSE Global All Cap Index and adjusted for free float.

(4) The benchmark index is adjusted for the Bank's tax position.

(5) Securities issued by companies excluded by the Bank pursuant to the Guidelines for observation and exclusion from the GPFG shall not be included in the benchmark index for the equity portfolio.

When a company is reincluded under the aforementioned guidelines, the securities shall be reincluded in the benchmark index, cf. section 3-1, third paragraph.

### **Return objective for the real estate portfolio**

The Bank shall seek to achieve a net return on the real estate portfolio that at least corresponds to the return on the Investment Property Databank (IPD) Global Property Benchmark excluding Norway, adjusted for the actual effect of leverage and actual management costs.



## Measurement specification for restriction 3.3.1 h in Investment Mandate - GPFG

NBIM uses annualised expected shortfall at 97.5% confidence level to measure the GPFG equity and fixed income portfolio's tail risk. Expected shortfall is also called conditional value at risk. It is the expected return in the worst  $q\%$  of the observations. In this case,  $q\% = 1 - 97.5\% = 2.5\%$ .

Annualised expected shortfall is calculated by scaling the weekly expected shortfall with square root of time (square root of 52). Weekly expected shortfall is calculated based on the distribution of weekly returns simulated by the main NBIM market risk system (RiskManager)

The specification of the return sample:

- Measurement scope: GPFG excluding real estate vs the associated MoF benchmark
- Risk methodology: Historical simulation on current exposure.
- Sample size: 520 weekly return to capture the last 10 year's history. With different reporting dates, the sample size is constant while the relevant 10 year history is different.
- Return horizon: Weekly return calculated from Wednesday to Wednesday.
- Return currency: GPFG currency basket
- Overlap: No overlap of the weekly return period.
- Weighting: All returns are equally weighted.

Weekly expected shortfall at 97.5% confidence level is the average of the worst 2.5% return observations in the simulated sample.