

# NORGES BANK INVESTMENT MANAGEMENT PERFORMANCE RESULTS

GIPS REPORT

31 DECEMBER 1997 THROUGH 31 DECEMBER 2016

Norges Bank Investment Management claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Norges Bank Investment Management has been independently verified for the periods 31 December 1997 through 31 December 2016. The verification reports are available upon request.

Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation.

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# General disclosures

## Verification

Norges Bank Investment Management has been independently verified for the period 31 December 1997 through 31 December 2016. The third party verifier's report is available on our website [www.nbim.no](http://www.nbim.no).

## The firm

Norges Bank Investment Management, as the firm, is the asset management unit of the Norwegian central bank (Norges Bank). Norges Bank Investment Management manages the Government Pension Fund Global (Pension Fund) and the equity investments of Norges Bank's foreign exchange reserves (Reserves Fund, equity).

## Firm assets

Total firm assets include all assets that Norges Bank Investment Management has management responsibility for. As of year-end 2016 this is the sum of the Government Pension Fund Global and the equity investments of Norges Bank's foreign exchange reserves.

The fixed income investments of Norges Bank's long-term portfolio of foreign exchange reserves were transferred to Norges Bank Markets and Banking Services division on 30 November 2016 and is no longer part of the firm's managed assets. On close of 31 December 2010 the Government Petroleum Insurance Fund was terminated and the assets were transferred to the Pension Fund. On 1 June 2012, the management of the Petroleum Buffer portfolio was transferred to Norges Bank Markets and Banking Services division.

## Minimum asset level

Norges Bank Investment Management does not operate with a minimum asset level for portfolios to be included in a composite. All portfolios are accounted for in at least one composite.

## Calculation methodology

Norges Bank Investment Management implements a time-weighted monthly rate of return methodology in the return calculations. The assets' fair value is determined on the day of an external cash flow and interim returns are geometrically linked. Norges Bank Investment Management has not adopted a significant cash flow policy. All composite returns are calculated net of non-reclaimable withholding taxes on dividend, interest and capital gains. Withholding taxes are recognized when incurred. Norges Bank Investment Management uses accrual accounting for interest income and dividends. Securities lending income is included in portfolio return.

Assets and liabilities are reported on a fair value basis and in Norwegian kroner (NOK). Fair value is the estimated realisable value of an asset or the estimated cost of settling a liability in an arm's length transaction between well-informed and willing parties. The sources of valuation and pricing follow Norges Bank Investment Management's valuation hierarchy, which is well aligned with the GIPS standards' recommendations. Performance is reported

in terms of an international currency basket corresponding to the currency composition of the funds' benchmark portfolios. This measure reflects the actual performance of the funds and isolates the effects of Norwegian kroner fluctuations versus the currencies in which the benchmarks are invested. Currency movements in Norwegian kroner do not affect the international purchasing power of the funds.

### **Carve-outs**

The asset class composites constitute carve-outs from the total portfolio. Each composite holds its own cash balance. For each annual period presented in the equity and fixed-income composites (applies to Pension Fund and Reserves Fund) and the real estate composite (applies to Pension Fund), the share of composite assets represented by carve-outs equals 100 percent. The unlisted real estate composite can be seen as a carve-out of the Pension Fund's real estate portfolio.

### **Additional information**

A list of composite descriptions and additional information regarding policies for valuing portfolios, calculating performance, and preparing compliant presentations is available upon request.

A large extent of information is available on our website [www.nbim.no](http://www.nbim.no).

## Performance results: Government Pension Fund Global 31 December 1997 – 31 December 2016

NORGES BANK  
INVESTMENT  
MANAGEMENT  
PERFORMANCE RESULTS

Report presented as of: 31 December 2016

Reported assets currency: Norwegian kroner

Reported returns currency: Currency basket<sup>1</sup>

Year	Composite Return <sup>2</sup>	Composite 3-Yr St Dev <sup>3</sup>	Number of Portfolios <sup>4</sup>	Composite Assets <sup>5</sup>	Firm Assets <sup>5</sup>
1998	9.26		1	171,832	279,205
1999	12.44		1	222,408	340,855
2000	2.49	5.68	1	386,450	522,544
2001	-2.47	5.89	1	613,686	739,116
2002	-4.74	5.91	1	609,007	743,670
2003	12.59	6.27	1	845,306	1,044,264
2004	8.94	5.33	1	1,016,402	1,236,653
2005	11.09	4.00	1	1,399,050	1,648,874
2006	7.92	3.36	1	1,783,683	2,047,074
2007	4.26	3.60	1	2,018,643	2,261,368
2008	-23.31	9.39	1	2,275,426	2,498,961
2009	25.62	12.27	1	2,640,043	2,851,020
2010	9.62	13.30	1	3,077,420	3,317,700
2011	-2.54	10.52	1	3,311,572	3,539,396
2012	13.42	8.24	1	3,815,769	4,043,153
2013	15.95	7.24	1	5,037,734	5,311,043
2014	7.58	5.72	1	6,430,739	6,778,049
2015	2.74	6.68	1	7,475,153	7,886,255
2016	6.92	6.54	1	7,510,494	7,687,711

### Notes:

<sup>1</sup> The currency basket corresponds to the currency composition in the fund's benchmark portfolio. The basket consisted of 34 international currencies at the end of 2016. The use of the currency basket is mandated by the Ministry of Finance.

<sup>2</sup> Returns are gross-of-fees and stated in percent.

<sup>3</sup> Three-year annualised ex-post standard deviation in percent using 36 monthly returns.

<sup>4</sup> A measure of internal dispersion is not provided since the composite contains only one portfolio.

<sup>5</sup> Assets are stated in millions of Norwegian kroner.

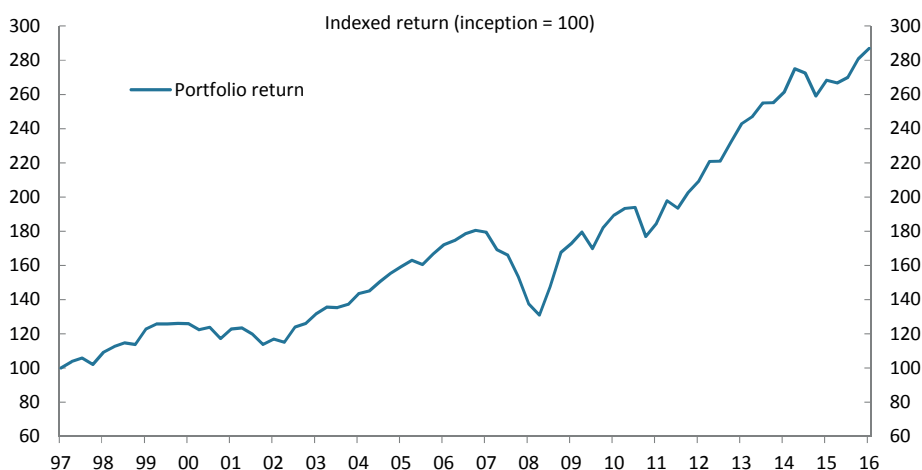
Supplemental Information	3 Years	5 Years	10 Years	Since inception
Composite return <sup>1</sup>	5.72	9.22	5.25	5.70
Standard deviation of composite return <sup>2</sup>	6.54	6.46	9.05	7.49
Sharpe ratio <sup>3</sup>	0.87	1.39	0.54	0.52

Notes: All figures are annualised.

<sup>1</sup> Gross-of-fees returns stated in percent.

<sup>2</sup> Ex-post standard deviation in percent using monthly returns.

<sup>3</sup> Average monthly return in excess of the risk-free rate divided by the standard deviation of monthly returns.



### Composite creation date and inception date

The composite inception date and the composite creation date of the Government Pension Fund Global are 31 December 1997.

### Composite description

Norges Bank Investment Management manages the Pension Fund on behalf of the Ministry of Finance. The Government Pension Fund Global composite contains only this portfolio. The fund is invested in three major asset classes. The strategic weights are assigned by the Ministry of Finance and were 60 percent equity, up to 5 percent real estate and the remainder (35–40 percent) to bonds at year-end 2016. Real estate can be both in listed and unlisted investments. Before June 2009, the strategic weights were 40 percent equity and 60 percent fixed income.

Norges Bank Investment Management seeks to achieve the highest possible return after costs measured in the Pension Fund's currency basket and within the applicable management framework. The Ministry of Finance has set limits for how much risk Norges Bank Investment Management may take in its management of the Pension Fund. The management shall be organised 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 1.25 percent. This level was increased from 1.00 percent to 1.25 percent on 1 February 2016.

The fund cannot invest in securities that Norges Bank has excluded from the investment universe and further not in 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. Accrued costs and deposits on real estate are included in the composite's assets and firm assets prior to inception of real estate 31 March 2011.

From the second quarter of 2000 and up to the fourth quarter of 2002, a tactical allocation fund was included in the numbers for the Government Pension Fund Global, but not at asset class level. Its mandate was to invest across asset classes using quantitative analysis, and it had average total assets under management of around 4 billion Norwegian kroner during that period.

## Derivatives, leverage and short positions

Norges Bank Investment Management's access to the use of financial derivatives is regulated as part of the provisions on the management of the Government Pension Fund Global laid down by the Ministry of Finance. Specifically, financial derivatives that are naturally linked to investments in the equity, bond and real estate portfolio may be used. In accordance with the investment mandate, the Pension Fund may use exchange traded future and option contracts and over-the-counter (OTC) derivative contracts, e.g. interest-rate swaps, in order to achieve the lowest possible transaction cost and to efficiently rebalance the portfolio. The segmented net fair values and exposure of the financial derivatives for the last two years are shown in the table below.

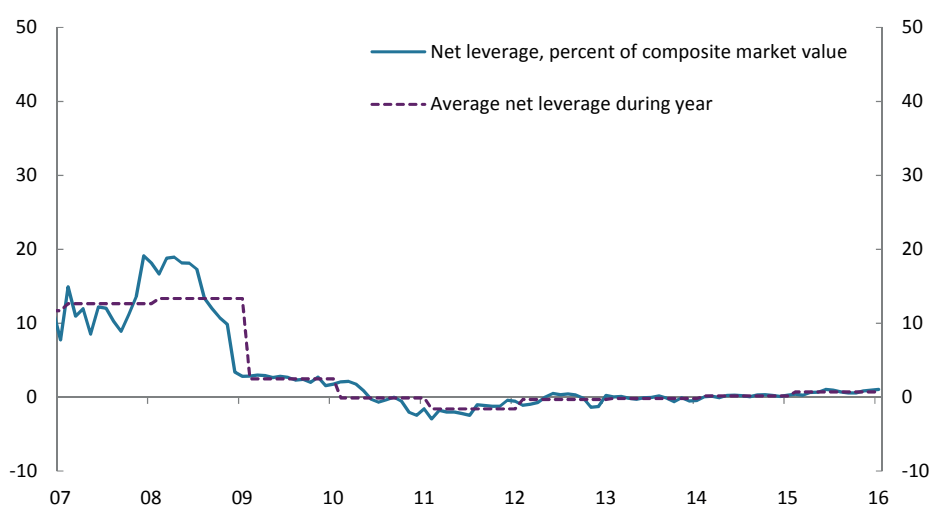
Financial derivatives	Average exposure through year				Net fair value at year-end	
	2016		2015		2016	2015
	Purchased	Sold	Purchased	Sold		
Foreign exchange contracts	177,456	-	183,034	-	2,591	2,831
Exchange traded futures	13,795	19,729	11,155	27,933	-	-
Interest-rate swaps	2,814	36,392	4,339	41,558	-1,978	-3,192
Warrants and rights	396	-	613	-	319	450
Participatory certificates	3,147	-	2,429	-	3,933	3,475
Contracts for difference	5,403	846	-	-	-	-

Figures in millions of Norwegian kroner

Foreign exchange contracts consist of foreign currency exchange contracts with normal settlement for future delivery and non-deliverable contracts. Exchange traded futures consist of equity index futures and listed government bonds futures. Interest-rate swaps are agreements where the fund receives or pays a fixed rate of interest in exchange for a floating rate. Warrants and rights are options to buy a stock at an agreed price within a certain timeframe. Participatory certificates are instruments issued to international investors by registered foreign institutional investors to acquire an economic interest in listed shares. Contracts for difference are agreements where two counterparties exchange cash flows based on changes in the value of an underlying equity or index.

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. More specifically, 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 percent of the net asset value of the combined equity and fixed-income portfolios. For the unlisted real estate portfolio, the maximum allowed debt ratio is 35 percent, equating to a net leverage level of 54 percent for that portfolio. The debt ratio of the unlisted real estate portfolio was 7.7 percent of total real estate assets at the end of 2016. Due to the composite's limited asset allocation to unlisted real estate, the debt on the balance sheet currently has an immaterial impact on the leverage of the total fund.

The use of leverage was scaled back in the second half of 2009 due to changes in market conditions and a reorganization of Norges Bank Investment Management's fixed-income management. Historically, leverage has predominantly been used within the fixed-income composite to exploit differences in rates or credit spreads by combining derivatives, forward contracts and repurchase agreements. Within the equity segment, leverage is mainly used to efficiently handle fund management activities and has historically been insignificant. Net leverage is calculated by comparing net exposure and actual market value (net asset value). Net exposure is found by converting all derivatives to underlying exposure. Prior to 2011 the leverage was calculated by looking at the net sum of all cash positions. Below, the net leverage in percent of the composite's fair value is shown as a time series.

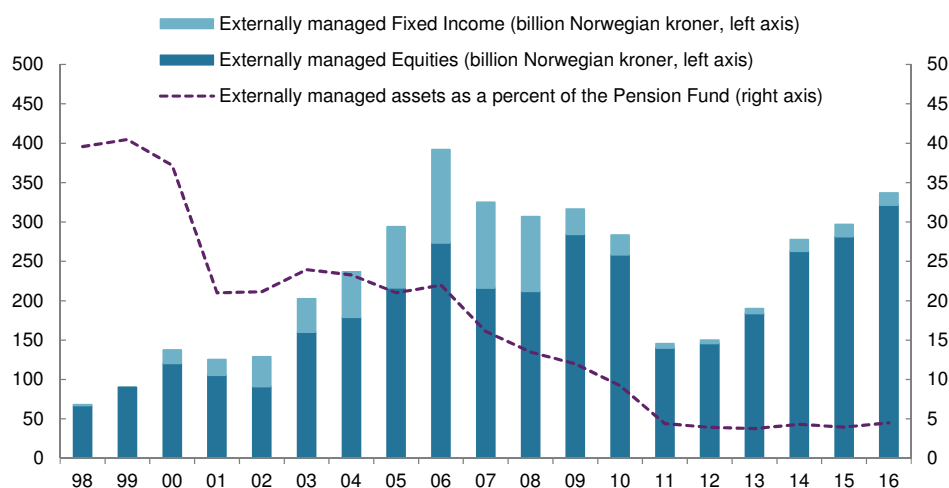


Short positions are permitted in the management of the Pension Fund given that Norges Bank Investment Management has access to the securities through an established borrowing arrangement. However, restrictions are laid down as part of the CEO investment mandate issued by Norges Bank's Executive Board. The presence, use, and extent of short positions in the composite's portfolio are immaterial.

### Sub-advisors

Norges Bank Investment Management uses external investment managers to handle parts of the portfolio. Norges Bank Investment Management awards management mandates to organizations with expertise in clearly defined sectors, countries or regions. The fund's externally managed mandates had assets under management worth 337 billion Norwegian kroner at the end of 2016. This is equivalent to approximately 4.5 percent of the fund's total value. External equity mandates accounted for around 95 percent of the total external assets under management. There were a total of 87 external equity mandates and 4 external fixed-income mandates, managed by 76 different investment managers as of year-end 2016. The graph below shows the composition of externally managed assets at year-end since inception as well as a share of the total Pension Fund. The complete list of organizations managing assets on behalf of Norges Bank Investment Management is available on our website [www.nbim.no](http://www.nbim.no).





### Benchmark description

For the total fund composite, no benchmark returns are presented, as no appropriate benchmark has yet been assigned to the real estate portion of the fund. Any benchmark for the total portfolio would exclude this asset class, therefore none has been deemed appropriate. The fund consists of the aggregate of the equity, fixed income and real estate composites. For the equity and fixed income parts, a custom benchmark composed of an equity benchmark provided by the FTSE Group with combined market capitalization and factor weights applied and a GDP weighted fixed-income benchmark compiled by Bloomberg Barclays Indices exist and are presented in the Government Pension Fund Global, excluding real estate composite.

### Fee schedule

Performance numbers are gross of management fees and custodial fees, but net of all trading expenses (transaction costs). In addition, non-reclaimable withholding taxes are deducted in the performance numbers. Norges Bank Investment Management does not operate with a fee schedule as mutual funds typically do. The management expense ratio was 5 basis points for 2016, down from 6 basis points in 2015. The table below shows the different components of the total management costs. Note that this table also covers internal costs (like personnel costs, IT/support systems costs) in relation to real estate investment management, but not direct costs incurred in the real estate holdings structure.

Management costs	2016		2015	
	Amount	Percent	Amount	Percent
Custody and settlement costs	379		394	
Minimum fees to external managers	638		615	
Performance based fees to external managers	222		578	
Internal and other costs	2,492		2,346	
Total management costs	3,731	0.05	3,933	0.06
Total management cost excl. performance based fees	3,509	0.05	3,355	0.05

Amounts stated in millions of Norwegian kroner

Performance results: Government Pension Fund Global,  
excluding real estate  
31 December 1997 – 31 December 2016

NORGES BANK  
INVESTMENT  
MANAGEMENT  
PERFORMANCE RESULTS

Report presented as of: 31 December 2016  
Reported assets currency: Norwegian kroner  
Reported returns currency: Currency basket<sup>1</sup>

Year	Com- posite Return <sup>2</sup>	Bench- mark Return <sup>2</sup>	Relative Return <sup>2</sup>	Com- posite 3-Yr St Dev <sup>3</sup>	Bench- mark 3-Yr St Dev <sup>3</sup>	Number of Port- folios <sup>4</sup>	Compos- ite Assets <sup>5</sup>	Firm Assets <sup>5</sup>
1998	9.26	9.08	0.18			1	171,832	279,205
1999	12.44	11.21	1.23			1	222,408	340,855
2000	2.49	2.22	0.27	5.68	5.59	1	386,450	522,544
2001	-2.47	-2.62	0.15	5.89	5.72	1	613,686	739,116
2002	-4.74	-5.04	0.30	5.91	5.82	1	609,007	743,670
2003	12.59	12.04	0.55	6.27	6.18	1	845,306	1,044,264
2004	8.94	8.39	0.54	5.33	5.31	1	1,016,402	1,236,653
2005	11.09	10.03	1.06	4.00	3.92	1	1,399,050	1,648,874
2006	7.92	7.78	0.14	3.36	3.18	1	1,783,683	2,047,074
2007	4.26	4.50	-0.24	3.60	3.30	1	2,018,643	2,261,368
2008	-23.31	-19.93	-3.37	9.39	8.41	1	2,275,426	2,498,961
2009	25.62	21.49	4.13	12.27	11.04	1	2,640,043	2,851,020
2010	9.62	8.57	1.06	13.30	12.13	1	3,077,441	3,317,700
2011	-2.55	-2.42	-0.13	10.53	9.96	1	3,300,444	3,539,396
2012	13.45	13.24	0.21	8.25	8.05	1	3,790,646	4,043,153
2013	15.97	14.98	0.99	7.27	7.11	1	4,985,940	5,311,043
2014	7.53	8.30	-0.77	5.76	5.62	1	6,289,870	6,778,049
2015	2.52	2.07	0.45	6.80	6.68	1	7,239,955	7,886,255
2016	7.12	6.97	0.15	6.67	6.55	1	7,268,738	7,687,711

Notes:

- <sup>1</sup> The currency basket corresponds to the currency composition in the fund's benchmark portfolio. The basket consisted of 34 international currencies at the end of 2016. The use of the currency basket is mandated by the Ministry of Finance.
- <sup>2</sup> Returns are gross-of-fees and stated in percent. Relative return is supplemental information.
- <sup>3</sup> Three-year annualised ex-post standard deviation in percent using 36 monthly returns.
- <sup>4</sup> A measure of internal dispersion is not provided since the composite contains only one portfolio.
- <sup>5</sup> Assets are stated in millions of Norwegian kroner.

Supplemental Information	3 Years	5 Years	10 Years	Since inception
Composite return <sup>1</sup>	5.70	9.21	5.24	5.70
Benchmark return <sup>1</sup>	5.75	9.01	5.19	5.44
Relative return	-0.05	0.20	0.06	0.26
Standard deviation of composite return <sup>2</sup>	6.67	6.55	9.08	7.51
Standard deviation of benchmark return <sup>2</sup>	6.55	6.43	8.49	7.11
Tracking error <sup>3</sup>	0.39	0.37	0.90	0.71
Information ratio <sup>4</sup>	-0.10	0.52	0.12	0.39
Composite Sharpe ratio <sup>5</sup>	0.85	1.37	0.54	0.52
Benchmark Sharpe ratio <sup>5</sup>	0.88	1.37	0.56	0.51
Jensen's alpha <sup>6</sup>	-0.13	0.03	-0.20	0.08
Appraisal ratio <sup>7</sup>	-0.34	0.10	-0.28	0.14

Notes: All figures are annualised.

<sup>1</sup> Gross-of-fees returns stated in percent.

<sup>2</sup> Ex-post standard deviation in percent using monthly returns.

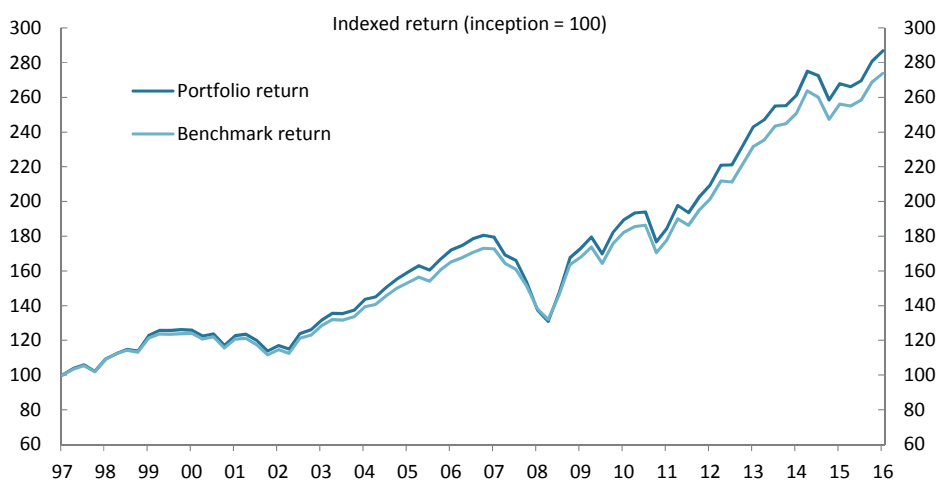
<sup>3</sup> Ex-post standard deviation of monthly relative returns.

<sup>4</sup> Average relative return divided by the tracking error.

<sup>5</sup> Average monthly return in excess of the risk-free rate divided by the standard deviation of monthly returns.

<sup>6</sup> Average return in excess of the risk-free rate minus beta-adjusted benchmark excess return.

<sup>7</sup> Jensen's alpha divided by the standard deviation of the residuals of the CAPM regression.



### Composite creation date and inception date

The composite inception date and the composite creation date of the Government Pension Fund Global, excluding real estate are 31 December 1997.

### Composite description

Norges Bank Investment Management manages the Pension Fund on behalf of the Ministry of Finance. The Government Pension Fund Global, excluding real estate composite is a carve-out of the Government Pension Fund Global composite, which excludes the real estate investments. It can also be viewed as the aggregate of the Pension Fund's equity and fixed-income composites. Since the Government Pension Fund Global, excluding real estate composite does not include the Pension Fund's real estate holdings, the resulting strate-

gic weights for this composite was around 62 percent equity investments and 38 percent fixed-income investments at year-end 2016. Before June 2009, the strategic weights were 40 percent equity and 60 percent fixed income.

Norges Bank Investment Management seeks to achieve the highest possible return after costs measured in the Pension Fund's currency basket and within the applicable management framework. The Ministry of Finance has, however, set limits for how much risk Norges Bank Investment Management may take in its management of the Pension Fund. The management shall be organised 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 1.25 percent. This level was increased from 1.00 percent to 1.25 percent on February 1, 2016.

The composite cannot invest in securities that Norges Bank has excluded from the investment universe and further not in securities issued by a Norwegian enterprise, securities denominated in Norwegian kroner.

From the second quarter of 2000 and up to the fourth quarter of 2002, a tactical allocation fund was included in the numbers for the Government Pension Fund Global excluding real estate composite, but not at asset class level. Its mandate was to invest across asset classes using quantitative analysis, and it had average total assets under management of around 4 billion Norwegian kroner during that period.

### Derivatives, leverage and short positions

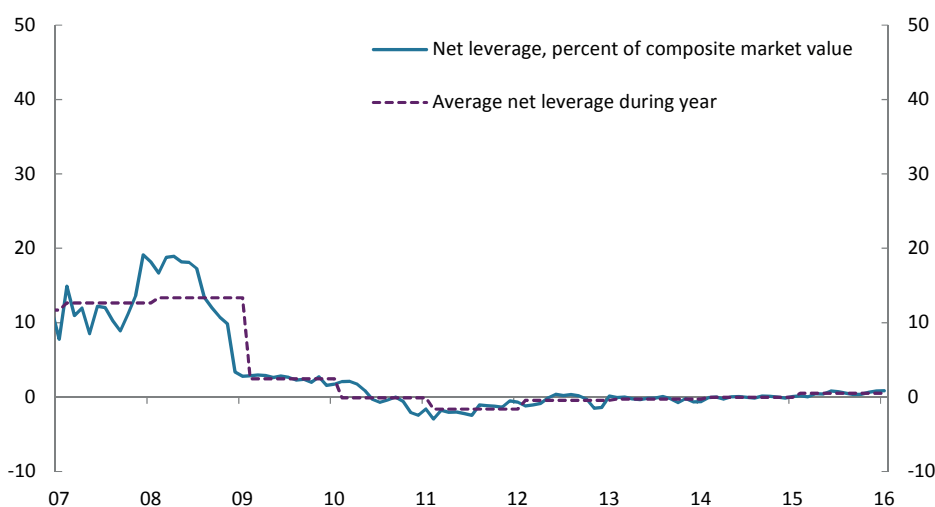
Norges Bank Investment Management's access to the use of financial derivatives is regulated as part of the provisions on the management of the Government Pension Fund Global laid down by the Ministry of Finance. Specifically, financial derivatives that are naturally linked to investments in the equity and bond portfolio may be used. In accordance with the investment mandate, the Pension Fund may use exchange traded future and option contracts and over-the-counter (OTC) derivative contracts, e.g. interest-rate swaps, in order to achieve the lowest possible transaction cost, and to efficiently rebalance the portfolio. The segmented net fair values and exposure of the financial derivatives for the last two years are shown in the table below.

Financial derivatives	Average exposure through year				Net fair value at year-end	
	2016		2015		2016	2015
	Purchased	Sold	Purchased	Sold		
Foreign exchange contracts	177,456	-	183,034	-	2,591	2,831
Exchange traded futures	13,795	19,729	11,155	27,933	-	-
Interest-rate swaps	2,814	36,392	4,339	41,558	-1,978	-3,192
Warrants and rights	396	-	613	-	319	450
Participatory certificates	3,147	-	2,429	-	3,933	3,475
Contracts for difference	5,403	846	-	-	-	-

Figures in millions of Norwegian kroner

Foreign exchange contracts consist of foreign currency exchange contracts with normal settlement for future delivery and non-deliverable contracts. Exchange traded futures consist of equity index futures and listed government bonds futures. Interest-rate swaps are agreements where the fund receives or pays a fixed rate of interest in exchange for a floating rate. Warrants and rights are options to buy a stock at an agreed price within a certain timeframe. Participatory certificates are instruments issued to international investors by registered foreign institutional investors to acquire an economic interest in listed shares. Contracts for difference are agreements where two counterparties exchange cash flows based on changes in the value of an underlying equity or index.

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. More specifically, 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 percent of the net asset value of the combined equity and fixed-income portfolios. The use of leverage was scaled back in the second half of 2009 due to changes in market conditions and a reorganization of Norges Bank Investment Management's fixed-income management. Historically, leverage has predominantly been used within the fixed-income composite to exploit differences in rates or credit spreads by combining derivatives, forward contracts and repurchase agreements. Within the equity segment leverage is mainly used to efficiently handle fund management activities and has historically been insignificant. Net leverage is calculated by comparing net exposure and actual market value (net asset value). Net exposure is found by converting all derivatives to underlying exposure. Prior to 2011 the leverage was calculated by looking at the net sum of all cash positions. Below, the net leverage in percent of the composite's fair value is shown as a time series.

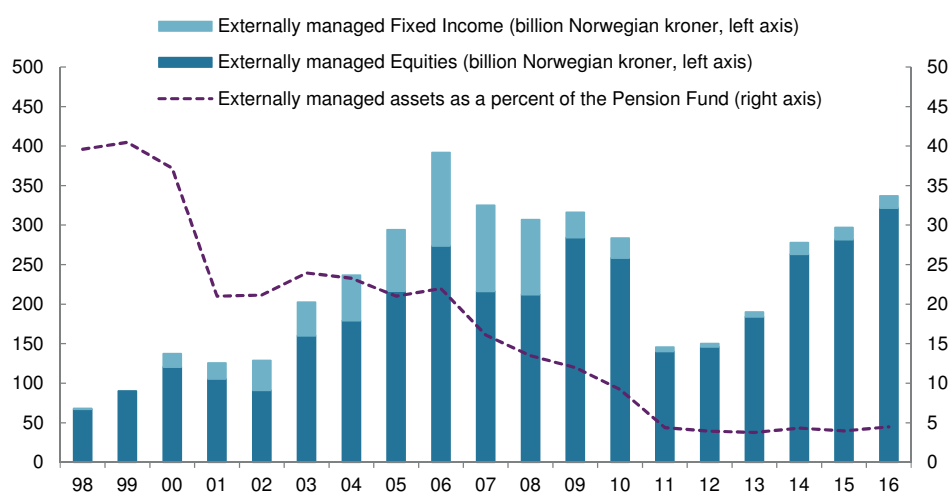


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Executive Board. The presence, use, and extent of short positions in the composite's portfolio are immaterial.

### Sub-advisors

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### Benchmark description

The benchmark of the Pension Fund excluding real estate composite is a custom benchmark composed of an equity benchmark provided by the FTSE Group with combined market capitalization and factor weights applied and a GDP weighted fixed-income benchmark compiled by Bloomberg Barclays Indices. As the composite does not include the Pension Fund's real estate holdings, the resulting strategic benchmark weights for this composite were around 62 percent equity investments and 38 percent fixed-income investments at 30 November 2016.

The benchmark index for the equity portfolio is composed on the basis of the FTSE Global All Cap Index. The benchmark is market capitalization weighted with additional factors to adjust the country weights. The equities in the benchmark index are assigned the following factors based on their country of origin: European developed markets excluding Norway 2.5, USA and Canada 1, other developed markets 1.5 and 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. The benchmark is adjusted for the fund's tax position on dividends. Securities issued by companies excluded by Norges Bank pursuant to the guidelines for observation and exclusion from the Government Pension Fund Global are not included in the benchmark index for the equity portfolio. At year-end the equity benchmark consisted of 46 countries and more than 7,500 securities.

The strategic fixed-income benchmark index consists of 70 percent government debt (nominal and inflation-linked government bonds, and including bonds issued by supranational organisations) and 30 percent corporate debt (corporate bonds, including covered bonds). The index consists of the Bloomberg Barclays Global Treasury, GDP weighted by country, the Bloomberg Barclays Global Inflation-Linked index (Series L), and the subgroup Supranational (within government related) in the Bloomberg Barclays Global Aggregate bond index for the government sector and all corporate bonds and sub group covered bonds within Bloomberg Barclays Global Aggregate limited to the currencies US dollars, Canadian dollars, euros, British pounds, Swedish kronor, Danish kroner and Swiss francs. The Bloomberg Barclays indices are not adjusted for withholding tax, but are adjusted for excluded companies/issuers. At year-end the benchmark consisted of 22 currencies and more than 12,000 securities. The actual weights of the benchmark as of 31 December 2016 can be seen below together with strategic changes to the benchmark historically.

Country for equity benchmark (Currency for fixed-income benchmark)	Equities Actual benchmark indices	Fixed-income Actual benchmark indices
<b>Asset class weights</b>	<b>64.2</b>	<b>35.8</b>
USA (USD)	37.87	44.41
Canada (CAD)	2.36	3.22
Brazil	0.87	
Mexico (MXN)	0.37	1.80
Chile (CLP)	0.13	0.09
Colombia	0.05	
Peru	0.03	
<b>Total Americas</b>	<b>41.67</b>	<b>49.52</b>
Germany	5.27	
France	5.07	
Netherlands	1.83	
Spain	1.81	
Italy	1.42	
Belgium	0.77	
Finland	0.66	
Austria	0.19	
Ireland	0.14	
Portugal	0.11	
Greece	0.05	
<i>Euro-area (EUR)</i>	<i>17.32</i>	<i>26.36</i>
United Kingdom (GBP)	10.28	5.76
Switzerland (CHF)	4.95	1.51
Sweden (SEK)	1.83	1.16
Denmark (DKK)	0.97	0.58
Russia (RUB)	0.46	0.64
Poland (PLN)	0.13	0.75
Turkey (TRY)	0.12	
Hungary	0.03	
Czech Republic (CZK)	0.01	0.29
<b>Total Europe</b>	<b>36.11</b>	<b>37.05</b>
Japan (JPY)	8.91	6.55
Australia (AUD)	2.61	2.00
China	2.27	
South Korea (KRW)	1.60	2.04
Taiwan	1.57	
Hong Kong (HKD)	1.23	0.11
India	1.07	
Singapore (SGD)	0.48	0.44
Thailand (THB)	0.41	0.60
Malaysia (MYR)	0.30	0.47
Indonesia	0.27	
Philippines	0.14	
New Zealand (NZD)	0.12	0.27
Pakistan	0.02	
<b>Total Asia / Oceania</b>	<b>21.02</b>	<b>12.48</b>
South Africa (ZAR)	0.81	0.50
Israel (ILS)	0.20	0.45
United Arab Emirates	0.11	
Qatar	0.05	
Egypt	0.02	
<b>Total Middle East and Africa</b>	<b>1.19</b>	<b>0.95</b>

Figures in percent



Strategic benchmark changes	Advice from Norges Bank	Implementation
<b>Capital Allocation</b>		
Equity is introduced to the fund and allocation is set at 40 percent	07.11.97	June 1998
Equity allocation is increased to 60 percent and Fixed Income reduced to 40 percent	10.02.06	June 2009
<b>Equity</b>		
Inclusion of Emerging Markets Brazil, Mexico, Greece, Turkey, Taiwan, Thailand and South Korea	30.08.00	January 2001
Small-cap included in the benchmark	20.10.06	March 2008
Benchmark consists of countries in categories "Developed", "Advanced Emerging" and "Secondary Emerging" within FTSE All Cap and specific country list is discontinued	24.06.08	December 2008
Country market capitalization factors introduced. Strategic weights on regions removed	02.02.12	July 2012
<b>Fixed income</b>		
Introduction of corporate and securitized bonds	15.03.01	December 2003
Asia/Oceania regional fixed income weight reduced by 10 percent (offset by a 5 percent increase in the regional weights for America and Europe)	12.12.01	December 2003
Inflation linked government bonds included in the benchmark	06.09.04	November 2005
Reduction of 5 percent in the regional Asia weight met with a corresponding increase in the Europe weight	28.03.06	September 2006
GDP weighting of government segment and 70 percent/30 percent split of government/private segments introduced. Strategic weights on regions removed	18.03.11	February 2012
Emerging market currencies introduced to benchmark	01.02.12	July 2012
Weighting factors introduced for selected currencies in the government segment	14.03.14	April 2014

### Benchmark rebalancing

The actual benchmark weights may differ from the strategic benchmark weights due to the price movements in the market. For example, a stronger increase in equity prices will push the equities portion above its strategic weight. As a result, the actual benchmark portfolio may deviate from the strategic long-term benchmark portfolio. Inflows and outflows are determined based on asset class weight in the actual benchmark.

The Ministry of Finance has set rules for full rebalancing back to the strategic weights. These rules specify the maximum permitted deviation between the

weights in the actual benchmark portfolio and the strategic benchmark portfolio before the benchmark must be rebalanced back to strategic weights. If the equity share of the actual benchmark index on the last trading day of the month deviates by more than 4 percentage points from the weight in the strategic benchmark index, rebalancing is initiated on the last trading day of the following month. The Ministry of Finance sets more detailed provisions on the rebalancing of the actual benchmark index.

### **Portfolio rebalancing**

Inflows and outflows to the portfolio are treated independently of the benchmark. The portfolio is rebalanced independently of the benchmark, but is governed by the tracking error limit.

### **Fee schedule**

Performance numbers are gross of management fees and custodial fees, but net of all trading expenses (transaction costs). In addition, non-reclaimable withholding taxes are deducted in the performance numbers. Norges Bank Investment Management does not operate with a fee schedule as mutual funds typically do. The management expense ratio was 5 basis points for 2016, down from 6 basis points in 2015.

## Performance results: Government Pension Fund Global, equity 31 December 1998 – 31 December 2016

NORGES BANK  
INVESTMENT  
MANAGEMENT  
PERFORMANCE RESULTS

Report presented as of: 31 December 2016  
Reported assets currency: Norwegian kroner  
Reported returns currency: Currency basket<sup>1</sup>

Year	Com- posite Return <sup>2</sup>	Bench- mark Return <sup>2</sup>	Relative Return <sup>2</sup>	Com- posite 3-Yr StDev <sup>3</sup>	Bench- mark 3-Yr St Dev <sup>3</sup>	Number of Portfoli- os <sup>4</sup>	Compos- ite Assets <sup>5</sup>	Firm Assets <sup>5</sup>
1999	34.81	31.32	3.49			1	93,651	340,855
2000	-5.82	-6.31	0.49			1	152,829	522,544
2001	-14.60	-14.66	0.06	15.24	14.81	1	246,412	739,116
2002	-24.39	-24.47	0.07	16.94	16.74	1	230,993	743,670
2003	22.84	22.33	0.51	18.15	18.02	1	361,165	1,044,264
2004	13.00	12.21	0.79	15.30	15.26	1	416,298	1,236,653
2005	22.49	20.33	2.16	9.71	9.53	1	582,305	1,648,874
2006	17.04	17.13	-0.09	7.66	7.17	1	725,922	2,047,074
2007	6.82	5.67	1.15	8.70	8.25	1	957,895	2,261,368
2008	-40.71	-39.56	-1.15	17.01	16.28	1	1,128,937	2,498,961
2009	34.27	32.41	1.86	20.85	20.19	1	1,644,106	2,851,020
2010	13.34	12.61	0.73	22.20	21.56	1	1,891,250	3,317,700
2011	-8.84	-8.36	-0.48	17.74	17.46	1	1,944,722	3,539,396
2012	18.06	17.54	0.52	14.29	14.03	1	2,335,830	4,043,153
2013	26.28	24.99	1.28	12.39	12.12	1	3,106,944	5,311,043
2014	7.90	8.73	-0.82	9.14	8.95	1	3,939,923	6,778,049
2015	3.83	3.00	0.83	10.24	10.05	1	4,571,808	7,886,255
2016	8.72	8.58	0.15	10.50	10.29	1	4,691,863	7,687,711

### Notes:

- 1 The currency basket corresponds to the currency composition in the fund's benchmark portfolio. The basket consisted of 34 international currencies at the end of 2016. The use of the currency basket is mandated by the Ministry of Finance.
- 2 Returns are gross-of-fees and stated in percent. Relative return is supplemental information.
- 3 Three-year annualised ex-post standard deviation in percent using 36 monthly returns.
- 4 A measure of internal dispersion is not provided since the composite contains only one portfolio.
- 5 Assets are stated in millions of Norwegian kroner.

Supplemental Information	3 Years	5 Years	10 Years	Since inception
Composite return <sup>1</sup>	6.80	12.67	4.78	5.46
Benchmark return <sup>1</sup>	6.73	12.30	4.54	4.97
Relative return	0.06	0.37	0.24	0.49
Standard deviation of composite return <sup>2</sup>	10.50	10.36	15.25	14.62
Standard deviation of benchmark return <sup>2</sup>	10.29	10.16	14.85	14.27
Tracking error <sup>3</sup>	0.51	0.45	0.72	0.80
Information ratio <sup>4</sup>	0.16	0.78	0.41	0.66
Composite Sharpe ratio <sup>5</sup>	0.67	1.20	0.34	0.32
Benchmark Sharpe ratio <sup>5</sup>	0.68	1.19	0.33	0.29
Jensen's alpha <sup>6</sup>	-0.06	0.12	0.17	0.43
Appraisal ratio <sup>7</sup>	-0.12	0.29	0.28	0.59

Notes: All figures are annualised.

<sup>1</sup> Gross-of-fees returns stated in percent.

<sup>2</sup> Ex-post standard deviation in percent using monthly returns.

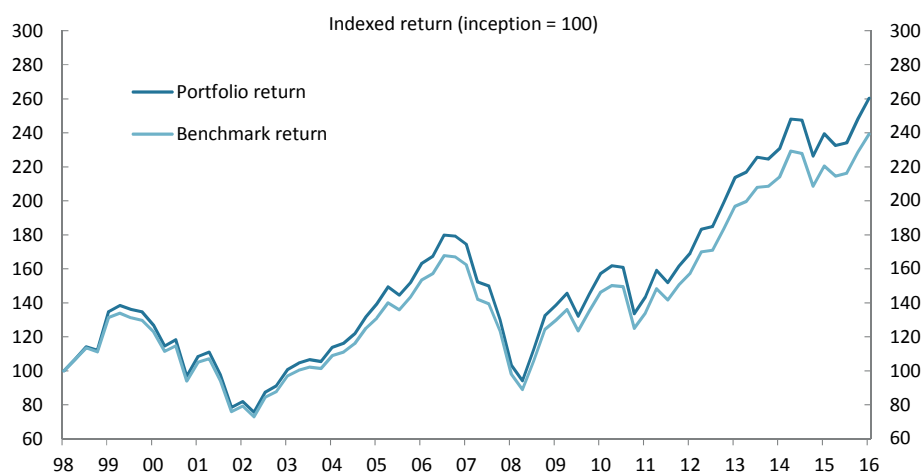
<sup>3</sup> Ex-post standard deviation of monthly relative returns.

<sup>4</sup> Average relative return divided by the tracking error.

<sup>5</sup> Average monthly return in excess of the risk-free rate divided by the standard deviation of monthly returns.

<sup>6</sup> Average return in excess of the risk-free rate minus beta-adjusted benchmark excess return.

<sup>7</sup> Jensen's alpha divided by the standard deviation of the residuals of the CAPM regression.



### Composite creation date and inception date

The composite inception date and the composite creation date of the Government Pension Fund Global, equity are 31 December 1998.

### Composite description

Norges Bank Investment Management manages the Pension Fund on behalf of the Ministry of Finance. The Government Pension Fund Global, equity composite is a carve-out of the Government Pension Fund Global composite, which only includes the fund's portfolio holdings in, or relating to, the equity asset class. The composite's investment strategies can be grouped into three broad categories: strategies for allocation, security selection and asset management.

Strategies for allocation aim to improve the composite's exposure to broad markets and sources of return, in both the medium and the long term. An

internal reference portfolio was established in 2012. Through a series of adjustments of these publicly available indices, the internal reference portfolio seeks to improve diversification, gain exposure to systematic factors and ensure cost-efficient implementation of changes to the investment strategy.

Security selection strategies seek to generate excess return over carefully designed benchmarks. Internally managed equity security selection strategies make concentrated investments based on a thorough understanding of individual companies while external managers are used for security selection strategies in segments and markets where local knowledge is of particular relevance, such as for example in emerging and frontier equity markets.

Asset management strategies aim to implement the targeted market exposure, balancing transaction costs and risk and return considerations. Securities lending is an integrated part of our asset management strategies where counterparty default risk exposure is actively managed.

During 1998, the equity part of the Pension Fund was established as part of a transition process. In this process, large cash inflows and subsequent large asset purchases took place. No return numbers or assets are reported for 1998. Irrespective of this, the equity portfolio's fair value is included in the total Pension Fund's assets and the firm assets as of 31 December 1998.

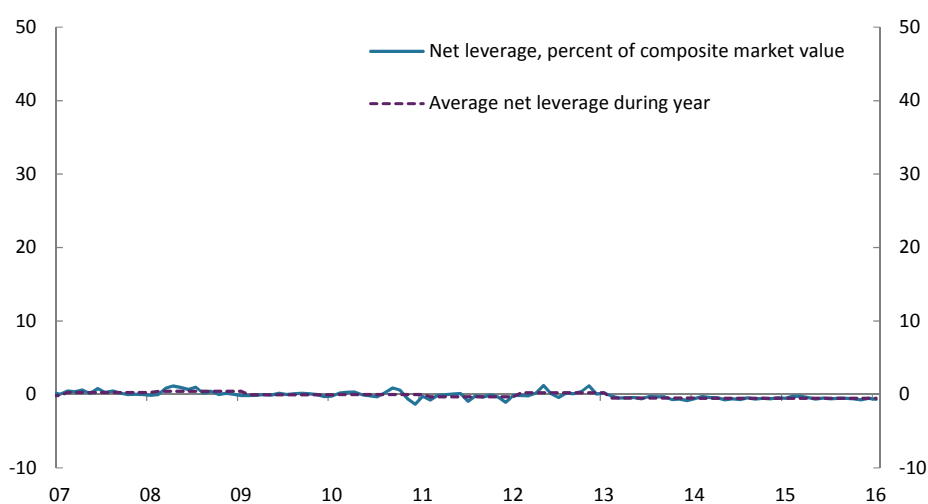
### Derivatives, leverage and short positions

Norges Bank Investment Management's access to the use of financial derivatives is regulated as part of the provisions on the management of the Government Pension Fund Global laid down by the Ministry of Finance. Specifically, financial derivatives that are naturally linked to investments in the equity portfolio may be used. In accordance with this investment mandate, the Pension Fund may use foreign exchange contracts, exchange traded futures, equity warrants, rights and swaps and other related derivatives, in order to achieve the lowest possible transaction cost and to efficiently rebalance the portfolio. Within the equity asset class the use of derivatives has been limited and have been used for efficient portfolio management. Historically, the sizes have not been of any significant size. The segmented net fair values and exposure of the financial derivatives for the last two years are shown in a table below.

Financial derivatives	Average exposure through year				Net fair value at year-end	
	2016		2015		2016	2015
	Purchased	Sold	Purchased	Sold		
Foreign exchange contracts	604	-	3,116	-	1	-7
Exchange traded futures	4,760	3,140	2,005	5,571	-	-
Warrants and rights	396	-	613	-	319	450
Participatory certificates	3,147	-	2,429	-	3,933	3,475
Contracts for difference	5,403	846	-	-	-	-

Figures in millions of Norwegian kroner

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 portfolio. More specifically, leveraging the 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 percent of the net asset value of the combined equity and fixed-income portfolios. Within the equity segment leverage is mainly used to efficiently handle fund management activities and has historically not been material. Net leverage is calculated by comparing net exposure and actual market value (net asset value). Net exposure is found by converting all derivatives to underlying exposure. Prior to 2011 the leverage was calculated by looking at the net sum of all cash positions. Below, the net leverage in percent of the composite's fair value is shown as a time series.



Short positions are permitted in the management of the Pension Fund given that Norges Bank Investment Management has access to the securities through an established borrowing arrangement. However, restrictions are laid down as part of the CEO investment mandate issued by Norges Bank's Executive Board. The presence, use, and extent of short positions in the composite's portfolio are immaterial.

### Sub-advisors

Norges Bank Investment Management uses external investment managers to handle parts of the portfolio. Norges Bank Investment Management awards management mandates to organizations with expertise in clearly defined sectors and/or regions. The fund's externally managed equity mandates had assets under management worth 321 billion Norwegian kroner at the end of 2016. This is equivalent to around 7 percent of the composite's total value. There were a total of 87 external equity mandates managed by 75 different investment managers as of year-end 2016. The complete list of organizations managing equity assets on behalf of Norges Bank Investment Management is available on our website [www.nbim.no](http://www.nbim.no).

### **Benchmark description**

The benchmark of the Government Pension Fund Global, equity, is a custom benchmark provided by the FTSE Group with combined country factor and market capitalization weights applied to it. The strategic equity index consists of the FTSE Global All Cap Index adjusted for the fund's tax position on dividends. The equities in the benchmark index are assigned the following factors based on their country of origin: European developed markets excluding Norway 2.5, USA and Canada 1, other developed markets 1.5 and 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. Securities issued by companies excluded by Norges Bank pursuant to the guidelines for observation and exclusion from the Government Pension Fund Global are not included in the benchmark index for the equity portfolio. At year-end the benchmark consisted of 46 countries and more than 7,500 securities. The actual weights of the benchmark as of 31 December 2016 can be seen below. Strategic changes to the equity benchmark through time are also detailed below.

Country for equity benchmark	Actual benchmark indices
<b>Total</b>	<b>100.0</b>
USA	37.87
Canada	2.36
Brazil	0.87
Mexico	0.37
Chile	0.13
Colombia	0.05
Peru	0.03
<b>Total Americas</b>	<b>41.67</b>
Germany	5.27
France	5.07
Netherlands	1.83
Spain	1.81
Italy	1.42
Belgium	0.77
Finland	0.66
Austria	0.19
Ireland	0.14
Portugal	0.11
Greece	0.05
<i>Euro-area</i>	<i>17.32</i>
United Kingdom	10.28
Switzerland	4.95
Sweden	1.83
Denmark	0.97
Russia	0.46
Turkey	0.12
Poland	0.13
Hungary	0.03
Czech Republic	0.01
<b>Total Europe</b>	<b>36.11</b>
Japan	8.91
Australia	2.61
China	2.27
South Korea	1.60
Taiwan	1.57
Hong Kong	1.23
India	1.07
Singapore	0.48
Thailand	0.41
Malaysia	0.30
Indonesia	0.27
Philippines	0.14
New Zealand	0.12
Pakistan	0.02
<b>Total Asia / Oceania</b>	<b>21.02</b>
South Africa	0.81
Israel	0.20
United Arab Emirates	0.11
Qatar	0.05
Egypt	0.02
<b>Total Middle East and Africa</b>	<b>1.19</b>

Figures in percent



Strategic benchmark changes	Advice from Norges Bank	Implementation
Inclusion of Emerging Markets: Brazil, Mexico, Greece, Turkey, Taiwan, Thailand and South Korea	30.08.00	January 2001
Small-cap included in the benchmark	20.10.06	March 2008
Benchmark consists of countries in categories "Developed", "Advanced Emerging" and "Secondary Emerging" within FTSE All Cap and specific country list is discontinued	24.06.08	December 2008
Country market capitalization factors introduced. Strategic weights on regions removed	02.02.12	July 2012

### Fee schedule

Performance numbers are gross of management fees and custodial fees, but net of all trading expenses (transaction costs). In addition, non-reclaimable withholding taxes are deducted in the performance numbers. Norges Bank Investment Management does not operate with a fee schedule as mutual funds typically do. The management expense ratio for the Pension Fund as a whole was 5 basis points for 2016, down from 6 basis points in 2015.

## Performance results: Government Pension Fund Global, fixed income 31 December 1997 – 31 December 2016

NORGES BANK  
INVESTMENT  
MANAGEMENT  
PERFORMANCE RESULTS

Report presented as of: 31 December 2016  
Reported assets currency: Norwegian kroner  
Reported returns currency: Currency basket<sup>1</sup>

Year	Com- posite Re- turn <sup>2</sup>	Bench- mark Return <sup>2</sup>	Rela- tive Re- turn <sup>2</sup>	Com- posite 3-Yr St Dev <sup>3</sup>	Bench- mark 3-Yr St Dev <sup>3</sup>	Num- ber of Port- folios <sup>4</sup>	Compos- ite Assets <sup>5</sup>	Firm Assets <sup>5</sup>
1998	9.31	9.10	0.21			1	102,300	279,205
1999	-0.99	-1.00	0.01			1	128,751	340,855
2000	8.41	8.34	0.07	2.67	2.69	1	227,323	522,544
2001	5.04	4.96	0.08	2.95	2.93	1	362,945	739,116
2002	9.90	9.41	0.49	3.11	3.08	1	378,014	743,670
2003	5.26	4.77	0.48	3.93	3.90	1	484,141	1,044,264
2004	6.10	5.73	0.37	3.70	3.70	1	600,104	1,236,653
2005	3.82	3.46	0.36	3.39	3.40	1	816,746	1,648,874
2006	1.93	1.68	0.25	2.63	2.67	1	1,057,761	2,047,074
2007	2.96	4.26	-1.29	2.45	2.59	1	1,060,749	2,261,368
2008	-0.54	6.06	-6.60	4.19	3.90	1	1,146,489	2,498,961
2009	12.49	5.13	7.36	5.02	4.06	1	995,937	2,851,020
2010	4.11	2.58	1.53	5.20	4.22	1	1,186,191	3,317,700
2011	7.03	6.51	0.52	3.79	3.17	1	1,355,722	3,539,396
2012	6.68	6.97	-0.29	2.72	2.81	1	1,454,816	4,043,153
2013	0.10	-0.15	0.25	2.67	2.89	1	1,878,996	5,311,043
2014	6.88	7.59	-0.70	2.40	2.63	1	2,349,948	6,778,049
2015	0.33	0.57	-0.24	2.64	2.92	1	2,668,147	7,886,255
2016	4.32	4.16	0.16	2.85	3.10	1	2,576,875	7,687,711

### Notes:

<sup>1</sup> The currency basket corresponds to the currency composition in the fund's benchmark portfolio. The basket consisted of 34 international currencies at the end of 2016. The use of the currency basket is mandated by the Ministry of Finance.

<sup>2</sup> Returns are gross-of-fees and stated in percent. Relative return is supplemental information.

<sup>3</sup> Three-year annualised ex-post standard deviation in percent using 36 monthly returns.

<sup>4</sup> A measure of internal dispersion is not provided since the composite contains only one portfolio.

<sup>5</sup> Assets are stated in millions of Norwegian kroner.

Supplemental Information	3 Years	5 Years	10 Years	Since inception
Composite return <sup>1</sup>	3.81	3.62	4.37	4.84
Benchmark return <sup>1</sup>	4.06	3.78	4.34	4.70
Relative return	-0.26	-0.16	0.03	0.14
Standard deviation of composite return <sup>2</sup>	2.85	2.76	3.61	3.38
Standard deviation of benchmark return <sup>2</sup>	3.10	2.99	3.35	3.24
Tracking error <sup>3</sup>	0.47	0.46	1.44	1.06
Information ratio <sup>4</sup>	-0.54	-0.34	0.03	0.13
Composite Sharpe ratio <sup>5</sup>	1.30	1.28	1.02	0.84
Benchmark Sharpe ratio <sup>5</sup>	1.28	1.24	1.09	0.84
Jensen's alpha <sup>6</sup>	0.10	0.17	0.05	0.15
Appraisal ratio <sup>7</sup>	0.26	0.43	0.03	0.14

Notes: All figures are annualised.

<sup>1</sup> Gross-of-fees returns stated in percent.

<sup>2</sup> Ex-post standard deviation in percent using monthly returns.

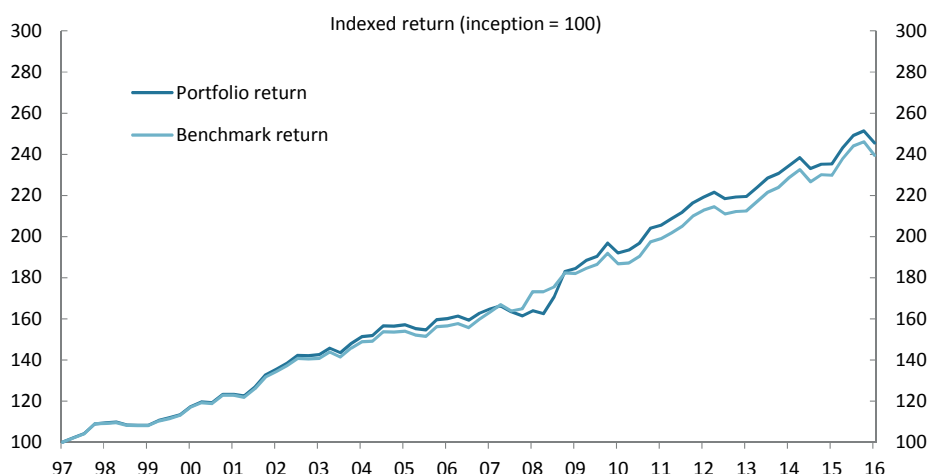
<sup>3</sup> Ex-post standard deviation of monthly relative returns.

<sup>4</sup> Average relative return divided by the tracking error.

<sup>5</sup> Average monthly return in excess of the risk-free rate divided by the standard deviation of monthly returns.

<sup>6</sup> Average return in excess of the risk-free rate minus beta-adjusted benchmark excess return.

<sup>7</sup> Jensen's alpha divided by the standard deviation of the residuals of the CAPM regression.



### Composite creation date and inception date

The composite inception date and the composite creation date of the Government Pension Fund Global, fixed income are 31 December 1997.

### Composite description

Norges Bank Investment Management manages the Pension Fund on behalf of the Ministry of Finance. The Government Pension Fund Global, fixed income composite is a carve-out of the Government Pension Fund Global composite, which only includes the fund's portfolio holdings in, or relating to, the fixed-income asset class. The composite's investment strategies can be grouped into three broad categories: strategies for allocation, security selection and asset management.

Strategies for allocation aim to improve the composite's exposure to broad markets and sources of return, in both the medium and the long term. An

internal reference portfolio was established in 2011. Through a series of adjustments of these publicly available indices, the internal reference portfolio seeks to improve diversification, gain exposure to systematic factors and ensure cost-efficient implementation of changes to the investment strategy.

Security selection strategies seek to generate excess return over carefully designed benchmarks. Internally managed fixed-income security selection strategies focus on fundamental analysis and concentrated holdings.

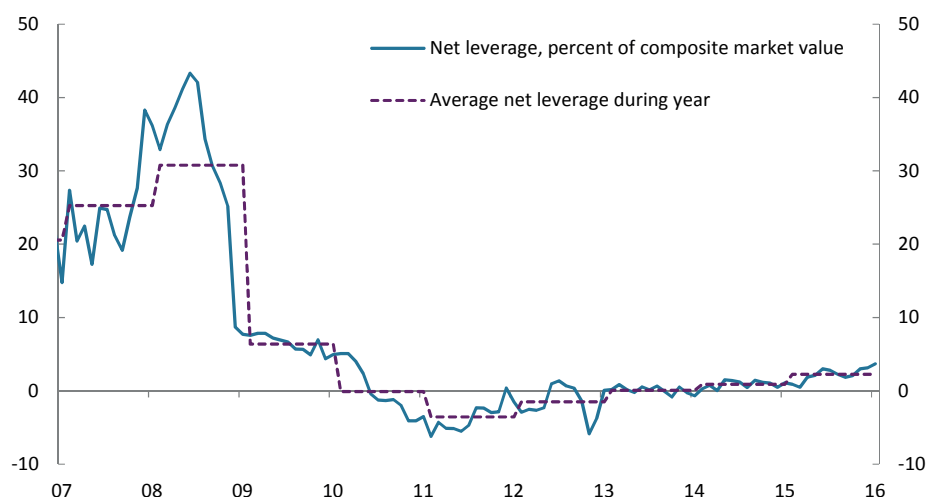
Asset management strategies aim to implement the targeted market exposure, balancing transaction costs and risk and return considerations. Securities lending is an integrated part of our asset management strategies where counterparty default risk exposure is actively managed.

### Derivatives, leverage and short positions

Norges Bank Investment Management's access to the use of financial derivatives is regulated as part of the provisions on the management of the Government Pension Fund Global laid down by the Norwegian Ministry of Finance and available on their website. Specifically, financial derivatives that are naturally linked to investments in the fixed-income portfolio may be used. In accordance with this investment mandate, the Pension Fund may use exchange traded futures, interest-rate swaps, foreign exchange contracts and other related derivatives in order to achieve the lowest possible transaction cost, and to efficiently rebalance the portfolio. The segmented net fair values and average exposure of the financial derivatives in the composite for the last two years are shown in a table below.

Financial derivatives	Average exposure through year				Net fair value at year-end	
	2016		2015		2016	2015
	Purchased	Sold	Purchased	Sold		
Foreign exchange contracts	178,041	-	181,326	-	2,590	2,845
Exchange traded futures	9,036	16,589	9,150	22,361	-	-
Interest-rate swaps	2,814	36,392	4,339	41,558	-1,978	-3,192

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 bond portfolio. More specifically, leveraging the 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 percent of the net asset value of the combined equity and fixed-income portfolios. The use of leverage was scaled back in the second half of 2009 due to changes in market conditions and a reorganization of Norges Bank Investment Management's fixed-income management. Historically, leverage has predominantly been used within the fixed-income composite to exploit differences in rates or credit spreads by combining derivatives, forward contracts and repurchase agreements. Net leverage is calculated by comparing net exposure and actual market value (net asset value). Net exposure is found by converting all derivatives to underlying exposure. Prior to 2011 the leverage was calculated by looking at the net sum of all cash positions. Below, the net leverage in percent of the composite's fair value is shown as a time series.



Short positions are permitted in the management of the Pension Fund given that Norges Bank Investment Management has access to the securities through an established borrowing arrangement. However, restrictions are laid down as part of the CEO investment mandate issued by Norges Bank's Executive Board. The presence, use, and extent of short positions in the composite's portfolio are immaterial.

### Sub-advisors

Norges Bank Investment Management uses external investment managers to handle parts of the portfolio. Norges Bank Investment Management awards management mandates to organizations with expertise in clearly defined sectors and/or regions. The fund's externally managed fixed-income mandates had assets under management worth 15 billion Norwegian kroner at the end of 2016. This is equivalent to 0.6 percent of the composite's total value. There were a total of 4 external fixed-income mandates managed by 4 different investment managers as of year-end 2016. The complete list of organizations managing fixed-income assets on behalf of Norges Bank Investment Management is available on our website [www.nbim.no](http://www.nbim.no).

### Benchmark

The benchmark index for the bond portfolio has fixed weights with monthly rebalancing to the following sub-indices: government bonds 70 percent and corporate bonds 30 percent. The government bond sub-index of the benchmark index for the bond portfolio comprises: all securities included in the Bloomberg Barclays Global Inflation-Linked Index (Series L), all securities included in the Bloomberg Barclays Global Treasury GDP Weighted by Country Index and all securities included in the supranational sub-segment (of the government-related segment) of the Bloomberg Barclays Global Aggregate Index. Bonds issued by supranational organisations are allocated to countries in the government bond sub-index based on the underlying currency denomination. The GDP weighted factors for Chile, Hong Kong and Russia are adjusted from 1 to 0.25 and from 1 to 0.50 for Turkey. The government bond sub-index is rebalanced to fixed GDP weights on a monthly basis. The GDP weights are updated once every year.

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 Bloomberg Barclays Global Aggregate Index. The corporate bond sub-index is restricted to the following approved currencies: US dollars, Canadian dollars, euros, British pounds, Swedish kronor, Danish kroner and Swiss francs. Within the corporate bond sub-index, the bonds are weighted using the methodology for the Bloomberg Barclays Global Aggregate Index. Securities denominated in Norwegian kroner or classified by Bloomberg Barclays Indices 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 Pension Fund. The Bloomberg Barclays indices are not adjusted for withholding tax. At year-end the benchmark consisted of more than 12,000 securities in 22 different currencies. The actual weights of the benchmark as of 31 December 2016 can be seen below. Strategic changes to the fixed-income benchmark through time are also detailed below.

Currency for fixed-income benchmark	Actual benchmark indices
<b>Total</b>	<b>100.0</b>
USA (USD)	44.41
Canada (CAD)	3.22
Mexico (MXN)	1.80
Chile (CLP)	0.09
<b>Total Americas</b>	<b>49.52</b>
<i>Euro-area (EUR)</i>	26.36
United Kingdom (GBP)	5.76
Switzerland (CHF)	1.51
Sweden (SEK)	1.16
Poland (PLN)	0.75
Russia (RUB)	0.64
Denmark (DKK)	0.58
Czech Republic (CZK)	0.29
<b>Total Europe</b>	<b>37.05</b>
Japan (JPY)	6.55
South Korea (KRW)	2.04
Australia (AUD)	2.00
Thailand (THB)	0.60
Malaysia (MYR)	0.47
Singapore (SGD)	0.44
New Zealand (NZD)	0.27
Hong Kong (HKD)	0.11
<b>Total Asia / Oceania</b>	<b>12.48</b>
South Africa (ZAR)	0.50
Israel (ILS)	0.45
<b>Total Middle East and Africa</b>	<b>0.95</b>

Figures in percent

Strategic benchmark changes	Advice from Norges Bank	Implementation
Introduction of corporate and securitized bonds	15.03.01	December 2003
Asia/Oceania regional fixed income weight reduced by 10 percent (offset by a 5 percent increase in the regional weights for America and Europe)	12.12.01	December 2003
Inflation linked government bonds included in the benchmark	06.09.04	November 2005
Reduction of 5 percent in the regional Asia weight met with a corresponding increase in the Europe weight	28.03.06	September 2006
GDP weighting of government segment and 70 percent/30 percent split of government/private segments introduced. Strategic weights on regions removed	18.03.11	February 2012
Emerging market currencies introduced to benchmark	01.02.12	July 2012
Weighting factors introduced for selected currencies in the government segment	14.03.14	April 2014

### Fee schedule

Performance numbers are gross of management fees and custodial fees, but net of all trading expenses (transaction costs). In addition, non-reclaimable withholding taxes are deducted in the performance numbers. Norges Bank Investment Management does not operate with a fee schedule as mutual funds typically do. The management expense ratio for the Pension Fund as a whole was 5 basis points for 2016, down from 6 basis points in 2015.

# Performance results: Government Pension Fund Global, real estate

## 31 March 2011 – 31 December 2016

NORGES BANK  
INVESTMENT  
MANAGEMENT  
PERFORMANCE RESULTS

Report presented as of: 31 December 2016  
Reported assets currency: Norwegian kroner  
Reported returns currency: Currency basket<sup>1</sup>

Year	Composite Return <sup>2</sup>	Composite 3-Yr St Dev <sup>3</sup>	Number of Portfolios <sup>4</sup>	Composite Assets <sup>5</sup>	External Valuation <sup>6</sup>	Firm Assets <sup>5</sup>
2011 <sup>7</sup>	-4.37		1	11,129	100	3,539,396
2012	5.77		1	25,123	100	4,043,153
2013	11.79		1	51,794	100	5,311,043
2014	10.42	4.24	1	140,868	100	6,778,049
2015 <sup>8</sup>	9.99	3.72	1	235,199	100	7,886,255
2016	0.78	4.30	1	241,756	100	7,687,711

### Notes:

- <sup>1</sup> The currency basket corresponds to the currency composition in the fund's benchmark portfolio. The basket consisted of 34 international currencies at the end of 2016. The use of the currency basket is mandated by the Ministry of Finance.
- <sup>2</sup> Returns are gross-of-fees and stated in percent.
- <sup>3</sup> Three-year annualised ex-post standard deviation in percent using 36 monthly returns. The measure is not provided for 2011, 2012 and 2013, since the inception date is 31 March 2011 and a full 36 months history is not available.
- <sup>4</sup> A measure of internal dispersion is not provided since the composite contains only one portfolio.
- <sup>5</sup> Assets are stated in millions of Norwegian kroner.
- <sup>6</sup> Percentage of composite assets valued using an external valuation.
- <sup>7</sup> Partial year; from inception date 31 March 2011.
- <sup>8</sup> The composite return for 2015 has been adjusted by -0.01 percentage point due to incorrectly applied exchange rate for Thai baht.

### Real Estate Component Returns

Year	Composite Return	Unlisted Real Estate Return	Unlisted Real Estate Income Return	Unlisted Real Estate Capital Return	Listed Real Estate Return
2011	-4.37	-4.37	2.11	-6.35	
2012	5.77	5.77	4.23	1.53	
2013	11.79	11.79	4.52	6.98	
2014	10.42	9.65	4.23	5.26	5.97
2015	9.99	10.79	4.03	6.55	7.77
2016	0.78	1.70	3.72	-2.00	-2.34

### Note:

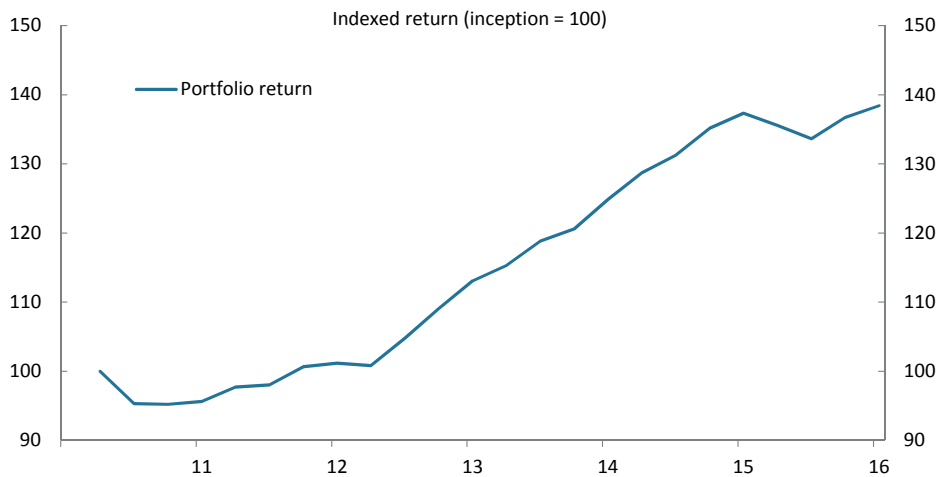
- <sup>1</sup> Returns are in the fund's currency basket and stated in percent.

Supplemental Information	3 Years	5 Years	10 Years	Since inception
Composite return <sup>1</sup>	6.97	7.67		5.81
Standard deviation of composite return <sup>2</sup>	4.30	4.28		4.73
Sharpe ratio <sup>3</sup>	1.58	1.74		1.21

### Notes: All figures are annualised.

- <sup>1</sup> Gross-of-fees returns stated in percent.
- <sup>2</sup> Ex-post standard deviation in percent using monthly returns.
- <sup>3</sup> Average monthly return in excess of the risk-free rate divided by the standard deviation of monthly returns.





### Composite creation date and inception date

The composite inception date and the composite creation date of the Government Pension Fund Global, real estate are 31 March 2011.

### Composite description

Norges Bank Investment Management manages the Pension Fund on behalf of the Ministry of Finance. The Government Pension Fund Global, real estate composite is a carve-out of the Government Pension Fund Global composite, which only includes the fund's portfolio holdings in, or relating to, the real estate asset class.

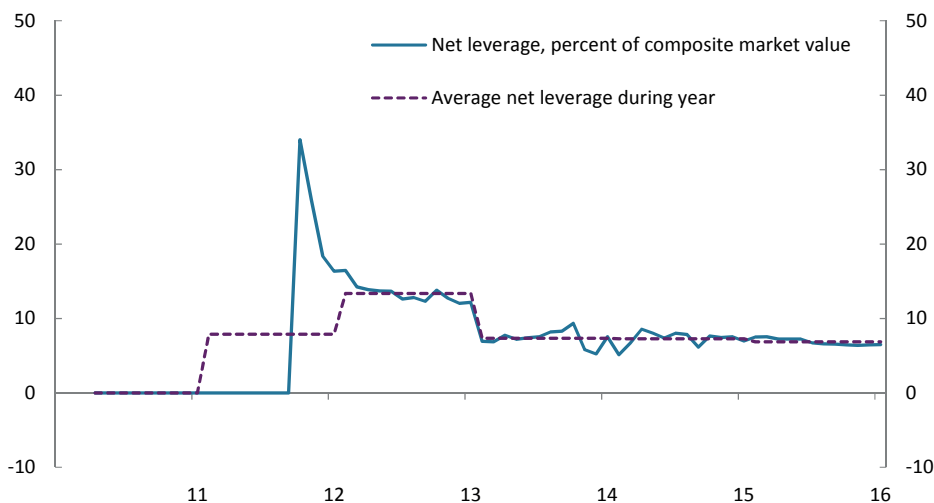
In March 2010, the fund was given a mandate to invest up to 5 percent of its assets in real estate, while correspondingly reducing the share of fixed-income investments. Real estate investments will take place over time and be spread over different types of sectors and countries. The real estate portfolio mainly invests in traditional commercial property types located within well-developed markets. The Fund's unlisted property investments are made through corporate structures. The companies are directly or indirectly wholly owned by Norges Bank or jointly owned with co-investors, which means that ownership control is exercised at several levels. The legal business units have their own boards where we usually appoint or nominate directors. In addition to the unlisted properties the composite holds listed real estate (REITs), limited to 25 percent of the asset class net asset value.

The Ministry of Finance has set forth a general framework for the management of the real estate composite. The fund may be invested in real estate or in equity and interest-bearing instruments issued by listed or unlisted companies, fund structures and other legal entities whose primary business is the acquisition, development and management or financing of real estate. The fund may invest in real estate through Norwegian or other legal entities, but not in real estate located in Norway. Capital shall not be invested in securities issued by enterprises that the Ministry of Finance has excluded from the investment universe. Norges Bank's Executive Board has further set specific limits on real estate management.

## Derivatives and leverage

Norges Bank Investment Management's access to the use of financial derivatives is regulated as part of the provisions on the management of the Government Pension Fund Global laid down by the Norwegian Ministry of Finance and available on their website. The composite, through its property managing real estate subsidiaries, may include derivative instruments in the normal course of investment management. At 2016 year-end the portfolio includes minor derivatives positions in the real estate subsidiaries in the United Kingdom. Derivatives have not been used to manage risk at portfolio level during 2016.

The Norges Bank's Executive Board has specified that the maximum allowed debt ratio of the unlisted real estate portfolio is 35 percent. This equates to a net leverage level of 54 percent for this part of the portfolio. The debt ratio of the unlisted real estate portfolio was 7.7 percent at the end of 2016. The debt ratio is calculated as debt on gross asset property value. The average net leverage employed during 2016 was around 7 percent. Net leverage is calculated by comparing net exposure and actual market value (net asset value). Below, the net leverage in percent of the composite's fair value is shown as a time series.



## Description of discretion

Within the mandate, Norges Bank Investment Management has discretion in its investment selection activities. Regarding rights to dispose of the assets, there exist general lock-up provisions on the current portfolio of investments as set forth in the agreements with Norges Bank Investment Management's counterparts.

## Valuation

Real estate investments are measured at fair value on the basis of International Financial Reporting Standards (IFRS) accounting. At each calendar quarter real estate investments are adjusted to reflect their fair values as estimated by external independent valuation specialists using the discounted cash flow method (DCF) and the yield method, unless it is deemed that the acquisition price is a better estimate of fair value. At each calendar quarter-end an independent external valuation is obtained. On a monthly basis the

value used in the performance calculations is the last quarter's value except from the cash position that reflects the actual value.

### Calculation methodology – real estate

In addition to the general disclosures on calculation methodology, this section describes specific methodology related to real estate. Composite total returns are calculated monthly and income and capital component returns are calculated daily both on a time-weighted basis and geometrically linked across months. Returns include cash and cash equivalents. The linking of component returns across months results in a residual when comparing annual total returns and the sum of annual component returns. This is a result of compounding, and no adjustments are made to counter this effect. Returns are gross-of-fees. Returns are presented after transaction costs and after expensed operating costs relating to the operations of the real estate investment structure. Operating costs include bank charges, consulting and legal fees and administration expenses. Transaction costs are included in the capital return component and operating costs are included in the income return component. The real estate composite contains both listed and unlisted real estate instruments included in the total returns, but only unlisted real estate is included in the component returns. Therefore, the total return will not match the sum of the component returns. Returns are presented before Norges Bank Investment Management's internal costs related to real estate such as salaries to the real estate investment team. Returns are measured in the currency basket corresponding to the currencies in the Pension Fund's equity and fixed-income benchmark.

### Benchmark description

The investment mandate from the Ministry of Finance does not specify a benchmark for the real estate asset class. However, the investment mandate states a return objective for the real estate portfolio. The return objective is defined as the Investment Property Databank (IPD) Global Property index excluding Norway, adjusted for the actual effect of leverage and actual management costs. To determine if a benchmark is appropriate, one needs to consider to what extent the benchmark reflects the investment mandate, objective, or strategy of the composite. The investments are allocated towards the US, continental Europe and the UK. The real estate portfolio is still under development and the composite has grown from 52 billion kroner to 191 billion kroner over the last three years. US' share of the portfolio has grown from 19 percent to 49 percent over the same period and REITs, constituting up to 25 percent of the portfolio, were introduced to the portfolio in October 2014. No investments have yet been made in the Asian private real estate market, constituting approximately 15 percent of the IPD Global Index. It is important to take into account the development stage of the real estate portfolio when performing an assessment of appropriateness. Norges Bank Investment Management has concluded that given the development state of the portfolio, comparing the return against available benchmarks could be misleading. Hence, no benchmark returns are presented.

### Fee schedule

Performance numbers are gross of management fees in relation to real estate investment management. However, all costs occurring in the unlisted

real estate holding structures, all trading expenses (transaction costs, including stamp duty), taxes, and fixed and variable asset management fees, are included. The management expense ratio for the Pension Fund as a whole was 5 basis points for 2016. The reimbursable management fees in relation to the real estate investment management of the composite totalled 20 basis points in 2016 versus 19 basis points in 2015.

## Performance results: Government Pension Fund Global, unlisted real estate 31 March 2011 – 31 December 2016

NORGES BANK  
INVESTMENT  
MANAGEMENT  
PERFORMANCE RESULTS

Report presented as of: 31 December 2016  
Reported assets currency: Norwegian kroner  
Reported returns currency: Currency basket<sup>1</sup>

Year	Composite Return <sup>2</sup>	Composite 3-Yr St Dev <sup>3</sup>	Number of Portfolios <sup>4</sup>	Composite Assets <sup>5</sup>	External Valuation <sup>6</sup>	Firm Assets <sup>5</sup>
2011 <sup>7</sup>	-4.37		1	11,129	100	3,539,396
2012	5.77		1	25,123	100	4,043,153
2013	11.79		1	51,794	100	5,311,043
2014	9.65	4.25	1	107,637	100	6,778,049
2015	10.79	3.96	1	181,141	100	7,886,255
2016	1.70	4.02	1	190,670	100	7,687,711

Notes:

- <sup>1</sup> The currency basket corresponds to the currency composition in the fund's benchmark portfolio. The basket consisted of 34 international currencies at the end of 2016. The use of the currency basket is mandated by the Ministry of Finance.
- <sup>2</sup> Returns are gross-of-fees and stated in percent.
- <sup>3</sup> Three-year annualised ex-post standard deviation in percent using 36 monthly returns. The measure is not provided for 2011, 2012 and 2013, since the inception date is 31 March 2011 and a full 36 months history is not available.
- <sup>4</sup> A measure of internal dispersion is not provided since the composite contains only one portfolio.
- <sup>5</sup> Assets are stated in millions of Norwegian kroner.
- <sup>6</sup> Percentage of composite assets valued using an external valuation.
- <sup>7</sup> Partial year; from inception date 31 March 2011.

### Real Estate Component Returns

Year	Composite Return	Income return	Capital return
2011	-4.37	2.11	-6.35
2012	5.77	4.23	1.53
2013	11.79	4.52	6.98
2014	9.65	4.23	5.26
2015	10.79	4.03	6.55
2016	1.70	3.72	-2.00

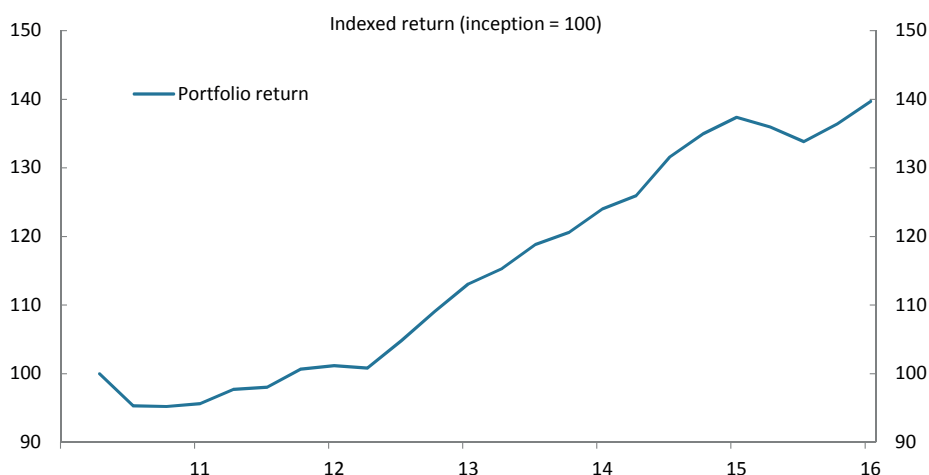
Note:

- <sup>1</sup> Returns are in the fund's currency basket and stated in percent.

Supplemental Information	3 Years	5 Years	10 Years	Since inception
Composite return <sup>1</sup>	7.30	7.87		5.98
Standard deviation of composite return <sup>2</sup>	4.02	4.11		4.60
Sharpe ratio <sup>3</sup>	1.76	1.86		1.28

Notes: All figures are annualised.

- <sup>1</sup> Gross-of-fees returns stated in percent.
- <sup>2</sup> Ex-post standard deviation in percent using monthly returns.
- <sup>3</sup> Average monthly return in excess of the risk-free rate divided by the standard deviation of monthly returns.



### Composite creation date and inception date

The composite inception date of the Government Pension Fund Global, unlisted real estate is 31 March 2011. The composite's creation date is 31 December 2016.

### Composite description

The Government Pension Fund Global, unlisted real estate is the unlisted real estate composite of the Government Pension Fund Global, real estate. Unlisted Real estate investments will take place over time and be spread over different types of sectors and countries. The real estate portfolio mainly invests in traditional commercial property types located within well-developed markets. The unlisted property investments are made through corporate structures. The companies are directly or indirect wholly owned by Norges Bank or jointly owned with co-investors, which means that ownership control is exercised at several levels. The legal entities have their own boards where we usually appoint or nominate directors. The composite is managed by Norges Bank Real Estate Management and mandated through an investment mandate issued by Norges Bank Investment Management's CEO.

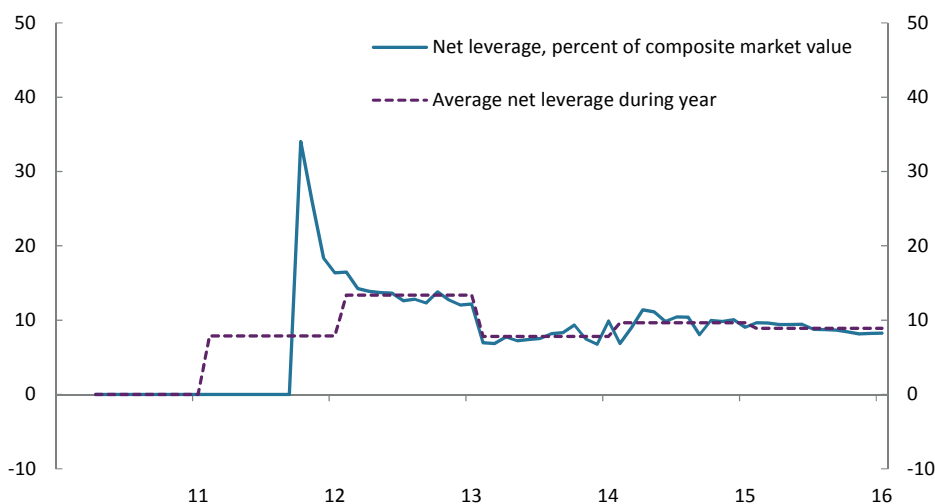
Norges Bank Investment Management's CEO has set forth a general framework for the management of the real estate composite. The composite may be invested in real estate (rights to land or buildings) or in equity and interest-bearing instruments issued by un-listed companies, fund structures and other legal entities whose primary business is the acquisition, development and management or financing of real estate. The fund may invest in real estate through Norwegian or other legal entities, but not in real estate located in Norway. Capital shall not be invested in securities issued by enterprises that the Ministry of Finance has excluded from the investment universe. Norges Bank Investment Management's CEO has through the investment mandate further set specific limits on the unlisted real estate management.

### Derivatives and leverage

Norges Bank Real Estate Management's access to the use of financial derivatives is regulated as part of the provisions on the management of the Government Pension Fund Global, unlisted real estate laid down by Norges Bank

Investment Management’s CEO. The composite, through its property managing real estate subsidiaries, may include derivative instruments in the normal course of investment management. At 2016 year-end the portfolio includes minor derivatives positions in the real estate subsidiaries in the United Kingdom. Derivatives have not been used to manage risk at portfolio level during 2016.

The Norges Bank’s Executive Board has specified that the maximum allowed debt ratio of the unlisted real estate portfolio is 35 percent. This equates to a net leverage level of 54 percent for the composite. The debt ratio of the unlisted real estate portfolio was 7.7 percent of total real estate assets at the end of 2016. The debt ratio is calculated as debt on gross asset property value. The average net leverage employed during 2016 was around 9 percent. Net leverage is calculated by comparing net exposure and actual market value (net asset value). Below, the net leverage in percent of the composite’s fair value is shown as a time series.



### Description of discretion

Within the mandate, Norges Bank Real Estate Management has discretion in its investment selection activities. Regarding rights to dispose of the assets, there exist general lock-up provisions on the current portfolio of investments as set forth in the agreements with Norges Bank Investment Management’s counterparts.

### Valuation

Real estate investments are measured at fair value on the basis of International Financial Reporting Standards (IFRS) accounting. At each calendar quarter real estate investments are adjusted to reflect their fair values as estimated by external independent valuation specialists using the discounted cash flow method (DCF) and the yield method, unless it is deemed that the acquisition price is a better estimate of fair value. At each calendar quarter-end an independent external valuation is obtained. On a monthly basis the value used in the performance calculations is the last quarter’s value except from the cash position that reflects the actual value.

### Calculation methodology – real estate

In addition to the general disclosures on calculation methodology, this section describes specific methodology related to real estate. Composite total returns are calculated monthly and income and capital component returns are calculated daily both on a time-weighted basis and geometrically linked across months. Returns include cash and cash equivalents. The linking of component returns across months results in a residual when comparing annual total returns and the sum of annual component returns. This is a result of compounding, and no adjustments are made to counter this effect. Returns are gross-of-fees. Returns are presented after transaction costs and after expensed operating costs relating to the operations of the real estate investment structure. Operating costs include bank charges, consulting and legal fees and administration expenses. Transaction costs are included in the capital return component and operating costs are included in the income return component. Returns are presented before Norges Bank Real Estate Management's internal costs related to real estate such as salaries to the real estate investment team. Returns are measured in the currency basket corresponding to the currencies in the Pension Fund's equity and fixed-income benchmark.

### Benchmark description

The investment mandate from the Ministry of Finance does not specify a benchmark for the real estate asset class. However, the investment mandate states a return objective for the real estate portfolio. The return objective is defined as the Investment Property Databank (IPD) Global Property index excluding Norway, adjusted for the actual effect of leverage and actual management costs. To determine if a benchmark is appropriate, one needs to consider to what extent the benchmark reflects the investment mandate, objective, or strategy of the composite. The investments are allocated towards the US, continental Europe and the UK. The real estate portfolio is still under development and the composite has grown from 52 billion kroner to 191 billion kroner over the last three years. US' share of the portfolio has grown from 19 percent to 49 percent over the same period. No investments have yet been made in the Asian private real estate market, constituting approximately 15 percent of the IPD Global Index. It is important to take into account the development stage of the real estate portfolio when performing an assessment of appropriateness. Norges Bank Investment Management has concluded that given the development state of the portfolio, comparing return against available benchmarks could be misleading. Hence, no benchmark returns are presented.

### Fee schedule

Performance numbers are gross of management fees in relation to real estate investment management. However, all costs occurring in the unlisted real estate holding structures, all trading expenses (transaction costs, including stamp duty), taxes, and fixed and variable asset management fees, are included. The management expense ratio for the Pension Fund as a whole was 5 basis points for 2016. The reimbursable management fees in relation to the real estate investment management of the composite totalled 25 basis points in 2016 versus 24 basis points in 2015.



# Performance results: The investment portfolio of Norges Bank's foreign exchange reserves

## 31 December 1997 – 30 November 2016

NORGES BANK  
INVESTMENT  
MANAGEMENT  
PERFORMANCE RESULTS

Report presented as of: 30 November 2016

Reported assets currency: Norwegian kroner

Reported returns currency: Currency basket<sup>1</sup>

Year	Com- posite Return <sup>2</sup>	Bench- mark Return <sup>2</sup>	Rela- tive Return <sup>2</sup>	Com- posite 3-Yr St Dev <sup>3</sup>	Bench- mark 3-Yr St Dev <sup>3</sup>	Num- ber of Port- folios <sup>4</sup>	Com- posite Assets <sup>5</sup>	Firm Assets <sup>5</sup>
1998	9.78	9.86	-0.08			1	96,466	279,205
1999	-1.14	-1.26	0.13			1	94,550	340,855
2000	8.49	8.37	0.12	2.63	2.76	1	106,445	522,544
2001	2.44	2.30	0.14	2.89	2.90	1	106,402	739,116
2002	2.17	1.80	0.37	2.61	2.60	1	93,623	743,670
2003	8.28	7.74	0.54	3.05	3.04	1	142,337	1,044,264
2004	7.75	7.65	0.10	2.80	2.86	1	185,170	1,236,653
2005	9.08	8.74	0.34	2.97	3.03	1	211,486	1,648,874
2006	7.30	7.18	0.12	2.87	2.89	1	224,517	2,047,074
2007	3.37	4.59	-1.22	3.35	3.07	1	213,986	2,261,368
2008	-17.47	-13.51	-3.95	7.37	6.53	1	178,892	2,498,961
2009	21.06	15.42	5.63	9.69	8.35	1	185,444	2,851,020
2010	8.68	7.36	1.32	10.10	8.79	1	224,737	3,317,700
2011	2.71	2.55	0.15	7.50	6.64	1	221,869	3,539,396
2012	9.80	8.86	0.94	4.93	4.50	1	227,384	4,043,153
2013	11.05	10.25	0.80	4.37	4.05	1	273,309	5,311,043
2014	8.79	8.77	0.02	3.73	3.61	1	347,311	6,778,049
2015	1.88	1.94	-0.06	4.54	4.51	1	411,102	7,886,255
2016 <sup>6</sup>	3.63	3.45	0.19	4.14	4.16	1	404,094	7,717,936

### Notes:

<sup>1</sup> The currency basket corresponds to the currency composition in the fund's benchmark portfolio. The basket consisted of 9 international currencies at the end of 2016.

<sup>2</sup> Returns are gross-of-fees and stated in percent. Relative return is supplemental information.

<sup>3</sup> Three-year annualised ex-post standard deviation in percent using 36 monthly returns.

<sup>4</sup> A measure of internal dispersion is not provided since the composite contains only one portfolio.

<sup>5</sup> Assets are stated in millions of Norwegian kroner.

<sup>6</sup> Partial year, 11 months; to termination date 30 November 2016.

Supplemental Information	3 Years	5 Years	10 Years	Since inception
Composite return <sup>1</sup>	4.85	7.21	4.98	5.43
Benchmark return <sup>1</sup>	4.80	6.84	4.77	5.22
Relative return	0.05	0.38	0.21	0.20
Standard deviation of composite return <sup>2</sup>	4.14	4.12	6.51	5.12
Standard deviation of benchmark return <sup>2</sup>	4.16	4.04	5.82	4.67
Tracking error <sup>3</sup>	0.07	0.25	1.06	0.79
Information ratio <sup>4</sup>	0.62	1.41	0.23	0.28
Composite Sharpe ratio <sup>5</sup>	1.15	1.70	0.67	0.68
Benchmark Sharpe ratio <sup>5</sup>	1.13	1.65	0.71	0.70
Jensen's alpha <sup>6</sup>	0.06	0.24	-0.20	-0.06
Appraisal ratio <sup>7</sup>	0.90	0.97	-0.23	-0.09

Notes: All figures are annualised.

<sup>1</sup> Gross-of-fees returns stated in percent.

<sup>2</sup> Ex-post standard deviation in percent using monthly returns.

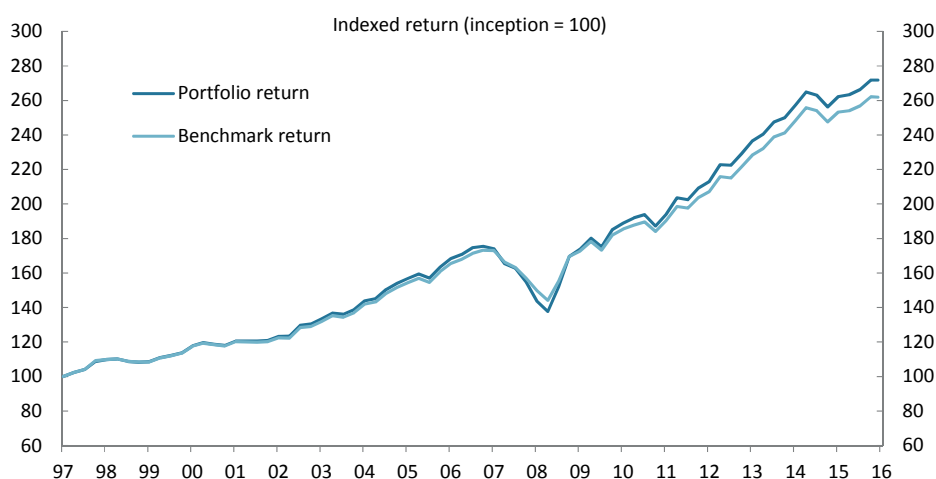
<sup>3</sup> Ex-post standard deviation of monthly relative returns.

<sup>4</sup> Average relative return divided by the tracking error.

<sup>5</sup> Average monthly return in excess of the risk-free rate divided by the standard deviation of monthly returns.

<sup>6</sup> Average return in excess of the risk-free rate minus beta-adjusted benchmark excess return.

<sup>7</sup> Jensen's alpha divided by the standard deviation of the residuals of the CAPM regression.



### Composite creation date and inception date

The composite inception date and the composite creation date of the investment portfolio of Norges Bank's foreign exchange reserves are 31 December 1997. The composite was terminated on 30 November 2016.

### Composite description

Norges Bank Investment Management has been responsible for the management of the long-term investment portfolio of the Norges Bank's foreign exchange reserves. The long-term investment portfolio has been managed with the objective to achieve the highest possible long-term return and in a way that ensures sufficient liquidity, subject to the constraints set out in the management guidelines issued by the Central Bank Governor and the principles for management set by Norges Bank's Executive Board.

This composite is the aggregate of the equity and fixed-income composites. The strategic asset class weights were 40 percent equity instruments and 60 percent fixed-income instruments. Until 2010, the management of the portfolio was based on the same overall processes and procedures as the management of the Pension Fund, albeit different investment mandates. However, in February 2010 Norges Bank's Executive Board adopted new guidelines for the management of the portfolio with more focus towards holding liquid assets. The major changes for the fixed-income benchmark index were the removal of the corporate, securitized and inflation-linked sectors and limiting currencies to US dollars, euros, British pounds and Japanese yen. For the equity management, emerging markets were removed and custom regional weights were replaced by market capitalization weights. The changes were effective from June 2010 on the benchmark side, while the changes in the portfolio were implemented gradually. In April 2011, the fixed-income benchmark was limited to only government bonds in the previously mentioned currencies.

Norges Bank's Executive Board has set limits for how much risk Norges Bank Investment Management may take in its management. The most important limit is expressed as expected relative volatility (tracking error) and puts a ceiling on how much the return on the fund may be expected to deviate from the return on the benchmark portfolio. The expected tracking error limit is 1.00 percent. Norges Bank's Executive Board has put further risk restrictions relating to the Reserves Fund, amongst other relating to maximum allowed leverage, short selling and liquidity.

The fixed income investments of Norges Bank's long-term portfolio of foreign exchange reserves were transferred to Norges Bank Markets and Banking Services division on 30 November 2016, and this composite was therefore terminated at the same time.

### **Derivatives, leverage and short positions**

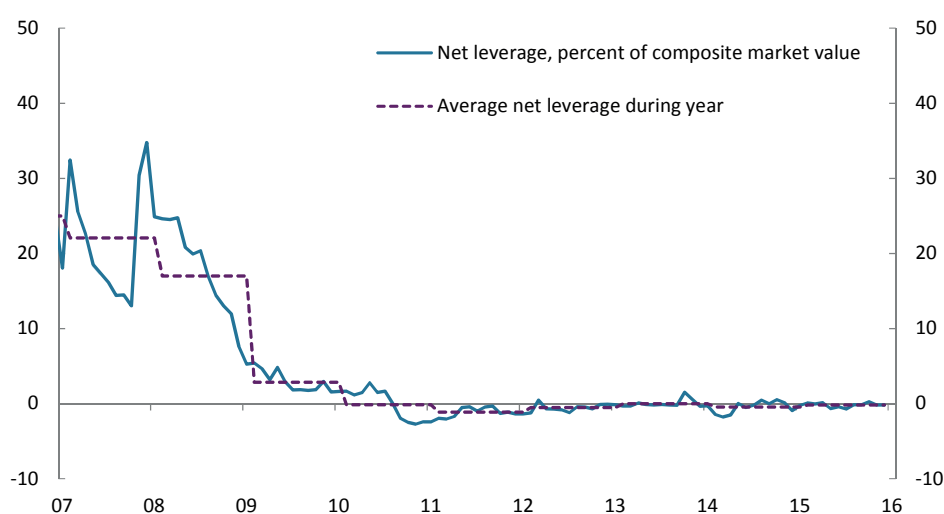
Norges Bank's Executive Board has laid down guidelines for the Reserves Fund's investments. These guidelines state that the portfolio may be invested in derivatives that are naturally linked to listed equity instruments, fixed-income securities and money market instruments. However, the use of derivatives in the Reserves Fund has been very limited for the last few years and immaterial for the investment strategy returns.

Financial derivatives	Average exposure through year				Net fair value at end of period	
	30.11.2016		31.12.2015		30.11.2016	31.12.2015
	Purchased	Sold	Purchased	Sold		
Exchange traded futures	125	28	190	71	-	-
Warrants and rights	4	-	5	-	9	3

Figures in millions of Norwegian kroner

Leveraging the portfolio has not been permitted beyond what is necessary to minimise transaction costs or is a natural part of normal investment management, and not in excess of 5 percent of the market value of the portfolio.

Historically, leverage has predominantly been used within the fixed-income composite to exploit differences in rates or credit spreads by combining derivatives, forward contracts and repurchase agreements. This activity is reflected in the Reserves Fund's balance sheet when the gross value of the bonds exceeds the fair value of the fixed-income composite. Leverage as described above was scaled back the second half of 2009 due to changes in market conditions and a reorganization of Norges Bank Investment Management's fixed-income management. Within the equity segment, leverage is mainly used to efficiently handle fund management activities and has historically been insignificant. Net leverage is calculated by comparing net exposure and actual market value (net asset value). Net exposure is found by converting all derivatives to underlying exposure. Prior to 2011 the leverage was calculated by looking at the net sum of all cash positions. Below, the net leverage in percent of the composite's fair value is shown as a time series.



Short positions are permitted in the management of the Reserves Fund given that Norges Bank Investment Management has access to the securities through an established borrowing arrangement. However, restrictions exist in the management guidelines laid down by the Central Bank Governor. The presence, use, and extent of short positions in the composite's portfolio are immaterial.

### Sub-advisors

Norges Bank Investment Management currently does not use external investment managers in the Reserves Fund. However, external managers were previously used to manage parts of the Reserves Fund composite's portfolio from its inception until August 2011.

### Benchmark description

The strategic benchmark portfolio is defined by the fixed weights set by Norges Bank's Executive Board for the asset classes, normally referred to as the strategic weights. The strategic benchmark index consists of 60 percent fixed-income instruments and 40 percent equity instruments. The benchmark of the investment portfolio of Norges Bank's foreign exchange reserves is a market capitalization weighted custom benchmark composed of an equity benchmark and a fixed-income benchmark compiled by the FTSE

Group and Bloomberg Barclays Indices, respectively. The strategic equity index consists of the FTSE All World Developed Market Index limited to members of the Eurozone, United States, United Kingdom, Japan, Canada, Australia, Switzerland, Sweden and Denmark. It is adjusted for Norges Bank's tax position on dividends and for excluded companies following the exclusion list in the Pension Fund. At year-end, the benchmark consisted of 18 countries and around 1,800 securities. The strategic benchmark for the fixed-income portfolio has been based on the Bloomberg Barclays Global Aggregate bond index, but limited to the classification Treasuries. The currency strategic weights were 45 percent in US dollars, 35 percent in euros, 10 percent in British pounds and 10 percent in Japanese yen. Permitted issuers for the benchmark were: The Governments of France, Germany, Japan, United Kingdom and the United States. Securities with remaining maturity in excess of 10 years are excluded from the benchmark. At the end of each month, the composition of the benchmark is changed in accordance with the changes in composition made by Bloomberg Barclays Indices. At the end of each quarter, the currency distribution of the index is rebalanced to the fixed currency weights. The benchmark is not adjusted for withholding tax. It is also adjusted for excluded issuers following the exclusion list in the Pension Fund. At year-end, the benchmark consisted of around 400 securities. The actual weights of the benchmark as of 30 November 2016 can be seen below together with strategic changes to the benchmark historically.

Country for equity benchmark (Currency for fixed-income benchmark)	Equities Actual benchmark indices	Fixed-income Actual benchmark indices
<b>Asset class weights</b>	<b>42.2</b>	<b>57.8</b>
USA (USD)	60.79	46.36
Canada	3.40	
<b>Total Americas</b>	<b>64.19</b>	<b>46.36</b>
Germany (EUR)	3.47	14.98
France (EUR)	3.45	19.39
Netherlands	1.20	
Spain	1.15	
Italy	0.78	
Belgium	0.49	
Finland	0.40	
Austria	0.08	
Ireland	0.07	
Portugal	0.06	
<i>Euro-area (EUR)</i>	<i>11.14</i>	<i>34.37</i>
United Kingdom (GBP)	6.67	9.97
Switzerland	3.36	
Sweden	1.08	
Denmark	0.62	
<b>Total Europe</b>	<b>22.88</b>	<b>44.34</b>
Japan (JPY)	10.03	9.30
Australia	2.91	
<b>Total Asia / Oceania</b>	<b>12.93</b>	<b>9.30</b>

Figures in percent

Strategic benchmark changes	Decision by Executive Board	Implementation
<b>Capital Allocation</b>		
Equity allocation is set at 20 percent	19.07.00	December 2000
Equity allocation is increased from 20 percent to 40 percent	03.07.02	December 2002
<b>Equity</b>		
Inclusion of developed Emerging Markets	01.07.04	November 2004
Benchmark changed from FTSE All World to FTSE All Cap	12.06.07	September 2007
Emerging markets removed from the benchmark	03.02.10	June 2010
Benchmark changed from FTSE All Cap to FTSE All World Developed Market indices limited to a small number of countries	30.01.15	March 2015
<b>Fixed income</b>		
Inclusion of non-Government Guaranteed Bonds	03.07.02	March 2003
Inclusion of Inflation-Linked Bonds	01.07.04	November 2004
Benchmark to only include government securities (treasuries) and securities issued by international organizations of the highest credit quality (government-related)	03.02.10	June 2010
Currencies limited to USD, JPY, EUR and GBP	03.02.10	June 2010
Benchmark to only include government securities (treasuries)	16.03.11	April 2011
Securities with remaining maturity in excess of 10 years are excluded	30.01.15	March 2015
Quarterly rebalancing to fixed currency weights	30.01.15	March 2015

### Benchmark rebalancing

The strategic benchmark portfolio is defined by the fixed weights set by Norges Bank's Executive Board for the asset classes, normally referred to as the strategic weights. These are the initial weights in the actual benchmark portfolio that the fund's management follows and is measured against. Divergent price movements in the different asset classes will over time lead to weight changes in the actual benchmark portfolio. For example, a stronger increase in equity prices will push the equities portion above 40 percent. As a result, the actual benchmark portfolio may deviate from the strategic long-term benchmark portfolio. Rebalancing is the process of bringing the weights in the actual benchmark portfolio closer to the strategic weights by buying or selling assets. The rebalancing regime set by Norges Bank's Executive Board details that the benchmark rebalancing process was initiated on the last trading day of the following month when the equity share of the actual benchmark index on the last trading day of the month deviates by more than 4 percentage points from the weight in the strategic benchmark index.

### Fee schedule

Performance numbers are gross of management fees and custodial fees, but net of all trading expenses (transaction costs). In addition, non-reclaimable withholding taxes are deducted in the performance numbers. Norges Bank Investment Management does not operate with a fee schedule as mutual funds typically do. Costs for the management of the Reserves Fund are not reimbursed as for the Pension Fund. The management expense ratio remained at 3 basis points for 2016. The table below shows the different components of the total management costs.

Management costs	2016		2015	
	Amount	Percent	Amount	Percent
Custody and settlement costs	9		9	
Internal and other costs	114		109	
Total management costs	123	0.03	118	0.03

Amounts stated in millions of Norwegian kroner

## Performance results: The investment portfolio of Norges Bank's foreign exchange reserves, equity 31 December 2001 – 31 December 2016

NORGES BANK  
INVESTMENT  
MANAGEMENT  
PERFORMANCE RESULTS

Report presented as of: 31 December 2016  
Reported assets currency: Norwegian kroner  
Reported returns currency: Currency basket<sup>1</sup>

Year	Com- posite Return <sup>2</sup>	Bench- mark Return <sup>2</sup>	Rela- tive Return <sup>2</sup>	Com- posite 3-Yr St Dev <sup>3</sup>	Bench- mark 3-Yr St Dev <sup>3</sup>	Num- ber of Port- folios <sup>4</sup>	Com- posite Assets <sup>5</sup>	Firm Assets <sup>5</sup>
2002	-26.36	-25.78	-0.58			1	16,909	743,670
2003	20.48	21.01	-0.54			1	34,190	1,044,264
2004	11.85	12.44	-0.59	15.68	15.63	1	56,134	1,236,653
2005	20.53	20.36	0.16	9.71	9.67	1	70,669	1,648,874
2006	17.03	17.30	-0.27	7.19	7.17	1	92,143	2,047,074
2007	4.39	5.27	-0.88	8.57	8.33	1	88,953	2,261,368
2008	-39.83	-39.40	-0.43	16.48	16.22	1	70,552	2,498,961
2009	31.99	30.96	1.03	20.35	20.07	1	82,865	2,851,020
2010	14.52	13.92	0.60	21.76	21.48	1	93,835	3,317,700
2011	-5.92	-5.92	0.00	17.45	17.32	1	90,720	3,539,396
2012	17.18	17.01	0.18	13.93	13.82	1	99,230	4,043,153
2013	28.94	28.34	0.60	11.80	11.78	1	118,532	5,311,043
2014	11.11	10.90	0.21	8.67	8.67	1	139,984	6,778,049
2015	3.46	3.44	0.03	10.31	10.30	1	169,245	7,886,255
2016	10.54	10.02	0.52	10.52	10.57	1	177,217	7,687,711

### Notes:

- <sup>1</sup> The currency basket corresponds to the currency composition in the fund's benchmark portfolio. The basket consisted of 9 international currencies at the end of 2016.
- <sup>2</sup> Returns are gross-of-fees and stated in percent. Relative return is supplemental information.
- <sup>3</sup> Three-year annualised ex-post standard deviation in percent using 36 monthly returns.
- <sup>4</sup> A measure of internal dispersion is not provided since the composite contains only one portfolio.
- <sup>5</sup> Assets are stated in millions of Norwegian kroner.



Supplemental Information	3 Years	5 Years	10 Years	Since inception
Composite return <sup>1</sup>	8.31	13.94	5.54	6.01
Benchmark return <sup>1</sup>	8.07	13.64	5.43	6.07
Relative return	0.25	0.30	0.11	-0.06
Standard deviation of composite return <sup>2</sup>	10.52	10.17	14.96	14.38
Standard deviation of benchmark return <sup>2</sup>	10.57	10.19	14.82	14.26
Tracking error <sup>3</sup>	0.17	0.16	0.41	0.43
Information ratio <sup>4</sup>	1.36	1.62	0.32	-0.08
Composite Sharpe ratio <sup>5</sup>	0.81	1.34	0.39	0.40
Benchmark Sharpe ratio <sup>5</sup>	0.78	1.31	0.39	0.40
Jensen's alpha <sup>6</sup>	0.27	0.29	0.08	-0.08
Appraisal ratio <sup>7</sup>	1.67	1.82	0.20	-0.19

Notes: All figures are annualised.

<sup>1</sup> Gross-of-fees returns stated in percent.

<sup>2</sup> Ex-post standard deviation in percent using monthly returns.

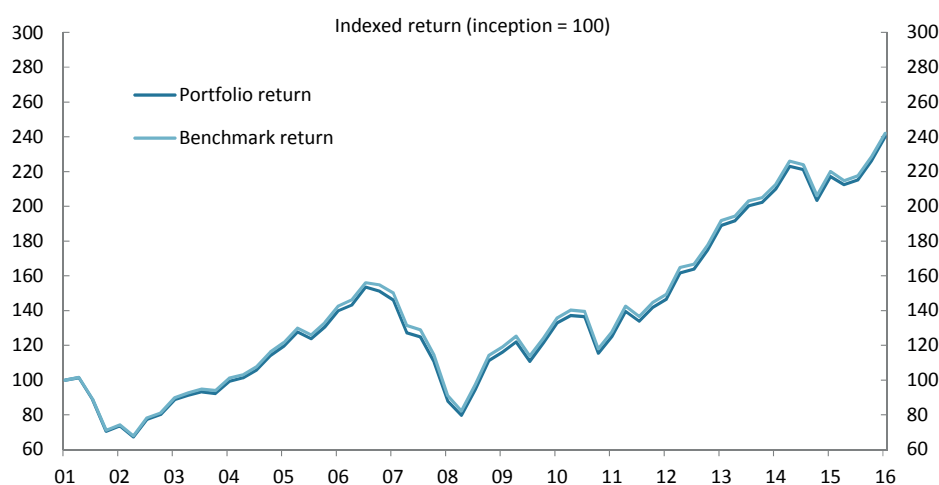
<sup>3</sup> Ex-post standard deviation of monthly relative returns.

<sup>4</sup> Average relative return divided by the tracking error.

<sup>5</sup> Average monthly return in excess of the risk-free rate divided by the standard deviation of monthly returns.

<sup>6</sup> Average return in excess of the risk-free rate minus beta-adjusted benchmark excess return.

<sup>7</sup> Jensen's alpha divided by the standard deviation of the residuals of the CAPM regression.



### Composite creation date and inception date

The composite inception date and the composite creation date of the investment portfolio of Norges Bank's foreign exchange reserves, equity are 31 December 2001.

### Composite description

The investment portfolio of Norges Bank's foreign exchange reserves, equity is the equity composite of the total Reserves Fund. The investment strategy for equity management has been relatively stable throughout its history with enhanced indexing as the core strategy. During 2001, the equity part of the Reserves Fund was established as part of a transition process. In this process large cash inflows and subsequent large asset purchases were incurred. No return numbers or fair values are reported for 2001. Irrespective of this, the

equity portfolio's fair value is included in the total Reserves Fund's assets and the firm assets as of 31 December 2001.

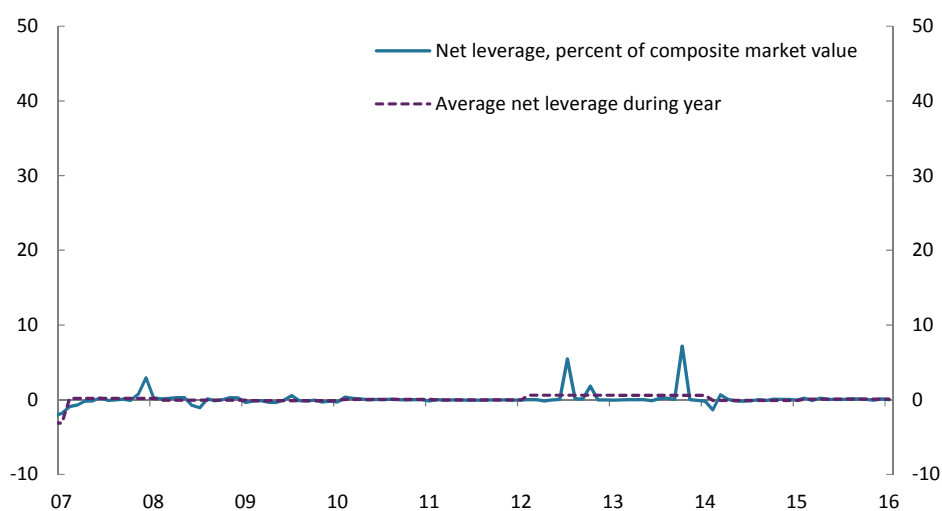
### Derivatives, leverage and short positions

Norges Bank's Executive Board has laid down guidelines for the Reserves Fund's investments. These guidelines state that the portfolio may be invested in derivatives that are naturally linked to listed equity instruments fixed-income securities and money market instruments. However, the use of derivatives in the Reserves Fund's equity composite is very limited and immaterial for the investment strategy.

Financial derivatives	Average exposure through year				Net fair value at year-end	
	2016		2015		2016	2015
	Purchased	Sold	Purchased	Sold		
Exchange traded futures	134	25	190	71	-	-
Warrants and rights	4	-	5	-	2	3

Figures in millions of Norwegian kroner

Within the equity segment, leverage is mainly used to efficiently handle fund management activities and has historically not been of any significant size. Net leverage is calculated by comparing net exposure and actual market value (net asset value). Net exposure is found by converting all derivatives to underlying exposure. Prior to 2011 the leverage was calculated by looking at the net sum of all cash positions. Below, the net leverage in percent of the composite's fair value is shown as a time series.



\* The leverage shown in June 2013 and September 2014 was related to rebalancing of the portfolio.

Short positions are permitted in the management of the Reserves Fund given that Norges Bank Investment Management has access to the securities through an established borrowing arrangement. However, restrictions exist in the management guidelines laid down by the Central Bank Governor. The presence, use, and extent of short positions in the composite's portfolio are immaterial.

### Sub-advisors

Norges Bank Investment Management currently does not use external investment managers in the Reserves Fund. However, external managers were previously used to manage parts of the Reserves Fund equity composite's portfolio from its inception until March 2005.

### Benchmark description

The strategic benchmark index for the investment portfolio of Norges Bank's foreign exchange reserves, equity composite is a market capitalization weighted custom benchmark compiled by the FTSE Group. It consists of the FTSE All World Developed Market Index limited to members of the Eurozone, United States, United Kingdom, Japan, Canada, Australia, Switzerland, Sweden and Denmark. It is adjusted for Norges Bank's tax position on dividends and for excluded companies following the exclusion list in the Pension Fund. At year-end the benchmark consisted of around 1,800 securities from 18 countries. The complete composition of the benchmark as well as historical compositions are available on [www.nbim.no](http://www.nbim.no). The actual country weights of the benchmark as of 31 December 2016 can be seen below together with strategic changes to the benchmark historically.

Country for equity benchmark	Actual benchmark indices
<b>Total</b>	<b>100.0</b>
USA	60.21
Canada	3.39
<b>Total Americas</b>	<b>63.60</b>
Germany	3.65
France	3.56
Netherlands	1.22
Spain	1.22
Italy	0.87
Belgium	0.49
Finland	0.41
Austria	0.08
Ireland	0.07
Portugal	0.06
<i>Euro-area</i>	<i>11.63</i>
United Kingdom	6.80
Switzerland	3.43
Sweden	1.10
Denmark	0.64
<b>Total Europe</b>	<b>23.61</b>
Japan	9.88
Australia	2.91
<b>Total Asia / Oceania</b>	<b>12.79</b>

Figures in percent

Strategic benchmark changes	Decision by Executive Board	Implementation
Inclusion of developed Emerging Markets	01.07.04	November 2004
Benchmark changed from FTSE All World to FTSE All Cap	12.06.07	September 2007
Emerging markets removed from the benchmark	03.02.10	June 2010
Benchmark changed from FTSE All Cap to FTSE All World Developed Market indices limited to a small number of countries	30.01.15	March 2015

### Fee schedule

Performance numbers are gross of management fees and custodial fees, but net of all trading expenses (transaction costs). In addition, non-reclaimable withholding taxes are deducted in the performance numbers. Norges Bank Investment Management does not operate with a fee schedule as mutual funds typically do. Costs for the management of the Reserves Fund are not reimbursed as for the Pension Fund. The management expense ratio for the Reserves Fund as a whole remained at 3 basis points for 2016.

## Performance results: The investment portfolio of Norges Bank's foreign exchange reserves, fixed income 31 December 1997 – 30 November 2016

NORGES BANK  
INVESTMENT  
MANAGEMENT  
PERFORMANCE RESULTS

Report presented as of: 30 November 2016

Reported assets currency: Norwegian kroner

Reported returns currency: Currency basket<sup>1</sup>

Year	Com- posite Return <sup>2</sup>	Bench- mark Return <sup>2</sup>	Rela- tive Return <sup>2</sup>	Com- posite 3-Yr St Dev <sup>3</sup>	Bench- mark 3-Yr St Dev <sup>3</sup>	Num- ber of Port- folios <sup>4</sup>	Com- posite Assets <sup>5</sup>	Firm Assets <sup>5</sup>
1998	9.78	9.87	-0.08			1	96 466	279 205
1999	-1.14	-1.26	0.13			1	94 550	340 855
2000	8.49	8.37	0.12	2.63	2.76	1	106 445	522 544
2001	5.11	4.95	0.16	3.09	3.11	1	83 414	739 116
2002	10.14	9.59	0.55	3.31	3.32	1	76 714	743 670
2003	4.51	3.97	0.54	4.02	4.02	1	108 147	1 044 264
2004	6.15	5.86	0.29	3.71	3.74	1	129 036	1 236 653
2005	4.12	3.78	0.34	3.33	3.36	1	140 817	1 648 874
2006	1.83	1.49	0.34	2.69	2.76	1	132 374	2 047 074
2007	2.68	4.13	-1.45	2.48	2.64	1	125 033	2 261 368
2008	-0.95	5.69	-6.65	3.89	3.82	1	108 340	2 498 961
2009	13.73	5.29	8.44	4.74	3.94	1	102 578	2 851 020
2010	4.50	2.69	1.81	4.97	4.15	1	130 901	3 317 700
2011	8.99	8.63	0.36	3.90	3.44	1	131 149	3 539 396
2012	4.69	3.80	0.89	3.25	3.37	1	128 153	4 043 153
2013	-1.14	-1.31	0.16	3.26	3.38	1	154 777	5 311 043
2014	7.11	7.23	-0.12	2.88	2.89	1	207 326	6 778 049
2015	0.78	0.93	-0.15	2.75	2.78	1	241 858	7 886 255
2016 <sup>6</sup>	1.19	1.16	0.03	2.57	2.58	1	233 425	7 717 936

### Notes:

<sup>1</sup> The currency basket corresponds to the currency composition in the fund's benchmark portfolio. The basket consisted of 9 international currencies at the end of November 2016.

<sup>2</sup> Returns are gross-of-fees and stated in percent. Relative return is supplemental information.

<sup>3</sup> Three-year annualised ex-post standard deviation in percent using 36 monthly returns.

<sup>4</sup> A measure of internal dispersion is not provided since the composite contains only one portfolio.

<sup>5</sup> Assets are stated in millions of Norwegian kroner.

<sup>6</sup> Partial year, 11 months; to termination date 30 November 2016.

Supplemental Information	3 Years	5 Years	10 Years	Since inception
Composite return <sup>1</sup>	2.70	2.76	3.98	4.71
Benchmark return <sup>1</sup>	2.78	2.59	3.69	4.43
Relative return	-0.09	0.17	0.29	0.27
Standard deviation of composite return <sup>2</sup>	2.57	2.78	3.60	3.39
Standard deviation of benchmark return <sup>2</sup>	2.58	2.79	3.33	3.27
Tracking error <sup>3</sup>	0.06	0.22	1.58	1.16
Information ratio <sup>4</sup>	-1.38	0.76	0.18	0.23
Composite Sharpe ratio <sup>5</sup>	1.02	0.98	0.91	0.80
Benchmark Sharpe ratio <sup>5</sup>	1.05	0.91	0.89	0.75
Jensen's alpha <sup>6</sup>	-0.07	0.18	0.34	0.31
Appraisal ratio <sup>7</sup>	-1.11	0.82	0.22	0.27

Notes: All figures are annualised.

<sup>1</sup> Gross-of-fees returns stated in percent.

<sup>2</sup> Ex-post standard deviation in percent using monthly returns.

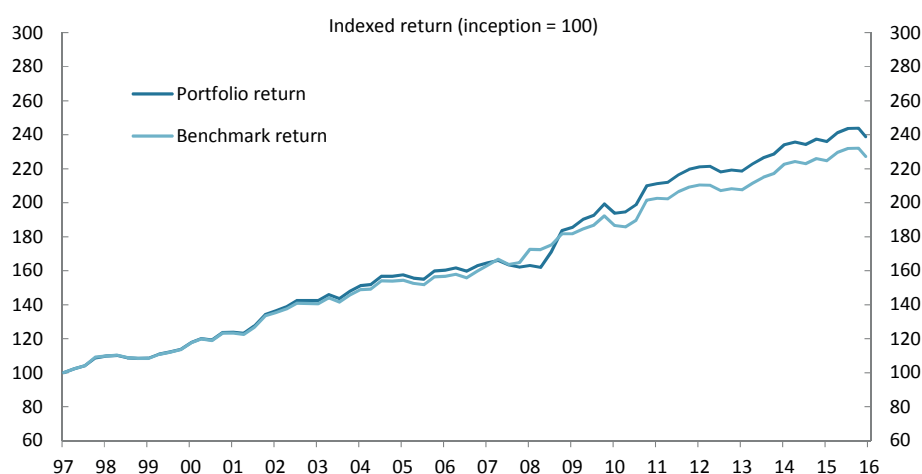
<sup>3</sup> Ex-post standard deviation of monthly relative returns.

<sup>4</sup> Average relative return divided by the tracking error.

<sup>5</sup> Average monthly return in excess of the risk-free rate divided by the standard deviation of monthly returns.

<sup>6</sup> Average return in excess of the risk-free rate minus beta-adjusted benchmark excess return.

<sup>7</sup> Jensen's alpha divided by the standard deviation of the residuals of the CAPM regression.



### Composite creation date and inception date

The composite inception date and the composite creation date of the investment portfolio of Norges Bank's foreign exchange reserves, fixed income are 31 December 1997. The composite was terminated on 30 November 2016.

### Composite description

The investment portfolio of Norges Bank's foreign exchange reserves, fixed income was the fixed-income composite of the total Reserves Fund. The investment strategy for the fixed-income management was until 2008 to exploit liquidity and credit premiums in different sectors of the fixed-income market, which was in part supported by the use of OTC derivatives and leverage. The fixed-income management was restructured in 2008 and the investment strategy was modified to have two main portfolios; one for

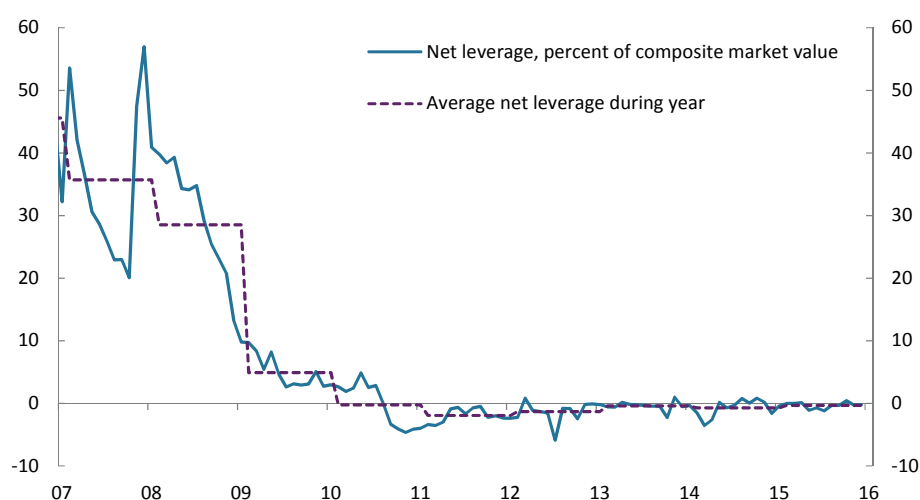
rebalancing and indexing and one portfolio containing large and illiquid positions. The purpose of the composite has since then been to ensure sufficient liquidity in the total fund and active risk positions are to be taken in a balanced manner.

The fixed income investments of Norges Bank's long-term portfolio of foreign exchange reserves were transferred to Norges Bank Markets and Banking Services division on 30 November 2016, and this composite was therefore terminated at the same time.

### Derivatives, leverage and short positions

Norges Bank's Executive Board has laid down guidelines for the Reserves Fund's investments. These guidelines state that the portfolio may be invested in derivatives that are naturally linked to listed equity instruments, fixed-income securities and money market instruments. However, in recent years there has been no derivative positions in the Reserves Fund fixed income composite.

Historically, leverage has predominantly been used within the fixed-income composite to exploit differences in rates or credit spreads by combining derivatives, forward contracts and repurchase agreements. This is reflected in the Reserves Fund's balance sheet when the gross value of the bonds exceeds the fair value of the fixed-income composite. Leverage as described above was scaled back in 2009 due to changes in market conditions and a reorganization of Norges Bank Investment Management's fixed-income management in 2008 and 2009. Net leverage is calculated by comparing net exposure and actual market value (net asset value). Net exposure is found by converting all derivatives to underlying exposure. Prior to 2011 the leverage was calculated by looking at the net sum of all cash positions. Below, the net leverage in percent of the composite's fair value is shown as a time series.



Short positions are permitted in the management of the Reserves Fund given that Norges Bank Investment Management has access to the securities through an established borrowing arrangement. However, restrictions exist in the management guidelines laid down by the Central Bank Governor. The

presence, use, and extent of short positions in the composite's portfolio are immaterial.

### Sub-advisors

Norges Bank Investment Management currently does not use external investment managers in the Reserves Fund. However, external managers were previously used to manage parts of the Reserves Fund fixed income composite's portfolio from its inception until August 2011.

### Benchmark description

The benchmark of the investment portfolio of Norges Bank's foreign exchange reserves, fixed income has been a market capitalization weighted custom benchmark compiled by Bloomberg Barclays Indices. The strategic benchmark for the fixed-income portfolio was based on the Bloomberg Barclays Global Aggregate bond index, but limited to the classification Treasuries. The currency strategic weights were 45 percent in US dollars, 35 percent in euros, 10 percent in British pounds and 10 percent in Japanese yen. Permitted issuers for the benchmark were: The Governments of France, Germany, Japan, United Kingdom and the United States. Securities with remaining maturity in excess of 10 years are excluded from the benchmark. At the end of each month, the composition of the benchmark was changed in accordance with the changes in composition made by Bloomberg Barclays Indices. At the end of each quarter, the currency distribution of the index was rebalanced to the fixed currency weights. The benchmark was not adjusted for withholding tax. It was also adjusted for excluded issuers following the exclusion list in the Pension Fund. At November 2016 month-end, the benchmark consisted of around 400 securities. The actual weights of the benchmark as of 30 November 2016 can be seen below together with strategic changes to the benchmark historically.

Currency for fixed-income benchmark	Actual benchmark indices
<b>Total</b>	<b>100.0</b>
USA (USD)	46.36
<b>Total Americas</b>	<b>46.36</b>
France (EUR)	19.39
Germany (EUR)	14.98
<i>Euro-area (EUR)</i>	<i>34.37</i>
United Kingdom (GBP)	9.97
<b>Total Europe</b>	<b>44.34</b>
Japan (JPY)	9.30
<b>Total Asia / Oceania</b>	<b>9.30</b>

Figures in percent



Strategic benchmark changes	Decision by Executive Board	Implementation
Inclusion of non-Government Guaranteed Bonds	03.07.02	March 2003
Inclusion of Inflation Index Bonds	01.07.04	November 2004
Benchmark to only include government securities (treasuries) and securities issued by international organizations of the highest credit quality (government-related)	03.02.10	June 2010
Currencies limited to USD, JPY, EUR and GBP	03.02.10	June 2010
Benchmark to only include government securities (treasuries)	16.03.11	April 2011
Securities with remaining maturity in excess of 10 years are excluded	30.01.15	March 2015
Quarterly rebalancing to fixed currency weights	30.01.15	March 2015

### Fee schedule

Performance numbers are gross of management fees and custodial fees, but net of all trading expenses (transaction costs). In addition, non-reclaimable withholding taxes are deducted in the performance numbers. Norges Bank Investment Management does not operate with a fee schedule as mutual funds typically do. Costs for the management of the Reserves Fund are not reimbursed as for the Pension Fund. The management expense ratio for the Reserves Fund as a whole remained at 3 basis points for 2016.