

### GOVERNMENT PENSION FUND GLOBAL

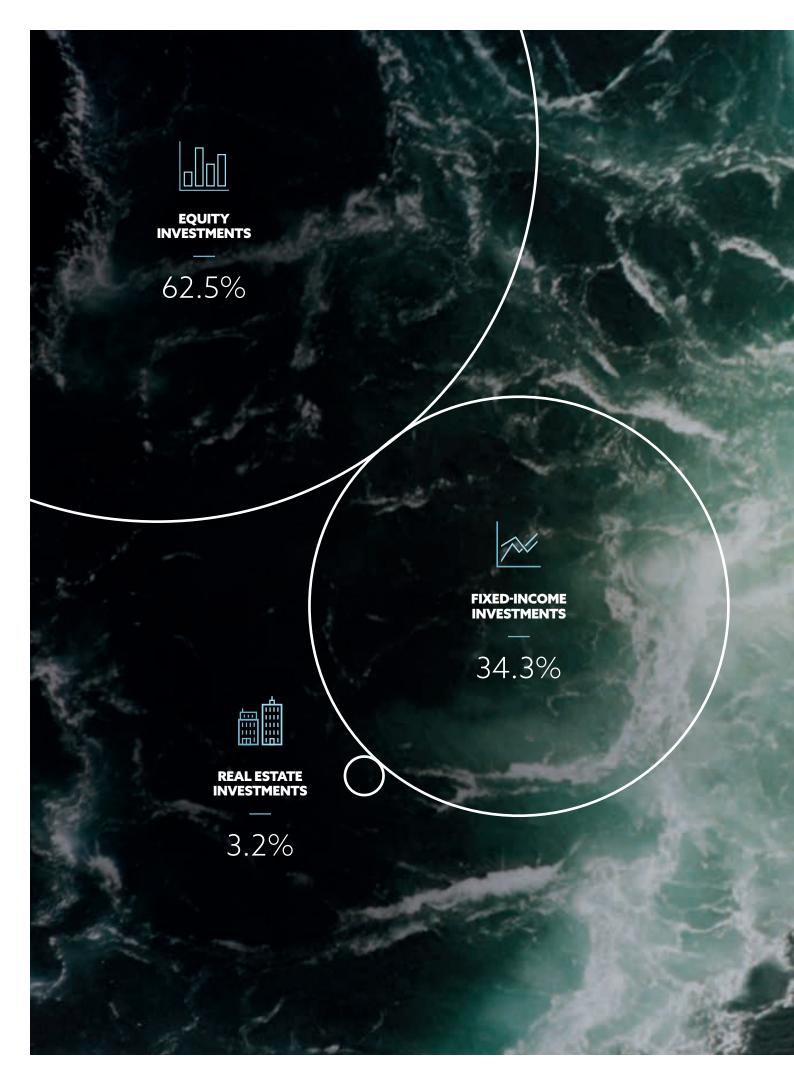
ANNUAL REPORT /2016

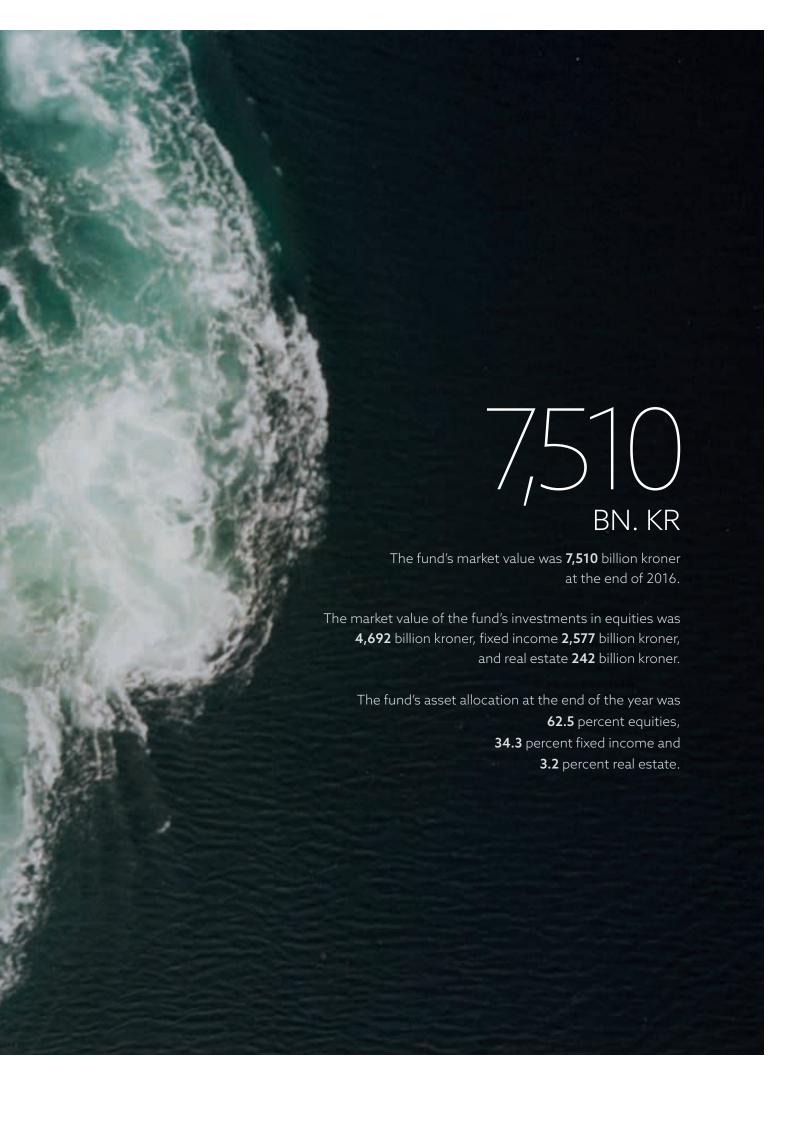




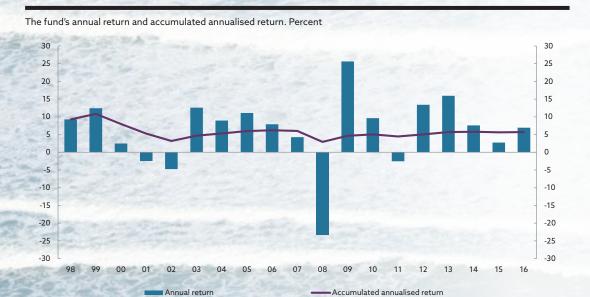


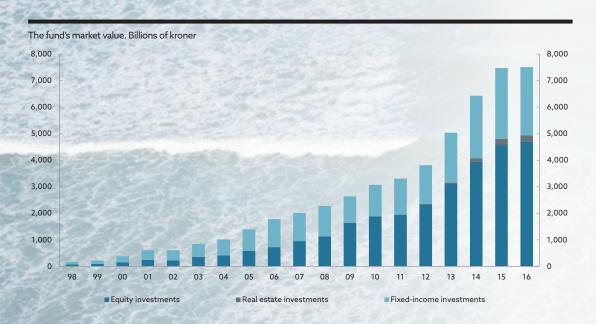


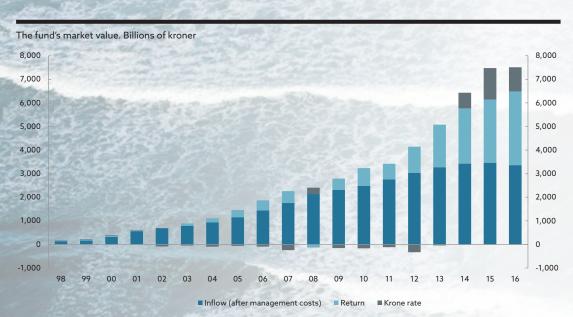












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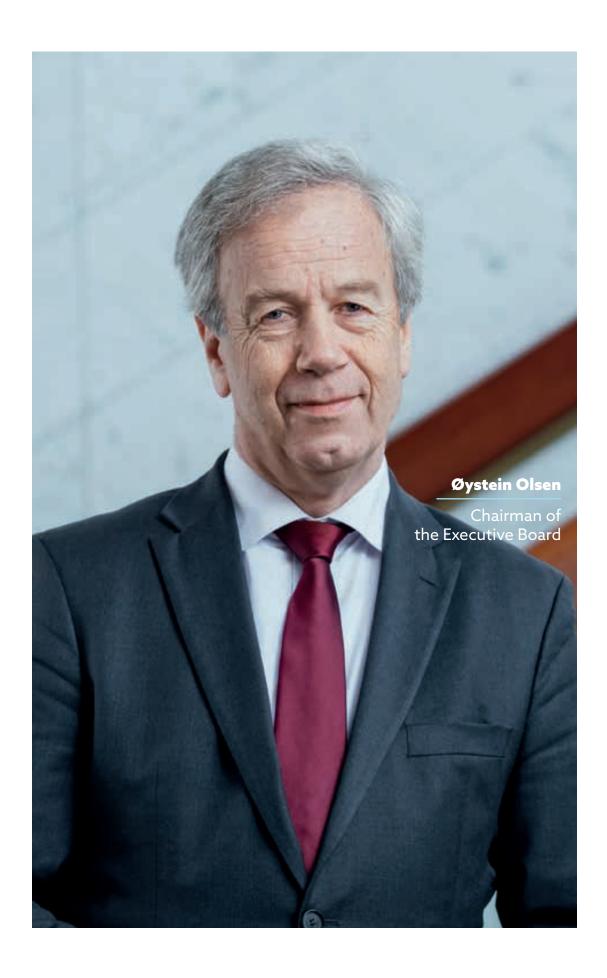
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# The Executive Board's assessment of the results

Norges Bank manages the Government Pension Fund Global with the aim of the highest possible return within the constraints imposed upon it. The return in 2016 was 6.9 percent. The Executive Board is satisfied that the return both in 2016 and over a longer period has been good. The Board is also satisfied that management costs have been kept at low levels despite the gradual expansion of investments into new markets.

The market value of the fund's investment portfolio was 7,510 billion kroner at the end of 2016. The return before management costs was 6.9 percent measured in the fund's currency basket. Equities returned 8.7 percent, bonds 4.3 percent and real estate 0.8 percent. Management costs amounted to 0.05 percent of the fund's capital.

Norges Bank pursues a variety of investment strategies in its management of equities and bonds. For the period 2013-2016, these strategies can be divided into fund allocation, security selection and asset management. Different strategies serve different purposes. While some aim mainly to maximise the fund's return, others are used to reduce costs or diversify risk. An appropriate time horizon for evaluation will also vary from strategy to strategy. One common denominator is that they attempt in some way to exploit the fund's special characteristics in the form of its large size and long-term investment horizon. The strategies complement and influence one another, and synergies arise between them.

The Executive Board is satisfied that these strategies together produced an average annual excess return before management costs of 0.20 percentage point in the period 2013-2016, but considers it important also to assess performance over a longer period. Security selection and asset management strategies both contributed positively to the relative return during this period, while the contribution from fund allocation strategies was negative. The contribution to return and risk from fund allocation strategies should, however, be viewed over a longer period. In 2016, asset management made a positive contribution to the relative return, whereas the other strategies pulled it down.

The Executive Board attaches importance to cost-effective management of the fund. The Board is satisfied that management costs as a share of assets under management have come down over time and been held at low and stable levels for the past couple of years. In the period 2013-2016, annual management costs averaged 0.058 percent, or 5.8 basis points, of the fund's value. Asset management and security selection strategies accounted for 2.4 and 2.6 basis points respectively of management costs, while fund allocation strategies and real estate each contributed 0.4 basis point.

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The Ministry of Finance defines the fund's benchmark index and sets limits for deviation between Norges Bank's portfolio and the benchmark. The Executive Board issues supplementary risk limits. Risks are measured, analysed and followed up using a broad set of measures and analyses. One key provision in the mandate from the Ministry requires the Bank to manage the fund in such a way that expected relative volatility (tracking error) does not exceed 1.25 percentage points. The actual level at the end of 2016 was 0.28 percentage point.

The risk associated with fund allocation and security selection strategies, as measured by expected volatility for each strategy in isolation, was less than 0.2 percentage point in both cases at the end of the year. The relative volatility for asset management strategies in isolation was lower. Relative volatility cannot, however, fully capture the risk in each strategy, and these calculations do not take account of the correlations in returns from each strategy. Taken together, these three main groups of strategies had an expected relative volatility of 0.28 percentage point.

The return on equity and fixed-income investments was 0.15 percentage point higher than that on the benchmark index from the Ministry of Finance. This excess return has been achieved with a low utilisation of the permitted limits for risk.

In the period 1998-2016, the fund's average annual return was 5.7 percent measured in the fund's currency basket. The annual net real return, after management costs and inflation are deducted, averaged 3.8 percent.

The annual return on equity and bond investments before management costs from 1998 to 2016 was 0.26 percentage point higher than that on the benchmark index. Actual relative risk, as measured by relative volatility, was 0.71 percentage point during the period. This corresponds to an information ratio, or relative return per unit of risk, of 0.39.

The Executive Board is satisfied that the return on the fund's equity and bond portfolio has been higher than that on the benchmark over time.

The fund's real estate investments consist of both listed and unlisted investments. Unlisted real estate accounted for 2.5 percent of the fund at the end of 2016. The fund's unlisted real estate investments are in office and retail properties in a limited number of major cities and in the global logistics market. The return on unlisted real estate in 2016 before management costs was 1.7 percent measured in the fund's currency basket and 4.2 percent measured in local currency. In the Executive Board's opinion, experience from building up real estate management at Norges Bank has been positive to date. The annual return on unlisted real estate since the portfolio's inception in 2011 has averaged 6 percent measured in the fund's currency basket.

The Bank publishes additional information in areas such as real estate management and return/risk. In the Executive Board's opinion, these analyses support the conclusion that the results from the management of the fund have been good.

Norges Bank aims to be an international leader in the field of responsible investment, and this is an integral part of the fund's management. Work on non-financial data was strengthened in 2016. The Executive Board reached and published decisions to exclude, or place under observation, 76 companies under the Guidelines for Observation and Exclusion from the Government Pension Fund Global, 70 of them as a result of the new product-based coal criterion.

One important part of Norges Bank's role as manager is to advise on the further development of the fund's management. In 2016, the Bank was asked to consider whether there are grounds to amend the allocation to equities in the benchmark index. The Bank recommended that the equity share is increased to 75 percent. This would give a higher expected return in the long term. The Bank also advised on the implementation of a new management model for the fund where the Bank decides on the allocation to real estate within the overall risk limits for the management of the fund.

Norges Bank manages substantial assets on behalf of the nation and attaches importance to communicating openly, reliably and consistently. Reporting on the management of the fund has been expanded over the years. The Executive Board believes that transparency helps build confidence in its management of the fund.

> The Executive Board Oslo, 8 February 2017

Øystein Olsen

Chairman of the **Executive Board** 

Hilde Myrberg Board member Jon Nicolaisen

First Deputy Chair

Kjetil Storesletten Board member

Egil Matsen

Second Deputy Chair

Karen Helene Ulltveit-Moe

Laver Helene Welton + Those

Board member

Kathryn M. Baker Board member

Steinar Juel Board member



#### **CEO OF NORGES BANK INVESTMENT MANAGEMENT**

## Good equity returns in second half of 2016

The fund returned 6.9 percent after a year of political events and uncertainty. All of the fund's asset classes generated positive returns, but it was the strong equity return in the second half of the year that drove the fund's results.

The return in 2016 was characterised by falling international interest rates in the first half, and strong equity markets in the second half. The year began with a downturn in financial markets, and uncertainty regarding developments in China. Three weeks into the year, global equity markets were down more than 10 percent. Markets subsequently stabilised and finished the year strongly. Interest rates continued to fall in the first half of the year, and more than one fifth of the fund's government bonds had negative yields when interest rates hit bottom in July. After the presidential election in the US, markets priced in higher growth and inflation in the global economy. Interest rates increased, the dollar continued to strengthen, and the price of oil doubled from the lows at the beginning of the year. The fund's equity investments returned 8.7 percent for the year. Fixed-income investments returned 4.3 percent, and real estate investments 0.8 percent.

In 2016, we marked the 20th anniversary of the first inflow to the fund. On 30 May 1996, the Ministry of Finance transferred 2 billion kroner to the fund. Since its inception, capital of 3,397 billion kroner has been transferred to the fund, and its market value has grown to 7,510 billion kroner. Last year was the first year of withdrawals from the fund, with net withdrawals of 101 billion kroner. The return for the year was 447 billion kroner. Since inception, the cumulative return has been 3,123 billion kroner. Four out of five kroner of the return has been generated over the last five years.

Our mission is to safeguard Norway's financial wealth in a transparent and responsible manner. In addition to this report, we publish extended information on responsible investment, real estate investments, and return and risk. All information is available on www.nbim.no. The organisation has been strengthened over the past few years, and management costs remain low. We are well prepared to face the challenging financial markets expected in the years to come.

Oslo, 28 February 2017

Yngve Slyngstad

CEO of Norges Bank Investment Management

## Good results in volatile markets

2016 saw considerable quarterly variations, but falling yields over the year and strong stock markets in the second half led to a return of 6.9 percent for the Government Pension Fund Global.

Equity investments returned 8.7 percent in 2016, fixed-income investments 4.3 percent and real estate investments 0.8 percent.

#### **RETURN OF 447 BILLION KRONER**

The Norwegian government first transferred capital to the fund in May 1996. By the end of 2016, the fund had received a total of 3,397 billion kroner and amassed a cumulative return of 3,123 billion kroner. Norges Bank Investment Management was set up on 1 January 1998 to manage the fund on behalf of the Ministry of Finance. Between then and the end of 2016, the fund generated an average annual return of 5.7 percent. After management costs and inflation, the annual return has averaged 3.8 percent.

#### **RETURNS IN INTERNATIONAL CURRENCY**

The fund is invested in international securities. Returns are generally measured in international currency – a weighted combination of the currencies in the fund's benchmark index for equities and bonds. The fund's currency basket consisted of 34 currencies at the end of 2016. Unless otherwise stated in the text, results are measured in this currency basket.

#### MARKET VALUE MORE THAN 7,500 BILLION KRONER

The fund's market value climbed 35 billion kroner to 7,510 billion kroner in 2016. The market value is affected by investment returns, capital inflows or withdrawals, and exchange rate movements. The fund returned 447 billion kroner in 2016, while there was a net outflow to the government of 101 billion kroner. The krone strengthened against many of the currencies the fund is invested in, which in isolation decreased its market value by 306 billion kroner, but this has no bearing on the fund's international purchasing power. The fund's asset allocation at the end of the year was 62.5 percent equities, 34.3 percent fixed income and 3.2 percent real estate.



	2016	2015	2014	2013	2012
Returns in international currency (percent)					
Return on equity investments	8.72	3.83	7.90	26.28	18.06
Return on fixed-income investments	4.32	0.33	6.88	0.10	6.68
Return on real estate investments <sup>1</sup>	0.78	9.99	10.42	11.79	5.77
Return on fund	6.92	2.74	7.58	15.95	13.42
Return on equity and fixed-income investments (percent)	7.12	2.52	7.53	15.97	13.45
Return on equity and fixed-income benchmark index (percent)	6.97	2.07	8.30	14.98	13.24
Relative return on equity and fixed-income investments (percentage points)	0.15	0.45	-0.77	0.99	0.21
Relative return on equity investments (percentage points)	0.15	0.83	-0.82	1.28	0.52
Relative return on fixed-income investments (percentage points)	0.16	-0.24	-0.70	0.25	-0.29
Management costs (percent)	0.05	0.06	0.06	0.07	0.06
Return on fund after management costs (percent)	6.87	2.68	7.52	15.88	13.35

3.67

-0.53

-3.91

1.95

16.77

12.83

23.71

15.54

24.61

23.43

27.51

24.23

36.26

8.01

20.62

25.11

11.07

0.36

-0.50

6.70

 $\textbf{Table 2} \hspace{0.5cm} \textbf{Accumulated return since first capital inflow in 1996. Billions of kroner} \\$ 

Table 1

Return figures

Returns in kroner (percent)
Return on equity investments

Return on fund

Return on fixed-income investments

Return on real estate investments

	2016	2015¹	2014	2013	2012
Return on equity investments	2,129	1,786	1,567	1,242	579
Return on fixed-income investments	955	859	761	551	528
Return on real estate investments	38	31	14	5	0
Total return	3,123	2,676	2,343	1,799	1,107

<sup>&</sup>lt;sup>1</sup> The distribution between returns on equity and fixed-income investments has been corrected and therefore differs from previously reported figures.

<sup>&</sup>lt;sup>1</sup> The return on real estate investments measured in international currency has been adjusted downwards for 2015 by 0.01 percentage point. This is due to an error caused by the use of an incorrect Thai Baht rate in December 2015 to measure returns in the fund's currency basket. This correction has no impact on the income statement or balance sheet of the Government Pension Fund Global for 2015.

 Table 3
 Historical key figures as at 31 December 2016. Annualised data, measured in the fund's currency basket

	Since 01.01.1998	Last 10 years	Last 5 years	Last 3 years	2016
Return on fund (percent)	5.70	5.25	9.22	5.72	6.92
Return on equity and fixed-income investments (percent)	5.70	5.24	9.21	5.70	7.12
Return on equity and fixed-income benchmark index (percent)	5.44	5.19	9.01	5.75	6.97
Relative return on equity and fixed-income investments (percentage points)	0.26	0.06	0.20	-0.05	0.15
Annual price inflation (percent)	1.76	1.77	1.31	1.06	1.52
Annual management costs (percent)	0.09	0.08	0.06	0.06	0.05
Annual net real return on fund (percent)	3.79	3.33	7.74	4.56	5.27
The fund's actual standard deviation (percent)	7.49	9.05	6.46	6.54	6.25
Tracking error for equity and fixed-income investments (percentage points)	0.71	0.90	0.37	0.39	0.41
Information ratio (IR)¹ for equity and fixed-income investments	0.39	0.12	0.52	-0.10	0.37

<sup>&</sup>lt;sup>1</sup> The information ratio (IR) is the ratio of the fund's average monthly relative return to the fund's actual standard deviation. The IR indicates how much relative return has been achieved per unit of risk.

 Table 4
 Return on the fund as at 31 December 2016, measured in various currencies. Percent

	Since 01.01.1998 Annualised figures	2016	2015	2014	2013	2012
US Dollar	5.78	4.83	-2.13	0.52	14.77	14.42
Euro <sup>1</sup>	6.01	7.97	9.02	14.47	9.81	12.66
British Pound	7.43	25.05	3.54	6.78	12.63	9.39
Norwegian Krone	6.69	1.95	15.54	24.23	25.11	6.70
Currency basket	5.70	6.92	2.74	7.58	15.95	13.42

 $<sup>^{1}\,</sup>$  Euro was introduced as currency on 01.01.1999. WMReuters' euro rate is used as estimate for 31.12.1997.

Table 5	Historical returns on the fund	d's investments. Percent		
	Total	Equity	Fixed income	Real estate
2016	6.92	8.72	4.32	0.78
2015	2.74	3.83	0.33	9.99
2014	7.58	7.90	6.88	10.42
2013	15.95	26.28	0.10	11.79
2012	13.42	18.06	6.68	5.77
2011 <sup>1</sup>	-2.54	-8.84	7.03	-4.37
2010	9.62	13.34	4.11	-
2009	25.62	34.27	12.49	-
2008	-23.31	-40.71	-0.54	-
2007	4.26	6.82	2.96	-
2006	7.92	17.04	1.93	-
2005	11.09	22.49	3.82	-
2004	8.94	13.00	6.10	-
2003	12.59	22.84	5.26	-
2002	-4.74	-24.39	9.90	-
2001	-2.47	-14.60	5.04	-
2000	2.49	-5.82	8.41	-
1999	12.44	34.81	-0.99	-
1998	9.26	-	9.31	-

<sup>&</sup>lt;sup>1</sup> Real estate in 9 months; from 31 March 2011

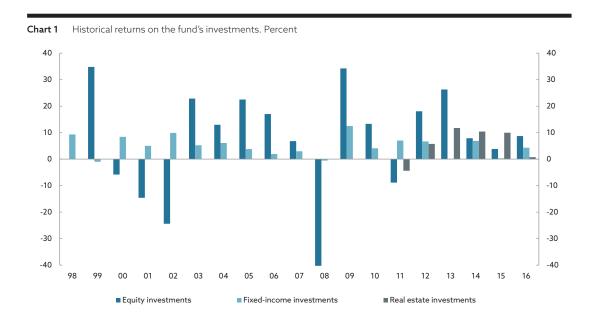


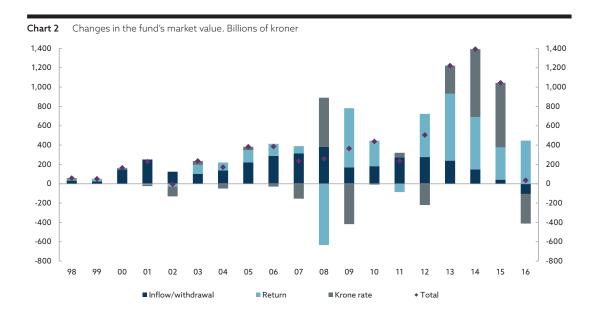
Table 6 Key figures. Billions of kroner					
	2016	2015	2014	2013	2012
Market value					
Market value of equity investments	4,692	4,572	3,940	3,107	2,336
Market value of fixed-income investments	2,577	2,668	2,350	1,879	1,455
Market value of real estate investments	242	235	141	52	25
Market value of fund <sup>1</sup>	7,510	7,475	6,431	5,038	3,816
Accrued, not paid, management fees <sup>1</sup>	-4	-4	-3	-3	-2
Owner's capital <sup>1</sup>	7,507	7,471	6,428	5,035	3,814
Inflow/withdrawal of capital <sup>2</sup>	-101	46	150	241	279
Paid management fees <sup>2</sup>	-4	-3	-3	-2	-3
Return on fund	447	334	544	692	447
Changes due to fluctuations in krone	-306	668	702	291	-220
Total change in market value	35	1,044	1,393	1,222	504
Changes in value since first capital inflow in 1996					
Total inflow of capital	3,397	3,499	3,452	3,302	3,060
Return on fund	3,123	2,676	2,343	1,799	1,107
Management fees³	-35	-31	-27	-24	-21
Changes due to fluctuations in krone	1,025	1,331	663	-39	-331
Market value of fund	7,510	7,475	6,431	5,038	3,816
Return after management costs	3,088	2,645	2,316	1,775	1,087

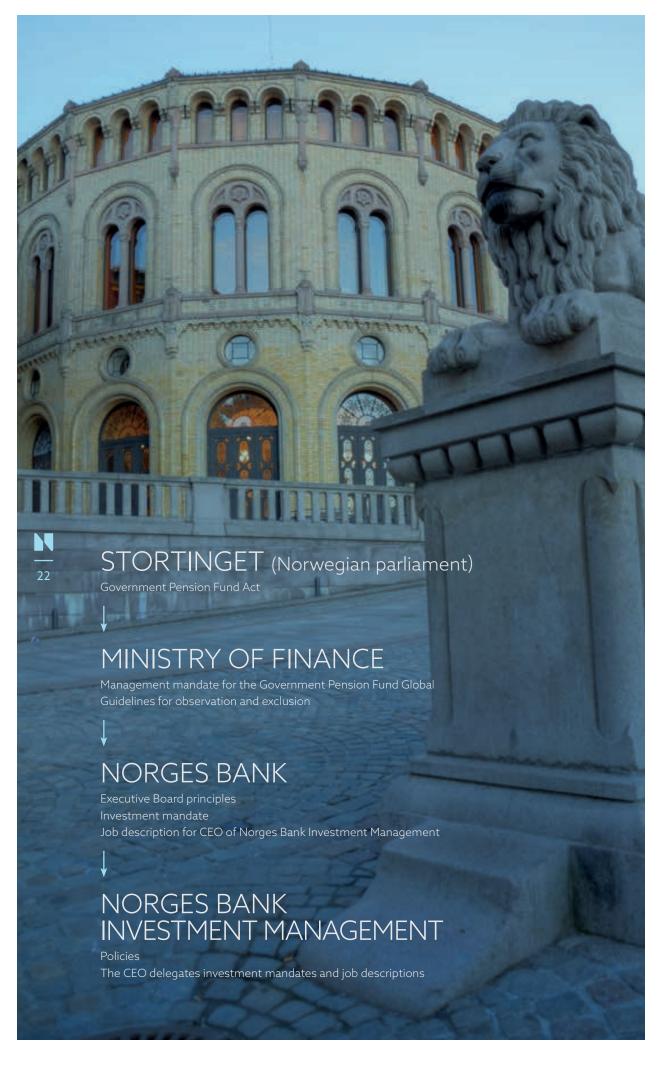
<sup>&</sup>lt;sup>1</sup> The fund's market value shown in this table does not take into account the management fee. Owner's capital in the financial statements equals the fund's market value less accrued, not paid, management fees.

<sup>&</sup>lt;sup>2</sup> Paid management fees are specified separately, and not included in Inflow/withdrawal of capital.

<sup>&</sup>lt;sup>3</sup> Management costs at subsidiaries, see Table 10.2 in the financial reporting section, are not included in the management fees. Management costs at subsidiaries have been deducted from the fund's return before management fees.

Table 7	Changes in the fund's market value. E	Billions of kroner		
	Total	Return	Inflow/withdrawal	Krone rate
2016	35	447	-105	-306
2015	1,044	334	42	668
2014	1,393	544	147	702
2013	1,222	692	239	291
2012	504	447	276	-220
2011	234	-86	271	49
2010	437	264	182	-8
2009	365	613	169	-418
2008	257	-633	384	506
2007	235	75	314	-153
2006	385	124	288	-28
2005	383	127	220	36
2004	171	82	138	-49
2003	236	92	104	41
2002	-5	-29	125	-101
2001	227	-9	251	-15
2000	164	6	150	8
1999	51	23	24	3
1998	58	12	33	13
Before	1998 113	0	108	5





#### 2.1 GLOBAL INVESTMENT STRATEGY

### Our mission

The fund is invested globally in order to avoid overheating of the domestic economy and shield the economy from the effects of fluctuating oil prices. The fund is invested in international equities, fixed income and real estate. The goal is to have well diversified investments that distribute risk and generate the highest possible return within the mandate from the Ministry of Finance.

The formal framework for the fund has been laid down by the Storting - the Norwegian parliament - in the Government Pension Fund Act. The Ministry of Finance has overall responsibility for the fund and has issued guidelines for its management in the management mandate for the Government Pension Fund Global. Norges Bank has been tasked with the management of the fund, and its Executive Board has delegated the operational management of the fund to Norges Bank Investment Management.

We seek to safeguard the fund's international purchasing power by generating a real return over time that exceeds growth in the global economy. Until the end of 2016, the management mandate required the fund to be invested widely outside Norway with a target asset allocation of 60 percent equities, 35-40 percent fixed income and up to 5 percent real estate. From 2017, a new management model has been introduced where Norges Bank decides the real estate allocation within the mandate's restriction that the unlisted real

estate portfolio may constitute up to 7 percent of the investment portfolio. The fund is to be invested in most markets, countries and currencies to achieve broad exposure to global economic growth.

Our investments are to produce a high longterm return. We aim to achieve this with an acceptable level of risk, as a responsible investor and through an efficient organisation.

Responsible investment is an integral part of our management task. We are an active owner, and our investment decisions take account of how we view companies' long-term financial, environmental and social risks.

Our ability to invest for the long term depends on confidence in the way we manage the fund. A high degree of openness about its management will help achieve this. Long-term and responsible management of the fund will enable future generations to benefit from Norway's oil wealth.

# From uncertainty to stabilisation to renewed appetite for risk

Global financial markets in 2016 were characterised by three main phases: first a phase of uncertainty in January and February, then a stabilisation phase from March to May, and finally a "risk on" phase from June to December despite the results of the UK referendum and US election.

The year started with a clear negative bias. Global equity indices fell by as much as 10-12 percent. The worst-hit markets were those that are highly dependent on the global economy. German equities were down more than 15 percent at one point. Equity markets heavily exposed to commodities were also hit, extending the negative trends from previous years. The key reasons for the negative market sentiment were concerns in the market about the stability of the yuan and the risk of a slowdown in China, combined with falling commodity prices and lower-than-expected economic growth in developed markets. Socalled safe havens such as government bonds in the developed markets appreciated by 3-5 percent depending on country. The Bank of Japan unexpectedly lowered its interest rate on reserves from zero to -10 basis points, but against most expectations the yen continued to strengthen, and Japanese equities ended the first two months of 2016 down almost 20 percent.

The stabilisation phase, which started in March, was supported by the European Central Bank's decision to lower its key interest rate further. In addition, the size and scope of its monthly asset purchase programme were increased. The communiqués from the meetings of G20 finance ministers and central bank governors in Shanghai in February and in Washington in April also reassured markets. Members committed to refrain from competitive devaluations and use all available policy tools - monetary, fiscal and structural - to strengthen economic growth. Fears of lower growth in China eased, helped by housing market strength, and indicators of the global manufacturing outlook started to pick up. Commodity prices began to rise, with oil recovering to double its previous lows. Likewise, cyclical equity sectors in both developed and emerging markets stopped



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underperforming less cyclical sectors. Most asset classes performed slightly positively in this second phase of 2016, with emerging market equities among the best performers.

From the start of June, the market showed renewed confidence in the global economy. Receding concerns about potential negative

From the start of June, the market showed renewed confidence in the global economy.

developments in China and other major emerging markets, alongside continued loose monetary policy, strengthened the turnaround in risky assets. Cyclical equities outperformed less cyclical equities by 15-20 percent. European equities

underperformed both US equities and emerging market equities. Continued pressures on the European banking sector and sustained political uncertainty stemming from the UK referendum on EU membership, the Italian constitutional referendum and upcoming national elections influenced market performance.

The outcome of the US presidential election fuelled expectations of expansionary fiscal policy, and led global financial markets to price in higher growth and inflation, but also more rate increases from the Federal Reserve. The US 10-year bond yield ended the year 20 basis points higher than it began the year and more than 100 basis points higher than its low at the start of July. US equities continued to perform well, led by cyclical and domestically oriented sectors. The dollar strengthened further and on a nominal trade-weighted basis was more than 35 percent higher at the end of the year than its 2011 low and back at levels not seen for fifteen years.

#### 2.3 GLOBAL INVESTMENTS

## Investments in 77 countries

The fund is invested widely in most markets outside Norway. We added new markets to the portfolio during the year and will add more as soon as they satisfy our requirements for market standards.

At the end of 2016, 36.0 percent of the fund's investments were in Europe, down from 38.1 percent a year earlier, while 42.3 percent were in North America, up from 40.0 percent, and 17.9 percent were in Asia and Oceania, down from 18.1 percent. Emerging markets accounted for 10.0 percent of the fund's investments at the end of the year, up from 9.8 percent. This slightly higher allocation to emerging markets was due to an increase in the value of our investments and to currency effects.

#### **HOLDINGS IN ALMOST 9,000 COMPANIES**

The fund was invested in 8,985 companies at the end of 2016, down from 9,050 a year earlier. It had stakes of more than 2 percent in 1,158 companies, and more than 5 percent in 28 companies.

The fund's average holding in the world's listed companies, measured as its share of the FTSE Global All Cap stock index, was 1.3 percent at the end of 2016, unchanged from a year earlier. Ownership was highest in Europe at 2.3 percent, unchanged from 2015. Holdings in developed markets averaged 1.3 percent, while holdings in emerging markets (including frontier markets) averaged 1.4 percent.

The fund's fixed-income investments consisted of 4,781 securities from 1,250 issuers at the end of 2016, down from 4,824 securities from 1,278 issuers. These investments were spread across 34 currencies, against 32 a year earlier.

At the end of the year, 12.4 percent of fixed-income investments were in emerging markets, unchanged from a year earlier. Bonds denominated in dollars, euros, pounds and yen edged up from 79.4 percent to 79.6 percent of fixed-income investments.



#### **BROAD GEOGRAPHICAL EXPOSURE**

Investment opportunities evolve over time. New markets become available for investment, new opportunities emerge, and the risk picture changes. The fund's overall exposure to different markets and sources of risk and return needs to be constantly adjusted. The fund is to be invested in most markets, countries and currencies to achieve broad exposure to global economic growth.

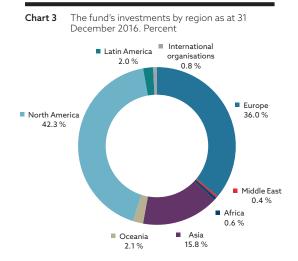
The starting point for the fund's equity investments is the FTSE Global All Cap stock index. We have then chosen to add further countries in our internal reference portfolio. In this reference portfolio, we select securities, instruments and markets from a broader

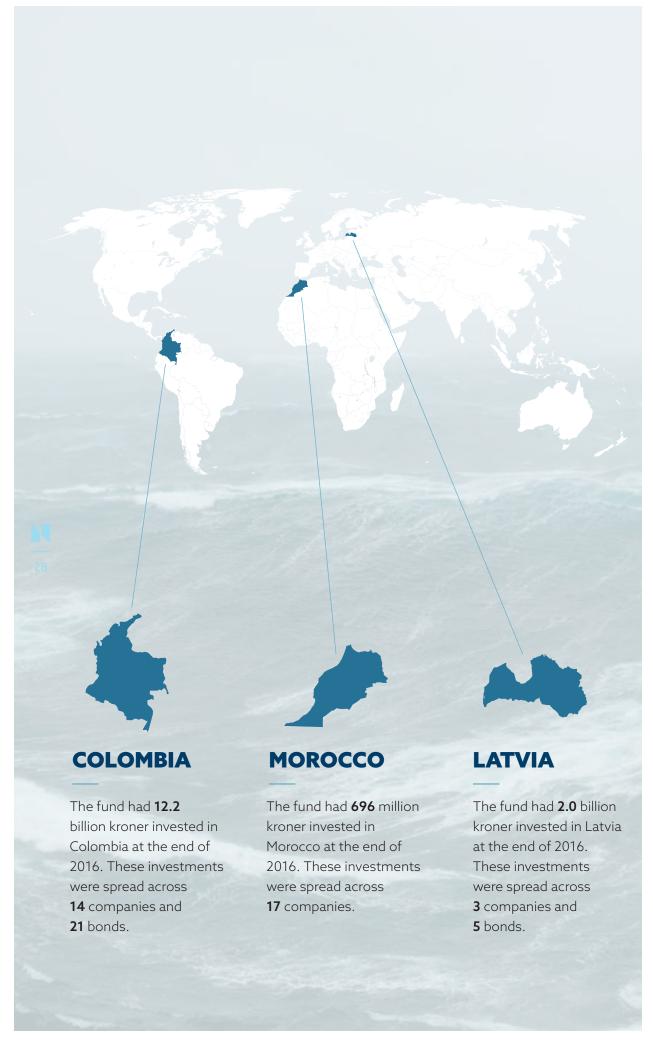
universe than used for the strategic benchmark index. We do this to capture a larger share of the global market portfolio and so a larger share of global growth. Our equity investments have already been expanded to include additional emerging and frontier markets. The number of countries approved as marketplaces for trading in equities rose from 67 to 68 during the year with the addition of Cyprus.

At the end of the year, we had 775 billion kroner invested in equities and fixed-income securities in emerging markets, compared to 736 billion a year earlier. Investments in equities in frontier markets amounted to 13.3 billion kroner, against 13.0 billion kroner at the end of 2015.

Table 8The fund's ten largest country holdings as at 31December 2016. Percent

Country	Total	Equity	Fixed income	Real estate
US	37.2	23.2	12.5	1.5
UK	9.1	6.1	2.3	0.7
Japan	8.3	5.7	2.6	0.0
Germany	6.8	3.3	3.3	0.2
France	5.2	3.2	1.5	0.5
Switzerland	3.7	3.0	0.6	0.1
Canada	2.8	1.3	1.5	0.0
Australia	2.1	1.3	0.8	0.0
China	2.0	1.7	0.3	0.0
South Korea	1.9	1.0	0.9	0.0





#### **INVESTMENTS IN EMERGING MARKETS**

Which new markets we enter depends on which markets are available for investment, what market opportunities there are, and market standards. We will continue to add new markets to the portfolio as soon as they meet our requirements for market standards. We recognise that investments in frontier markets pose a risk to the fund, and we therefore attach importance to having sound risk management systems in place. We make our own assessment of which countries we believe should be defined as emerging markets and frontier markets. This assessment takes account of the classifications used by index suppliers, but we do not necessarily apply their definitions.

The fund had investments in 77 countries at the end of 2016 after Argentina was added during the year. These investments were in a total of 50 currencies.

The fund had investments in 22 countries normally classified as frontier markets and so not included in the benchmark index from the Ministry of Finance: Bahrain, Bangladesh, Botswana, Bulgaria, Croatia, Cyprus, Estonia, Ghana, Jordan, Kenya, Latvia, Lithuania, Mauritius, Morocco, Nigeria, Oman, Romania, Slovakia, Slovenia, Sri Lanka, Tunisia and Vietnam. The fund also had investments in countries classified as frontier markets but not included in the FTSE index: Argentina, Kazakhstan, Kuwait, Panama, Saudi Arabia, Tanzania, Uganda and Ukraine. Some of these investments are in equities listed on exchanges in other countries.

Table 9	Investments in frontier markets. Classification
	according to FTSE. Millions of kroner

Country	2016
Slovenia <sup>1,3</sup>	4,967
Jordan <sup>2</sup>	2,655
Vietnam	2,218
Slovakia	2,175
Lithuania³	2,086
Latvia	2,008
Romania <sup>1,3</sup>	1,352
Kenya	973
Bangladesh	960
Morocco	696
Sri Lanka	566
Tunisia <sup>2</sup>	538
Nigeria <sup>1</sup>	423
Bulgaria <sup>3</sup>	385
Oman	309
Croatia	293
Bahrain <sup>1</sup>	257
Cyprus	236
Estonia	192
Mauritius	60
Botswana	51
Ghana	17

#### Countries not included in the FTSE index

Saudi Arabia <sup>4</sup>	3 933
Kuwait	957
Ukraine <sup>1,2</sup>	837
Panama <sup>3</sup>	285
Kazakhstan <sup>1</sup>	105
Argentina <sup>3</sup>	84
Uganda <sup>1</sup>	12
Tanzania <sup>1</sup>	4

- <sup>1</sup> Including investments in stocks listed on stock exchanges in other countries
- <sup>2</sup> Including AID bonds guaranteed by the US
- <sup>3</sup> Including bonds denominated in a currency other than the local currency
- <sup>4</sup> Participatory certificates

### Global investments



#### **NORTH AMERICA**

2,268 companies
2,071 bonds from
582 issuers
400 properties¹



#### LATIN AMERICA

262 companies173 bonds from36 issuers



#### EUROPE

1,881 companies
1,584 bonds from
489 issuers
358 properties<sup>1</sup>



#### AFRICA

196 companies16 bonds from2 issuers



#### MIDDLE EAST

152 companies33 bonds from12 issuers



#### ASIA

**3,898** companies **617** bonds from 78 issuers

3

### INTERNATIONAL ORGANISATIONS

**128** bonds from 15 issuers



#### **OCEANIA**

328 companies159 bonds from36 issuers

# Large sector variations

#### The fund's equity investments returned 8.7 percent in 2016 after strong gains on the fund's US stocks.

2016 was an eventful year with volatile markets and variations in returns between sectors and regions. The fund's investments in developed markets returned 8.2 percent, while those in emerging markets returned 13.2 percent. The return in emerging markets was due to a strong performance by a number of key markets, especially Brazil and Russia. Emerging markets (including frontier markets) accounted for 9.2 percent of the fund's equity investments.

Investments in North America made up 39.5 percent of the fund's equity investments and returned 16.1 percent. The bulk of these investments were in the US, which was the

fund's single largest market. US stocks returned 15.5 percent, or 13.2 percent in local currency, and accounted for 37.4 percent of the fund's equity holdings.

European stocks returned 2.0 percent and amounted to 36.3 percent of the fund's equity investments. The UK was the fund's secondlargest single market with 9.9 percent of its equity investments and returned -0.4 percent, or 16.5 percent in local currency.

Investments in Asia and Oceania made up 21.1 percent of the fund's equity investments and returned 6.9 percent, due mainly to higher

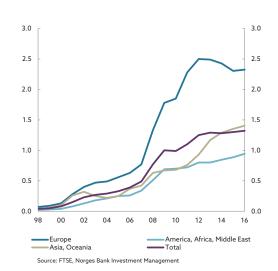
Chart 4 The fund's holdings in equity markets.

Percentage of market value of equities in the benchmark index



Chart 5 The fund's holdings in equity markets.

Percentage of market value of equities in the benchmark index



commodity prices and lower interest rates. Excluding Japan, the region returned 7.8 percent. Japanese stocks returned 5.8 percent, or 0.6 percent in local currency. Japan was the fund's third-largest single market with 9.1 percent of its equity holdings.

Emerging markets produced a positive return in 2016, but with considerable variation between the main markets. Chinese equities returned 0.0 percent, or 4.9 percent in local currency. China accounted for 2.7 percent of the fund's equity investments and was its single largest emerging market, followed by Taiwan at 1.5 percent and India at 1.0 percent. The fund's investments in these last two countries returned 20.1 percent and 7.7 percent respectively, or 15.6 percent and 8.3 percent in local currency.

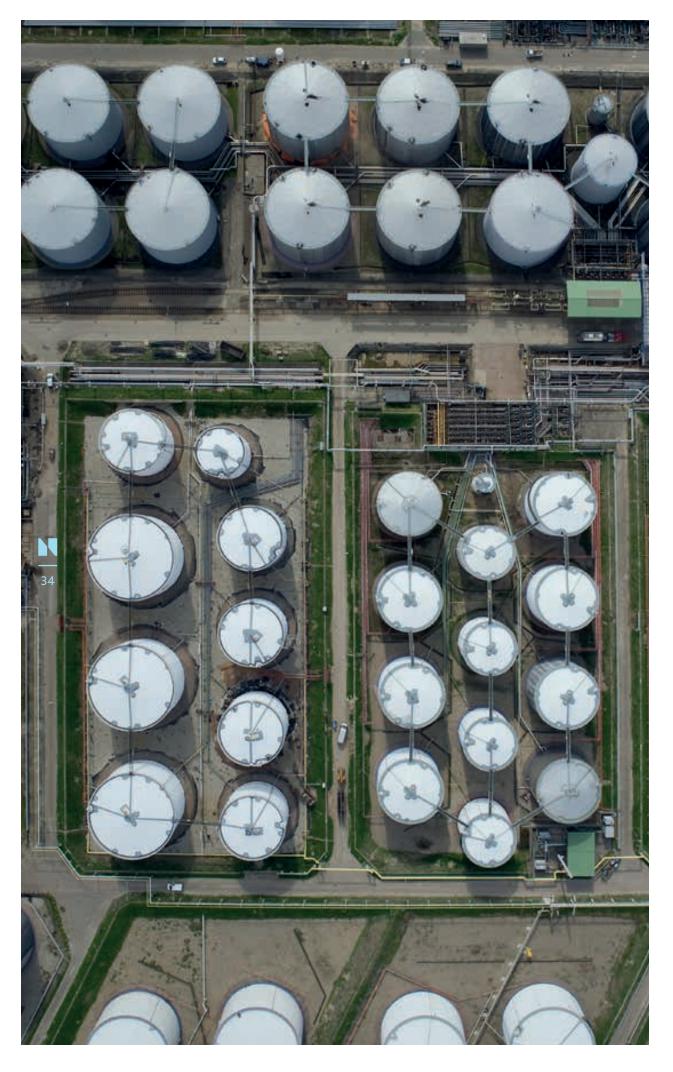
Latin American stocks performed best in 2016, returning 34.5 percent, and accounted for 1.3 percent of the fund's equity investments. This strong performance was due mainly to the Brazilian stock market, which returned 70.1 percent, or 37.2 percent in local currency, after a return of -38.2 percent in 2015. Brazil accounted for 0.8 percent of the fund's equity investments.

Chart 6 Price developments in regional equity markets. Measured in US dollars, except for the Stoxx Europe 600, which is measured in euros. Indexed total return 31.12.2015 = 100



Table 10 Return on the fund's largest equity investments in 2016 by country. Percent

iii 2010 by Country. I creent					
Country	Return in international currency	Return in local currency	Share of equity invest- ments		
US	15.5	13.2	37.4		
UK	-0.4	16.5	9.9		
Japan	5.8	0.6	9.1		
Germany	4.8	5.9	5.4		
France	8.0	9.1	5.1		
Switzerland	-2.4	-2.9	4.9		
China	-0.0	4.9	2.7		
Canada	27.2	20.4	2.2		
Australia	13.9	12.3	2.1		
Sweden	5.4	11.4	2.0		



#### **OIL AND GAS PERFORM BEST**

Oil and gas companies performed best in 2016 with a return of 29.1 percent as oil prices stabilised after several years in decline. In November and December, OPEC and other key oil producers agreed to cut production, which boosted oil prices. Cost levels in the sector as a whole were also brought down.

Basic materials returned 25.1 percent, with commodity prices rising as Chinese demand stabilised. The sector had been one of the weakest performers in 2014 and 2015, but returned to previous levels after a number of companies scaled back their investment plans and took better control of their debt.

Technology stocks returned 14.9 percent, performing increasingly well during the course of the year. Returns were driven mainly by cost reductions as a result of consolidation among semiconductor producers and by growth in new and existing business areas at the sector's dominant companies.

Health care companies performed worst in 2016 with a return of -4.6 percent. The sector was the strongest performer in 2015, but increased attention to drug pricing and the regulatory situation in the US, the most important market, prompted considerable uncertainty both before and after the presidential election. This proved the dominant factor for the sector despite low interest rates.

Chart 7 Price developments in stock sectors in the FTSE Global All Cap Index. Measured in US dollars. Indexed total return 31.12.2015 = 100



**Table 11** Return on the fund's equity investments in 2016 by sector. Percent

Sector	Return in international currency	Share of equity investments <sup>1</sup>
Financials	7.9	23.3
Industrials	14.0	14.1
Consumer goods	3.3	13.7
Consumer services	3.5	10.3
Health care	-4.6	10.2
Technology	14.9	9.5
Oil and gas	29.1	6.4
Basic materials	25.1	5.6
Telecommunications	4.6	3.2
Utilities	7.1	3.1

Does not sum up to 100 percent because cash and derivatives are not included.

#### **LARGEST INVESTMENTS**

The investment in the Anglo-Dutch oil company Royal Dutch Shell Plc contributed most to the fund's return in 2016, followed by Anglo-Swiss mining company Glencore Plc and US technology company Apple Inc. The worst-performing investment was in Danish pharmaceutical company Novo Nordisk A/S, followed by Swiss bank Credit Suisse Group AG and the UK's Lloyds Banking Group Plc.

The largest investment in any one company was in Swiss food company Nestlé. The fund's 2.6 percent stake had a market value of 51.0 billion kroner at the end of the year. Otherwise the fund's top ten equity holdings consisted of three technology companies, three pharmaceutical companies, two oil and gas companies and one financial services company.

The largest percentage holding in any one company was in Smurfit Kappa Group Plc. The fund's 9.6 percent stake was worth almost 4.5 billion kroner. The fund may hold up to 10 percent of the voting shares in a company.

We participated in 100 initial public offerings during the year. The largest of these was at German utility Innogy, followed by Japan's Kyushu Railway Company and Denmark's DONG Energy. The offerings in which the fund invested most were in those same three companies.

#### **NINTENDO**

Nintendo is a Japanese company formed in 1889 that produces games consoles and video games. One of the oldest players in the video game world, it has developed numerous games that have topped bestseller lists worldwide, the best-known being Super Mario, The Legend of Zelda and Pokémon. In 2016, Nintendo enjoyed considerable success with the relaunch of Pokémon GO and Super Mario Run for mobiles and tablets. The company had 5,000 employees and generated operating revenue of 4.2 billion dollars in 2016.



**Table 12** The fund's largest equity holdings as at 31 December 2016. Millions of kroner

Company	Country	Holding
Nestlé SA	Switzerland	50,985
Royal Dutch Shell Plc	UK	46,153
Apple Inc	US	44,965
Alphabet Inc	US	36,566
Microsoft Corp	US	34,665
Roche Holding AG	Switzerland	32,896
Novartis AG	Switzerland	32,349
BlackRock Inc	US	27,762
Exxon Mobil Corp	US	26,391
Johnson & Johnson	US	25,971
HSBC Holdings Plc	UK	25,501
Prudential Plc	UK	23,614
JPMorgan Chase & Co	US	23,211
Anheuser-Busch InBev SA/NV	Belgium	22,786
Wells Fargo & Co	US	22,559
Amazon.com Inc	US	21,988
AT&T Inc	US	19,355
General Electric Co	US	18,917
Bank of America Corp	US	18,153
Samsung Electronics Co Ltd	South Korea	17,755

Table 13The fund's largest company holdings in the equity<br/>markets as at 31 December 2016. Percent

Company	Country	Ownership
Smurfit Kappa Group Plc	UK	9.6
Brenntag AG	Germany	6.6
Viscofan SA	Spain	6.1
Ameriprise Financial Inc	US	6.0
Svenska Cellulosa AB SCA	Sweden	5.5
Ocado Group Plc	UK	5.5
Tesco Plc	UK	5.5
Arkema SA	France	5.4
Tocalo Co Ltd	Japan	5.4
Prudential Plc	UK	5.3
AMG Advanced Metallurgical Group NV	Netherlands	5.3
BlackRock Inc	US	5.2
International Personal Finance Plc	UK	5.1
Iberpapel Gestion SA	Spain	5.1
Berjaya Food Bhd	Malaysia	5.1
LSR Group PJSC	Russia	5.1
Aflac Inc	US	5.0
Boliden AB	Sweden	5.0
Applus Services SA	Spain	5.0
Pinar SUT Mamulleri Sanayii AS	Turkey	5.0

#### **NEXTERA ENERGY**

NextEra Energy is a US company driving the transition from coal-based power to clean electricity. The company's operations in Florida is a leader in the development, ownership and operation of renewable energy facilities, and NextEra Energy has the largest portfolio of wind and solar power production in the US. The company had 14,000 employees and generated operating revenue of 17.2 billion dollars in 2016.



### Good return on fixed income

The fund's fixed-income investments returned 4.3 percent in 2016. Yields fell in all of the fund's main markets during the first half of the year but rose again towards the end of the year.

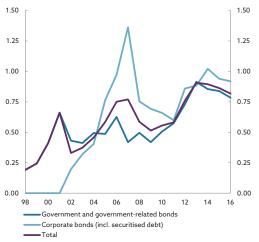
Fixed-income investments accounted for 34.3 percent of the fund at the end of the year. These investments were mainly in bonds, with the remainder in short-term securities and bank deposits.

### MAJOR VARIATION IN GOVERNMENT BOND RETURNS

The fund's government bond holdings made up 56.7 percent of its fixed-income investments and returned 4.2 percent in 2016. Developed markets accounted for 43.9 percent of the portfolio and returned 3.4 percent.

US Treasuries returned 3.1 percent, or 1.1 percent in local currency, and amounted to 18.9 percent of fixed-income investments, making them the fund's largest holding of government debt from a single issuer. Expectations of monetary tightening receded during the first half of the year, and the Federal Reserve left its policy rate unchanged. In the third quarter, however, the

**Chart 8** The fund's holdings in fixed-income markets. Percentage of market value of bonds in the benchmark index



Source: Bloomberg Barclays Indices, Norges Bank Investment Management

H

market again began to discount a rate increase towards the end of the year. The presidential election in November had a major impact on markets. The prospect of more expansionary fiscal policy and higher inflation strengthened expectations of higher interest rates. At its meeting in December, the Federal Reserve raised its policy rate 0.25 percentage point to 0.75 percent and signalled further hikes in 2017.

Euro-denominated government bonds returned 3.3 percent, or 4.3 percent in local currency, and accounted for 12.4 percent of fixed-income investments. In the first quarter, the European Central Bank lowered all of its key rates and launched various measures to ease monetary policy. At the rate-setting meeting in December, president of the European Central Bank Mario Draghi announced that the bank's monthly asset purchases would be reduced from April 2017, but also stressed that the bank's stimulus programmes would continue for some time.

UK gilts accounted for 3.5 percent of the fund's fixed-income investments and returned -5.1 percent, or 11.0 percent in local currency. The sharp fall in the pound following the EU referendum in June resulted in a negative return on the fund's investments measured in the fund's currency basket. The Bank of England's monetary stimulus programme led to a decline in yields and high returns on fixed-income investments in local currency.

Japanese government bonds returned 7.4 percent, or 2.1 percent in local currency, and accounted for 6.2 percent of fixed-income holdings. The Bank of Japan's decision to introduce negative interest rates in the first quarter led to record-low yields and positive returns on the fund's Japanese fixed-income investments. The central bank launched further measures in the third quarter and began to target inflation above 2 percent and a minimum level for long-term yields. The yen fluctuated

Chart 9 Price developments for bonds issued in dollars, euros, pounds and yen. Measured in local currencies. Indexed total return 31.12.2015 = 100



Source: Bloomberg Barclays Indices

Table 14 Return on the fund's largest bond investments by currency in 2016. Percent

are of fixed- come nents
43.8
25.7
6.8
5.3
3.3
2.1
2.1
2.0
1.2
1.2

Chart 10 Price developments in fixed-income sectors. Measured in US dollars. Indexed total return 31.12.2015 = 100

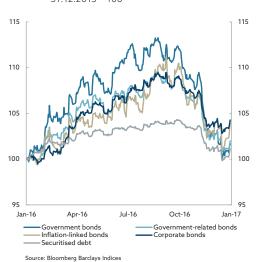


Table 15Return on the fund's fixed-income investments in<br/>2016 by sector. Percent

Sector	Return in international currency	Share of fixed- income investments <sup>1</sup>
Government bonds <sup>2</sup>	4.2	56.7
Government-related bonds <sup>2</sup>	2.7	13.0
Inflation-linked bonds <sup>2</sup>	5.0	5.5
Corporate bonds	6.6	22.9
Securitised debt	0.7	5.7

- Does not sum up to 100 percent because cash and derivatives are not included.
- <sup>2</sup> Governments may issue different types of bonds, and the fund's investments in these bonds are grouped accordingly. Bonds issued by a country's government in the country's own currency are categorised as government bonds. Bonds issued by a country's government in another country's currency are government-related bonds. Inflation-linked bonds issued by governments are grouped with inflation-linked bonds.

Chart 11 10-year government bond yields. Percent



Chart 12 Price developments for 10-year government bonds issued in emerging market currencies. Measured in local currencies. Indexed total return 31.12.2015 = 100



considerably during the year and gained against the fund's currency basket.

Government bonds in emerging markets, which made up 12.9 percent of the portfolio, returned 7.2 percent. Brazil performed particularly well with a return of 60.3 percent, or 29.3 percent in local currency. Turkey's credit rating was downgraded in September, and Turkish government bonds dropped out of the Ministry of Finance's benchmark index from the fourth quarter.

Inflation-linked bonds, which are mainly issued by governments, returned 5.0 percent and amounted to 5.5 percent of fixed-income investments. Higher inflation expectations and a long duration pushed up the return, while a high share of pounds sterling pulled in the other direction.

The fund also held bonds from government-related institutions such as the Kreditanstalt für Wiederaufbau, European Investment Bank and Canada Housing Trust. These returned 2.7 percent and accounted for 13.0 percent of the fund's fixed-income investments at the end of the year.

#### **CORPORATE BONDS PERFORM BEST**

Corporate bonds returned 6.6 percent and represented 22.9 percent of fixed-income investments at the end of the year. Falling credit premiums and a high share of dollar-denominated bonds pushed up the return.

Securitised debt, consisting mainly of covered bonds denominated in euros, returned 0.7 percent and made up 5.7 percent of fixed-income holdings.

**Table 16** The fund's largest bond holdings as at 31 December 2016

lssuer	Country	Holding Millions of kroner
United States of America	US	579,357
Japanese government	Japan	161,544
Federal Republic of Germany	Germany	137,231
UK government	UK	88,983
Mexican government	Mexico	54,214
South Korean government	South Korea	51,995
French Republic	France	49,121
Italian Republic	Italy	43,339
Spanish government	Spain	34,926
Kreditanstalt für Wiederaufbau	Germany	34,529
Indian government	India	30,695
Brazilian government	Brazil	28,196
Australian government	Australia	27,343
Government of the Netherlands	Netherlands	25,445
Polish government	Poland	22,180
Government of Indonesia	Indonesia	21,049
Bank of America Corp	US	20,291
Government of Austria	Austria	19,510
Government of Russian Federation	Russia	19,012
European Investment Bank	International organisation	18,189

#### **CHANGES IN FIXED-INCOME HOLDINGS**

The largest increases in the market value of the fund's fixed-income investments were in government bonds from the US, France and Indonesia, while the largest decreases were in government bonds from Japan, Germany and Turkey. The largest holding of bonds from a single issuer was of US Treasuries, followed by Japanese and German government debt.

# Stable real estate portfolio

The fund's investments in real estate produced a total return of 0.8 percent in 2016. The share of the fund invested in real estate was 3.2 percent at the end of the year.

The fund's real estate investments consisted of listed and unlisted real estate investments.

#### **UNLISTED REAL ESTATE**

Investments in unlisted real estate returned 1.7 percent in 2016 and had a market value of 191 billion kroner at the end of the year.

The return on unlisted real estate investments depends on rental income, operating expenses,

 Table 17
 Return on the fund's real estate investments. Return components for unlisted investments

	Since March 2011	2016	2015	2014	2013	2012
Rental income (percentage points)	4.0	3.7	4.1	4.4	4.6	4.2
Change in value (percentage points)	3.5	0.7	6.7	7.1	3.8	0.4
Transaction costs (percentage points)	-1.5	-0.2	-0.2	-0.8	-0.4	-0.6
Result of currency adjustments (percentage points)	0.0	-2.5	0.1	-1.0	3.8	1.8
Unlisted real estate investments (percent)	6.0	1.7	10.8	9.6	11.8	5.8
Listed property <sup>1</sup> (percent)	5.2	-2.3	7.8	6.0	-	-
Total return (percent)	5.8	0.8	10.0	10.4	11.8	5.8

<sup>&</sup>lt;sup>1</sup>From 1 November 2014



changes in the value of properties and debt, movements in exchange rates, and transaction costs for property purchases and sales.

Measured in local currency, rental income net of operating expenses made a positive contribution of 3.7 percentage points to the return, and changes in the value of properties and debt contributed 0.7 percentage point, while currency movements made a negative contribution of -2.5 percentage points, and transaction costs a negative contribution of -0.2 percentage point.

The return from rental income net of operating costs is expected to be relatively stable over

time, generating a steady cash flow for the fund. The value of properties and debt is based on external valuations and can vary widely from year to year. Transaction costs will depend on investment activity.

Unlisted real estate accounted for 2.5 percent of the fund and 78.9 percent of the real estate portfolio at the end of the year.

From 1 January 2017, the Ministry of Finance has set the limit for unlisted real estate in the management mandate to 7 percent of the fund's market value.

Table 18 The fund's largest unlisted real estate investments in office and retail as at 31 December 2016 by city. Percent

City	
New York	25.2
London	22.1
Paris	17.1
Boston	9.3
San Francisco	7.1
Zurich	5.9
Washington, D.C.	5.8
Sheffield	3.6
Berlin	1.4
Munich	1.3

**Table 19** The fund's largest unlisted real estate investments in logistics as at 31 December 2016 by country. Percent

Country	
US	57.9
UK	12.5
France	7.3
Spain	4.2
Poland	4.0
Netherlands	3.9
Czech Republic	3.1
Italy	2.8
Germany	1.5
Hungary	1.4

#### **INVESTMENTS IN 2016**

We made fewer investments in real estate than in 2015, due mainly to increased uncertainty in the markets in the first half of the year. Key factors behind this uncertainty included the decline in global interest rates and volatility in the listed real estate market.

Our strategy is to build a global, but concentrated, portfolio of unlisted real estate, investing in a limited number of major cities in key markets and in the global logistics market.

In line with this strategy, we invested in unlisted real estate in New York, Washington, D.C., San Francisco, Paris and London during the year. These investments included office, retail and logistics properties. We invested a total of 19.1 billion kroner in unlisted real estate in 2016, down from 44.2 billion kroner in 2015.

In April, the fund paid 142.0 million dollars, or around 1.2 billion kroner, for a further 4 percent

interest in the Hudson Square portfolio in New York held alongside Trinity Church Wall Street. In July and November, the fund acquired 100 percent of two properties in London, paying 124.0 million pounds, or around 1.4 billion kroner, for 355-361 Oxford Street and 276.5 million pounds, or around 2.9 billion kroner, for 73-89 Oxford Street. In September, the fund invested 71.3 million dollars, or around 590 million kroner, in a 47.5 percent stake in Constitution Square in Washington, D.C. In August and November, the fund acquired 44 percent of both 100 First Street and 303 Second Street in San Francisco from two companies owned by Kilroy Realty Corporation for 452.9 million dollars, or around 3.8 billion kroner. In December, the fund acquired 100 percent of the property Vendôme Saint-Honoré in Paris for 1.0 billion euros, around 9.0 billion kroner.

Table 20	New investments i	in	2016	

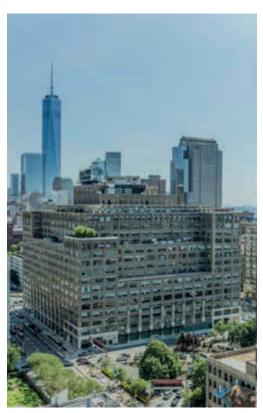
Address	City	Partner	Sector	Ownership Percent	Currency	Price Millions
355-361 Oxford Street	London	-	Retail	100	GBP	124.0
73-89 Oxford Street	London	-	Retail	100	GBP	276.5
9 Place Vendôme and 368-374 rue Saint-Honoré	Paris	-	Office	100	EUR	1,000.0
1 property	London	The Crown Estate	Retail	25	GBP	1.5
11 properties at Hudson Square, Manhattan	New York	Trinity Church Wall Street	Office	4	USD	142.0
Constitution Square, 175 N Street, N.E. and 150 M Street, N.E.	Washington, D.C.	MetLife	Office	47.5	USD	71.3
100 First Street and 303 Second Street	San Francisco	Kilroy Realty	Office	44	USD	452.9
8 properties in Poland, Czech Republic and Hungary		Prologis Europe	Logistics	50	EUR	55.3
1 property in Hungary		Prologis Europe	Logistics	50	EUR	6.1
1 property in UK		Prologis Europe	Logistics	50	GBP	4.2



Constitution Square, Washington, D.C. 1



100 First Street and 303 Second Street, San Francisco ↑



Hudson Square, New York 🛧



355-361 Oxford Street and 73-89 Oxford Street, London ↑

### LISTED REAL ESTATE

Investments in listed real estate returned -2.3 percent in 2016 and had a market value of 51 billion kroner at the end of the year. Listed real estate accounted for 0.7 percent of the fund and 21.1 percent of the real estate portfolio at the end of the year.

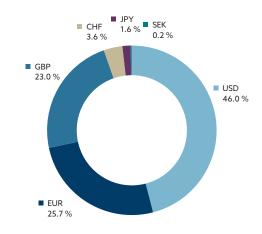
From 1 January 2017, listed real estate investments will no longer be reported as part of the real estate portfolio but as part of the equity portfolio.

Table 21The fund's largest holdings in listed real estate<br/>companies as at 31 December 2016. Percent

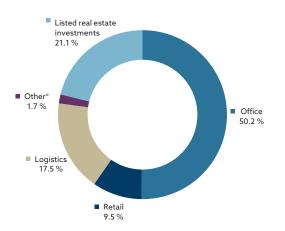
Company	Country	Holding
Gecina SA	France	9.8
Great Portland Estates Plc	UK	9.6
Shaftesbury Plc	UK	9.2
Capital & Counties Properties Plc	UK	8.1
Vonovia SE	Germany	7.4
Deutsche Wohnen AG	Germany	7.0
Land Securities Group Plc	UK	6.3
Derwent London Plc	UK	5.5
Kilroy Realty Corp	US	4.8
Paramount Group Inc	US	4.7



**Chart 13** The fund's real estate investments by currency as at 31 December 2016. Percent



**Chart 14** The fund's real estate investments by sector as at 31 December 2016. Percent



\*Other sectors, bank deposits and other claims

**Table 22** Return on the fund's real estate investments in 2016 by country/region. Percent

	Return
Europe, excluding UK	6.1
UK	-16.9
US	7.0
Other countries/regions	-2.1
Total return	0.8

**Table 23** Market value of real estate investments as at 31 December 2016. Millions of kroner

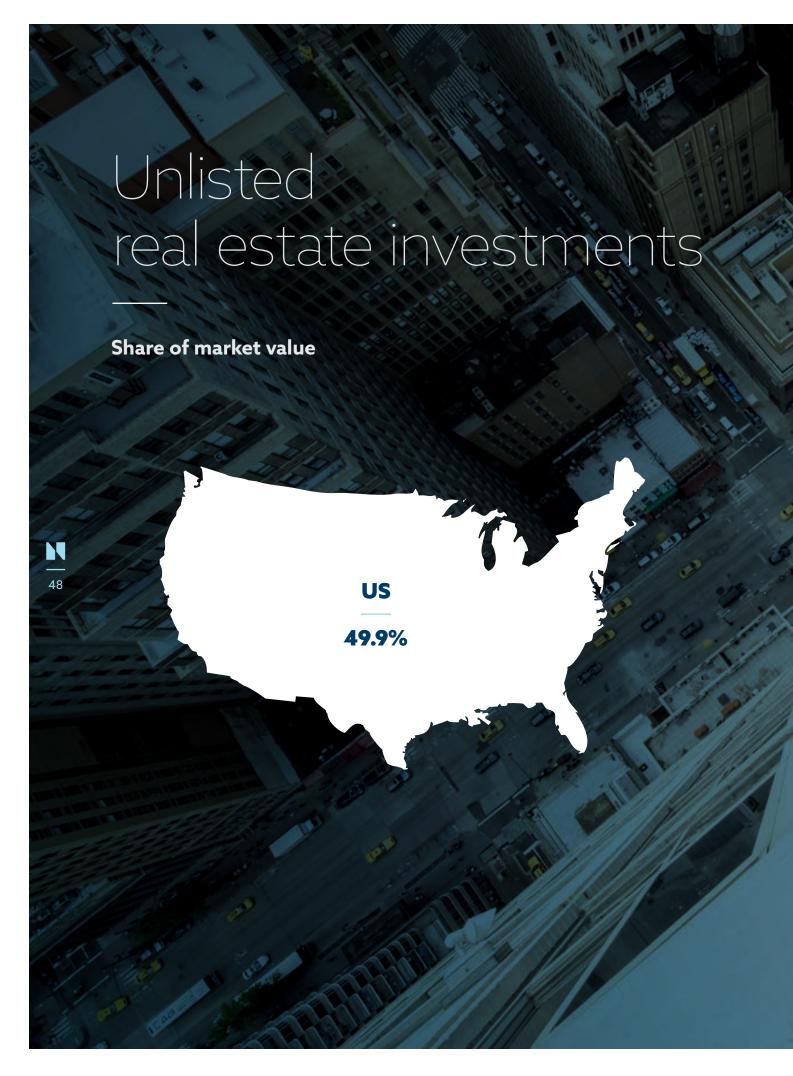
	Holding <sup>1</sup>
Investments in unlisted real estate	190,670
Investments in listed real estate	51,086
Total	241,756

<sup>1</sup> Including bank deposits and other claims



#### **EXTENDED INFORMATION ON UNLISTED REAL ESTATE INVESTMENTS**

We publish extended information on our real estate investments in March 2017 on our website www.nbim.no.





# Positive relative return

The management of equity and fixed-income investments is organised into three main strategies – fund allocation, security selection and asset management, while real estate is managed separately. These strategies are complementary.

We aim to leverage the fund's long-term outlook and considerable size to generate high returns and safeguard wealth for future generations.

The fund's benchmark index is set by the Ministry of Finance on the basis of indices from FTSE Group and Bloomberg Barclays Indices. The fund allocation strategies seek to optimise the fund's overall exposure to markets and risks by creating a reference portfolio and determining the fund allocation.

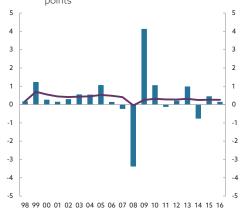
The reference portfolio for equities and bonds has been constructed on the basis of the fund's benchmark index. The purpose of the reference portfolio is to take greater account of the fund's special characteristics and objective. We expect that this will achieve a better trade-off between expected risks and returns over time. The reference portfolio aims to increase diversification and define exposure to more return drivers. The reference portfolio is a starting point for the fund's investments and specifies the fund's overall market and risk exposure in the medium-to-long-term.

Allocation decisions are made when rebalancing the reference portfolio's exposure to a number of return drivers, the fund's exposure to emerging markets and various

 Table 24
 Relative return on the fund's equity and fixed-income investments. Percentage points

Year	Total	Equity	Fixed income
2016	0.15	0.15	0.16
2015	0.45	0.83	-0.24
2014	-0.77	-0.82	-0.70
2013	0.99	1.28	0.25
2012	0.21	0.52	-0.29
2011	-0.13	-0.48	0.52
2010	1.06	0.73	1.53
2009	4.13	1.86	7.36
2008	-3.37	-1.15	-6.60
2007	-0.24	1.15	-1.29
2006	0.14	-0.09	0.25
2005	1.06	2.16	0.36
2004	0.54	0.79	0.37
2003	0.55	0.51	0.48
2002	0.30	0.07	0.49
2001	0.15	0.06	0.08
2000	0.27	0.49	0.07
1999	1.23	3.49	0.01
1998	0.18	-	0.21

Chart 15 The fund's annual relative return and accumulated annualised relative return, excluding real estate investments. Percentage points



Annual relative return ——Accumulated annualised relative return

factor strategies. For these markets and strategies, it is necessary to adapt the reference portfolio to achieve the desired exposure for the fund.

Security selection is about company-specific investment management based on long-term, qualitative and quantitative analysis of sectors and companies. Stocks and corporate bonds are part of this strategy, as well as specialist sector mandates, and a few broad cross-sector mandates. We also award external management mandates to managers with specialist expertise in clearly defined investment areas where it is not appropriate to build up in-house expertise. This applies particularly to small- and mid-cap companies and emerging markets. Managers look to generate an excess return for the fund through analysis of specific markets and companies.

Asset management is about achieving the desired market and risk exposure as costeffectively as possible. This strategy covers responsibility for managing the broad equity and fixed-income portfolios, executing securities trades and managing cash, currencies and securities lending. We aim to avoid making purchases and sales that coincide with changes in the benchmark index. We also aim to generate a return from systematic risk factors and pricing differences between securities with the same characteristics, and to minimise overall transaction costs.

Our strategy for real estate management is to create a global, but concentrated, property portfolio restricted to a number of major cities in key markets. In the US, we invest mainly in New York, Washington, D.C., Boston and San Francisco. In Europe, we will continue to invest in London and Paris. We will also consider opportunities in a limited number of other

European cities and in selected cities in Asia, and we will continue to invest in logistics properties in both Europe and the US.

#### **RELATIVE RETURN**

Returns on the fund's equity and fixed-income investments are compared with returns on global benchmark indices for equities and bonds.

The overall return on the fund's equity and fixed-income investments was 0.1 percentage point higher than the return on the benchmark index in 2016. Both equity and fixed-income investments produced a positive relative return.

The overall excess return breaks down between investment strategies as follows: fund allocation -0.10 percentage point, security selection -0.06 percentage point, and asset management 0.31 percentage point.

The fund has outperformed the benchmark index by 0.26 percentage point since 1998 and by 0.06 percentage point over the past decade.

Table 25 Contributions from equity and fixed-income management to the fund's relative return in 2016. Percentage points

	Total	Attributed to external management
Equity investments	0.10	0.02
Fixed-income invest- ments	0.05	0.00
Allocation between asset classes	0.00	
Total	0.15	0.02

#### REFERENCE PORTFOLIO FOR EQUITIES

The internal reference portfolio for equities returned 8.6 percent in 2016, the same as the benchmark index set by the Ministry of Finance.

The reference portfolio's overweight in value stocks compared to the benchmark contributed positively to the relative return, while its overweight in Chinese stocks made a negative contribution.

The equity portfolio was invested in shares in 8,985 listed companies at the end of 2016. These investments are measured against the Ministry of Finance's benchmark index based on the FTSE Global All Cap index, which consisted of 7,491 listed companies.

The return on the fund's equity investments was 0.1 percentage point higher than the return on the benchmark index, due to the fund's

different investment strategies. Consumer goods and consumer services were the sectors that made the most positive contributions to the relative return, while oil and gas made the greatest negative contribution. Of the countries the fund was invested in, the UK and the US contributed most to the relative return, while Canada had the most negative effect.

#### **REFERENCE PORTFOLIO FOR BONDS**

The internal reference portfolio for bonds returned 4.0 percent in 2016, 0.1 percentage point lower than the benchmark index set by the Ministry of Finance.

The reference portfolio's underweight in inflation-linked bonds made a negative contribution to the relative return, as did the shorter duration of its UK gilts due to falling interest rates, while its overweight in emerging markets made a positive contribution.

Table 26 Contributions to relative return on equity and fixed-income investments from investment strategies in 2016. Percentage points

	Equity	Fixed income	Cross-asset allocation	Total
Fund allocation	-0.04	-0.04	-0.02	-0.10
Internal reference portfolio	0.01	-0.05	0.00	-0.04
of which systematic factors	0.19			0.19
of which universe expansion	-0.10	0.17		0.06
Allocation decisions	-0.05	0.01	-0.02	-0.07
Security selection	-0.02	-0.03		-0.06
Internal	-0.04	-0.03		-0.07
External	0.01			0.01
Asset management	0.16	0.13	0.02	0.31
Asset positioning	0.11	0.12	0.02	0.25
Securities lending	0.05	0.01		0.06
Total	0.10	0.05	0.00	0.15

The fund's fixed-income investments consisted of 4,832 securities from 1,250 issuers at the end of 2016. Returns on fixed-income investments are compared with returns on a global benchmark index for bonds set by the Ministry of Finance on the basis of indices from Bloomberg Barclays Indices, which consisted of 12,218 bonds from 2,097 issuers at the end of 2016.

The return on the fund's fixed-income investments was 0.2 percentage point higher than the return on the benchmark index. The fund's fixed-income investments were overweight in emerging markets compared to the benchmark. Brazilian government bonds were among the fund's largest holdings in emerging markets, and the return on investments in Brazil was high due to falling interest rates and a stronger currency. The lower duration of the fund's fixed-income

investments compared to the benchmark made a negative contribution, as it made the fund less sensitive than the benchmark to a general decline in yields. The fund's fixed-income investments had a higher yield than the benchmark in 2016.

Table 27 Contributions to relative return on equity and fixed-income investments from investment strategies from 2013 to 2016. Annualised. Percentage points

	Equity	Fixed income	Cross-asset allocation	Total
Fund allocation	-0.03	-0.14	0.04	-0.13
Internal reference portfolio	-0.01	-0.14	0.00	-0.15
of which systematic factors	0.02			0.02
of which universe expansion	0.00	-0.09		-0.09
Allocation decisions	-0.02	0.00	0.04	0.02
Security selection	0.07	0.00		0.07
Internal	-0.02	0.00		-0.02
External	0.09			0.09
Asset management	0.17	0.08	0.00	0.25
Asset positioning	0.12	0.08	0.00	0.20
Securities lending	0.05	0.00		0.06
Total	0.21	-0.06	0.04	0.20

# Large fluctuations in value

The value of the fund may fluctuate considerably from year to year. We use a variety of measures and risk analyses to obtain the broadest possible picture of the fund's market risk.

The fund's market risk is determined by the composition of its investments and by movements in share prices, exchange rates, interest rates, credit risk premiums and property values. As no single measure or analysis can fully capture the fund's market risk, we use a variety of measures and analyses – including expected volatility, factor exposures, concentration analysis and liquidity risk – to obtain the broadest possible picture of the fund's market risk.

The fund's expected absolute volatility, calculated using the statistical measure standard deviation, uses a three-year price history to estimate how much the annual return on the fund's equity and fixed-income investments can normally be expected to fluctuate. Expected absolute volatility was 10.6 percent at the end of the year, or about 800 billion kroner, compared with 10.4 percent a year earlier. The increase was due mainly to slightly higher expected volatility in the equity portfolio. Simulations of the fund's investments at the end of 2016 using a 10-year pricing history reveal, however, that in a sharply falling market the fund could lose around 25 percent of its value over the course of a year.

The Ministry of Finance and Norges Bank's Executive Board have set limits for deviation from the benchmark index in the management of the fund's equity and fixed-income

investments. One of these limits is expected relative volatility, which puts a ceiling on how much the return on these investments can be expected to deviate from the return on the benchmark index. The fund is to aim for expected relative volatility of no more than 1.25 percentage points. The limit was raised from 1 percentage point on 1 February 2016. The actual level at the end of 2016 was 0.3 percentage point, the same as a year earlier.

With effect from 1 March 2016, the Executive Board has also introduced a limit for expected shortfall between the return on equity and fixed-income investments and the relevant benchmark index. The fund is to be managed in such a way that the expected negative relative return in extreme situations does not exceed 3.75 percentage points. The actual level was 0.87 percentage point at the end of 2016, compared with 0.95 percentage point a year earlier.

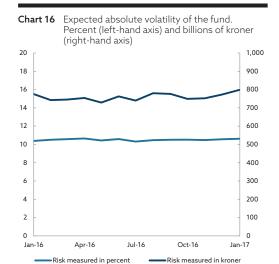
#### LARGEST RELATIVE EXPOSURES

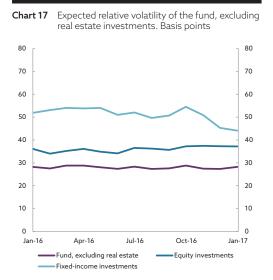
The fund is positioned differently to its benchmark index along several dimensions, including currencies, sectors, countries, regions, individual stocks and individual bond issuers. At the end of 2016, the fund had a higher weight of stocks of somewhat greater volatility than the average in the benchmark, and a higher weight of small companies than the benchmark. The equity portfolio also had an allocation to countries outside the benchmark's universe, such as China and various frontier markets. The fixed-income portfolio featured a higher weight of emerging markets and a correspondingly lower weight of bonds from developed markets than the benchmark. It also had a lower duration than the benchmark. This lower duration means that, in general, the fund is less sensitive than the benchmark index to changes in interest rates.



The investment mandate set by the Ministry of Finance was revised from 1 January 2017. In the future, we will measure all of the fund's investments, including those in real estate, against the fund's benchmark index composed of global equity and bond indices. This means that the real estate portfolio will constitute a relative exposure in future reporting. The real

estate portfolio will be one of the fund's largest relative exposures, and we will report on this separately.





31.12.2016

Table 28 Key figures for the fund's risk and exposure Limits set by the Ministry of Finance

Exposure	Equities 50 - 70 percent of fund's market value.	02.1
	Real estate 0 - 5 percent of fund's market value	3.2
Market risk	1.25 percentage points expected relative volatility for equity and fixed-income investments	0.3
Credit risk	Maximum 5 percent of fixed-income investments may be rated below BBB-	2.2
Ownership	Maximum 10 percent of voting shares in a listed company in the equity portfolio	9.6

<sup>&</sup>lt;sup>1</sup> Equity exposure includes underlying economic exposure to equities through derivatives.

#### **FACTOR EXPOSURES**

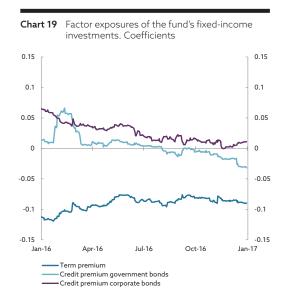
We measure the fund's exposure to various systematic risk factors, such as small companies, value stocks and credit premiums.

Systematic risk factors are common characteristics which securities share to varying degrees over time and which contribute to both the risk and the return on investments. There are different ways of measuring exposure to these risk factors. One of the most widely used is to compare variation in the fund's relative return with variation in the return on these factors. Such an analysis of factor exposures in 2016, based on daily observations, indicated among other things that the fund's equity investments were somewhat more exposed than the benchmark to small companies and value stocks. The analysis

showed that 41 percent of the variation in the relative return on the fund's equity investments could be explained by general market movements and exposure to value stocks, small companies and emerging markets. The fund's fixed-income investments were slightly less exposed than the benchmark index to term premiums in 2016. About 36 percent of the variation in the relative return on the fund's fixedincome investments could be explained by movements in term and credit premiums.

The results of such statistical analyses are uncertain, and we also use several other approaches to analyse the fund's factor exposures. For more information on the fund's investment risk, see note 8 to the financial reporting.





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Table 29 The fund's fixed-income investments as at 31 December 2016 based on credit ratings. Percentage of bond holdings

	AAA	AA	А	BBB	Lower rating	Total
Government bonds	26.8	9.8	10.1	6.5	1.5	54.6
Government-related bonds	5.4	5.1	1.4	0.6	0.1	12.5
Inflation-linked bonds	4.1	0.4	0.1	0.5	0.2	5.3
Corporate bonds	0.2	2.2	8.2	11.1	0.4	22.1
Securitised bonds	4.7	0.6	0.1	0.1	-	5.5
Total bonds	41.1	18.0	19.9	18.8	2.2	100.0

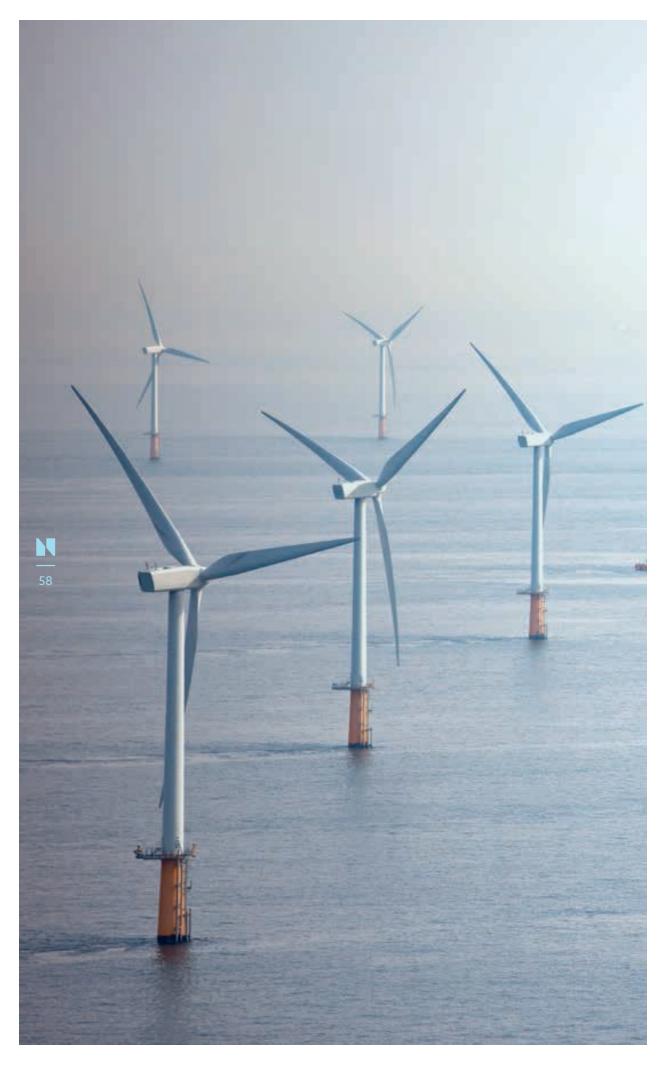
 Table 30
 Expected relative volatility of investment strategies as at 31 December 2016. Each strategy measured stand-alone with the other strategies positioned in-line with the benchmarks. All numbers measured at fund level. Basis points

	Equity	Fixed income	Cross-asset allocation	Total
Fund allocation	16	13	1	18
Internal reference portfolio	14	8	1	15
of which systematic factors	7			7
of which universe expansion	10	11		12
Allocation decisions	6	8	1	10
Security selection	17	3		17
Internal	16	3		15
External	5			5
Asset management	6	5	3	7
Asset positioning	6	5	3	7
Total	24	16	4	28



### EXTENDED INFORMATION ON RETURN AND RISK

We publish extended information on the fund's return and risk in March 2017 on our website www.nbim.no.



## esponsible investment management

Work on responsible investment supports the fund's objective of the highest possible return with an acceptable level of risk. Responsible investment is an integral part of the investment process.

Norges Bank Investment Management manages the fund with the objective to achieve the highest possible return within the constraints set out in the management mandate. The aim of responsible investment is to support the fund's objective by maximising the long-term financial return on our investments and reducing the financial risks associated with environmental, social and governance issues at the companies we invest in. Through this work, we aim to promote good corporate governance and well-functioning, legitimate and efficient markets.

Our management mandate requires us to integrate responsible investment activities into the management of the fund. We see it as a matter of managing the nation's financial wealth responsibly and efficiently. We have prioritised our work on the basis of three pillars: standard setting, ownership and risk management. We engage with international organisations on standards and principles, and we communicate our expectations to companies. We support academic research to improve the theoretical

and empirical foundations for our work. We vote at general meetings and engage directly with companies and their boards. We also monitor and manage various types of risk in our portfolio.

We aim to contribute to the development of standards and practices that will serve the longterm interests of the fund. Our principles, expectations and positions build on internationally recognised standards. We make submissions and prioritise corporate governance and sustainability topics in defined initiatives to contribute to improved disclosure, and practices. Research increases understanding of factors that can affect future investment risk and return. We promote research to inform market standards and practices, data development, and our own responsible investment priorities.

With holdings in almost 9,000 companies, we vote at almost all general meetings but cannot have an in-depth knowledge of every single company. We therefore attach importance to good corporate governance and the role of the board. Our ownership work concentrates on the issues and companies where we believe there to be the greatest potential to create value for the fund. Most voting decisions are covered by our published voting guidelines. We also have an integrated voting process where our portfolio managers' in-depth company knowledge is part of the final assessment. We voted at 11,294 general meetings and held 3,790 meetings with companies in 2016.



#### **HUMAN RIGHTS EXPECTATIONS DOCUMENT**

Norges Bank Investment Management, as a financial investor, expects companies to respect human rights and address human rights issues in their business practices. In 2016 we published a new expectations documents on human rights.

Companies' operations impact on employees, contract workers, workers in the supply chain, customers, local communities and the surrounding environment. End users of products and services may also be affected by companies. It is broadly accepted that companies have a responsibility to respect human rights, including in their supply chain and other business relationships. Respecting human rights is, more generally, part of good business practice and risk management. As a financial investor, we have an interest in good and relevant corporate reporting on human rights issues.

#### Our expectations of companies

Norges Bank Investment Management, as a financial investor, expects companies to respect human rights and address human rights issues in their business practices. Our expectations are primarily directed at company boards and intended to serve as a starting point for our interaction with companies on the topic of human rights.

Boards should understand the broader environmental and social consequences of their business operations, and must set their own priorities and account for the associated outcomes. In line with the OECD Principles of Corporate Governance, we expect company boards to take into account the interests of all relevant stakeholders. Boards should ensure that the company has a policy to respect human rights, and that relevant measures are integrated into the company's business strategy, investment plans, risk management and reporting. Strategies for responsible business conduct should follow the UN Guiding Principles on Business and Human Rights where applicable. Boards should also ascertain that the ensuing responsibilities are clearly defined within the organisation, and they should effectively guide, monitor and review management in carrying out these efforts.

Addressing environmental, social and governance risks is an important part of managing our investments. We take a systematic approach to risk monitoring that involves making general assessments before looking in more detail at specific issues. We rely on data on environmental, social and governance matters in this work, and hence the development of databases of this type of information is a priority.

Over the past couple of years, we have divested from a number of companies based on an assessment of environmental, social and governance issues. In 2016, we divested from 23 companies following such risk assessments. We also analysed the portfolio in the light of the new product-based coal criterion in the Guidelines for Observation and Exclusion for the Government Pension Fund Global. Altogether, Norges Bank has excluded 59 companies and placed 11 under observation based on recommendations to exclude coal companies.

We invest extra in environmental technology through our environment-related mandates, which returned 12.4 percent in 2016. These investments had a market value of 63.7 billion kroner and were spread across 226 companies at the end of the year.

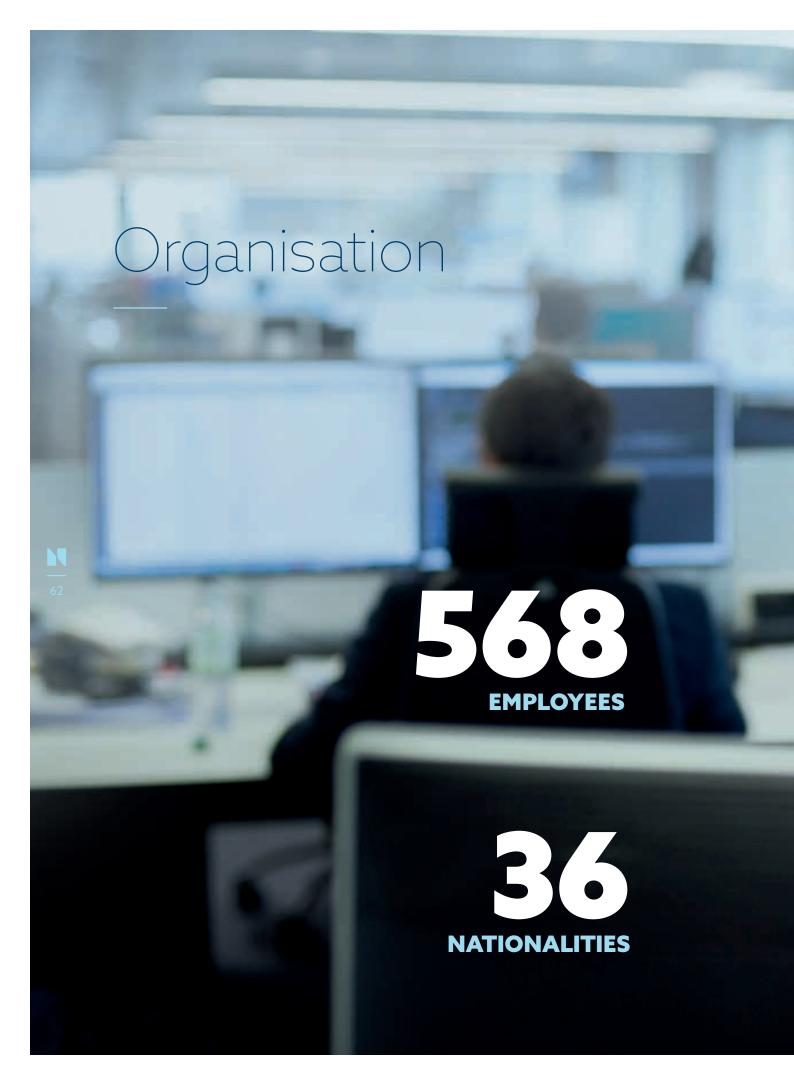
We invest responsibly in real estate. Our view is that properties that are built and operated sustainably bring lower costs, lower financial risks and potentially higher rental income. An environmental and sustainability due diligence is performed ahead of each investment.

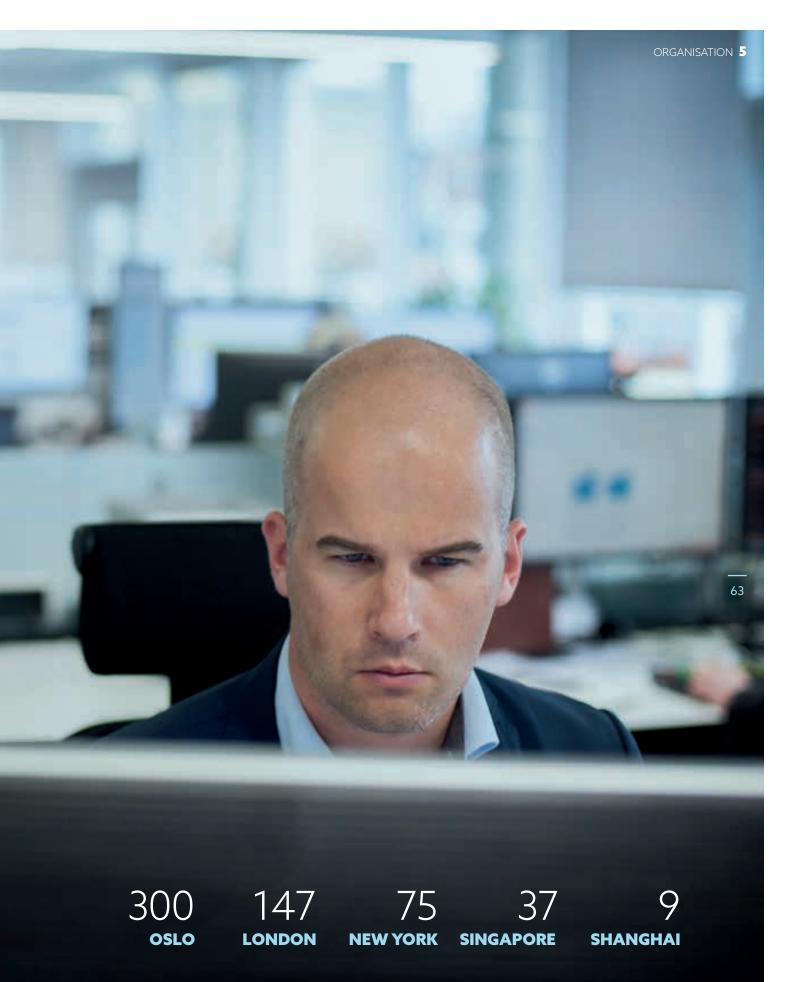
We have chosen to focus on three aspects of sustainability: children's rights, climate change and water management. We have been working on these topics for some time, and many companies have well-developed strategies and practices in these areas. Our goal is to use the means at our disposal to promote good market practices and communicate clear expectations to companies.



#### **EXTENDED INFORMATION ON RESPONSIBLE INVESTMENT**

We publish extended information on our work on responsible investment in March 2017 on our website www.nbim.no.





#### **5.1 MANAGEMENT COSTS**

## Low management costs

Norges Bank maintains a high level of cost awareness in its management of the fund and realises economies of scale where possible. We attach importance to upholding high standards of quality in the fund's management and ensuring good risk management, control and cost effectiveness.

Total management costs as a share of assets under management have been trending downwards for a number of years. This is despite the inclusion of more markets and currencies in both the equity and bond portfolios, an increase in the allocation to equities, and unlisted real estate investments. The objective specified in the mandate from the Ministry of Finance is the highest possible return after costs.

Management costs are low, both as a percentage of assets under management and in comparison with other investment managers. An annual report produced for the Ministry of Finance by CEM Benchmarking Inc. shows that the fund's management costs have been considerably lower than costs in comparable funds for a number of years.

Management costs were 3.7 billion kroner in 2016, a reduction from 3.9 billion kroner in 2015. The decrease was mainly due to lower performance-based fees to external managers and lower custody costs, while higher employee numbers and a weaker krone in isolation pushed up costs slightly. Performance-based fees to external managers fell as a result of a lower relative return from external management. The growth in headcount led to higher salary and personnel costs and higher costs due to increased office capacity. There was also a slight rise in costs for IT services, systems, data and information as a result of the expansion of the organisation.

Management costs amounted to 5.2 basis points of average assets under management in 2016, down from 5.7 basis points in 2015. Excluding performance-based fees to external managers, costs increased marginally in 2016 to 4.9 basis points, from 4.8 basis points in 2015.



Costs for external managers accounted for 23 percent of operating costs in 2016. Our strategy is to use external managers in markets where it is not efficient to build internal competence, mainly for investments in emerging markets and smalland mid-cap stocks. Some of these costs vary with the excess return generated relative to a particular benchmark index, and therefore increase when the excess return rises. Higher costs are therefore an expression of increased income for the fund from external management.

The fund's investments in equities and bonds must be registered with local central securities depositories worldwide. We have enlisted a global custodian institution to assist with this process. Custody and related services accounted for 10 percent of management costs in 2016. Custody costs have been reduced substantially in recent years.

The fund's reporting currency is Norwegian kroner. Movements in exchange rates can have a substantial accounting impact, even if the actual cost in foreign currency is unchanged. Approximately three-quarters of costs are billed and paid in foreign currency. For example, a 10 percent change in the exchange rate against other currencies will impact operating expenses by around 250 million kroner. Fluctuations in relevant exchange rates have led to a significant increase in costs measured in kroner in recent years.

Management costs are also incurred in real estate subsidiaries in the form of operating costs for the management of the real estate portfolio.

Chart 20 Management costs as a share of assets under management. Basis points

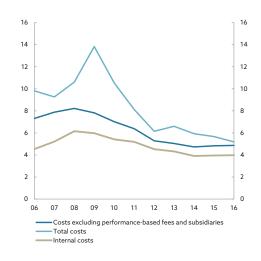
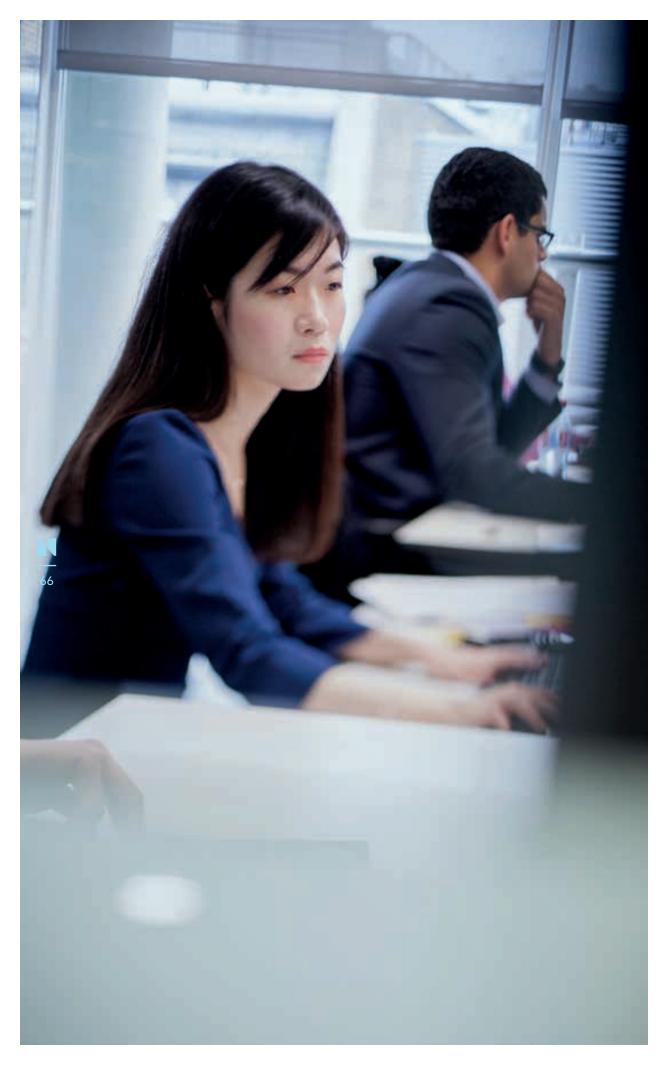


Chart 21 Development of individual cost components. Costs1 (millions of kroner, left-hand axis) and average market value (billions of kroner, right-



<sup>&</sup>lt;sup>1</sup> Excluding performance-based fees and subsidiaries



These costs are not included in the management fee, since they are expensed directly in the investment portfolio. These costs were 100 million kroner in 2016, which is in line with 2015 costs. This figure does not include the subsidiaries' operating costs for maintaining, operating and developing properties and leases. These costs are not defined as management costs since they are directly related to the underlying properties rather than the management of the real estate portfolio.

Total management costs were 3.8 billion kroner in 2016, a reduction from 4.0 billion kroner in

2015. This amounts to 5.3 basis points of assets under management in 2016, against 5.8 basis points in 2015.

#### MANAGEMENT COSTS BROKEN DOWN BY **INVESTMENT STRATEGY**

We pursue a variety of investment strategies in our management of the fund. These strategies complement and influence one another, and cost synergies arise between them. We split the costs between the different strategies based on number of employees, usage or volume.

Table 31 Management cost per investment strategy in 2016. Cost as reimbursed by the Ministry of Finance. Basis points

	Contribution to the fund's management cost	Management cost based on assets under management
Fund allocation	0.3	
Security selection	2.1	9.8
Internal	0.8	4.7
External <sup>1</sup>	1.3	30.2
Asset Management	2.2	2.9
Real estate	0.6	19.6
Total	5.2	

<sup>&</sup>lt;sup>1</sup> Includes all externally managed capital

Table 32 Management cost per investment strategy 2013–2016. Cost as reimbursed by the Ministry of Finance. Basis points

	Contribution to the fund's management cost	Management cost based on assets under management
Fund allocation	0.4	
Security selection	2.6	18.3
Internal	0.7	6.8
External <sup>1</sup>	1.9	48.0
Asset management	2.4	2.9
Real estate	0.4	25.8
Total	5.8	

<sup>1</sup> Includes all externally managed capital

	Norges Bank Investment Man	agement					
	Chief Executive Officer	Yngve Slyngstad	6,556,722	-	8,299	664,371	-
	Deputy Chief Executive Officer and Chief Administrative Officer	Trond Grande	4,444,161	-	7,599	314,490	-
	Chief Compliance and Control Officer	Stephen A. Hirsch	4,033,333	-	11,400	264,447	-
	Chief Investment Officer Equity Strategies	Petter Johnsen <sup>2</sup>	7,785,708	-	85,045	778,571	-
	Chief Investment Officer Asset Strategies	Øyvind Gjærevoll Schanke <sup>3</sup>	4,571,332	627,046	271,903	291,570	-
	Chief Investment Officer	Ole Christian Bech-Moen	4,462,860	487,757	79,350	237,569	-

Paid salary

Value

7,860

7,846

of other

benefits

Performance-

based pay<sup>1</sup>

751,158

Pension benefit earned

489,542

353,003

Employee loan

#### Norges Bank Real Estate Management

Allocation Strategies

Chief Operating Officer

Chief Risk Officer

Position

 Table 33
 Remuneration of senior management in 2016. Kroner

Name

Norges bank Real Estate Management						
Chief Executive Officer	Karsten Kallevig	5,208,086	-	7,860	298,238	-
Chief Administrative Officer	Mie Caroline Holstad	1,841,928	-	7,860	236,464	-
Chief Operating Officer	Nina Kathrine Hammerstad	2,624,861	-	7,860	312,083	-
Chief Risk Officer	Lars Oswald Dahl	3,310,655	-	7,860	320,245	-
Chief Compliance and Control Officer	Jan Thomsen	3,446,713	-	7,922	352,773	-

4,583,652

3,430,421

Dag Huse

Age Bakker

Members of Norges Bank Investment Management's leader group receive only a fixed salary. New members of the leader group who were previously in receipt of performance-based pay will, however, still receive any such pay that has been held back.

Receives pay in pounds. The figure includes currency effect from conversion to kroner.

Resigned on 9.12.2016. Remuneration is shown up until the date of resignation. In addition to the remuneration shown in the table, Schanke will receive salary and other benefits until January 2017, estimated at 809,000 kroner.

#### **REMUNERATION SYSTEM**

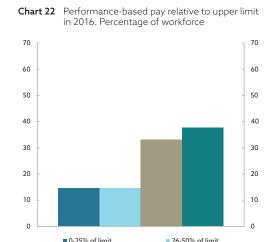
Norges Bank's Executive Board establishes the principles for the remuneration system at Norges Bank Investment Management. The fund's leader group receive only a fixed salary. New members of the leader group who were previously in receipt of performance-based pay will, however, still receive any such pay that has been held back over the three following years. The CEO's salary and pay bands for other members of the leader group are set by Norges Bank's Executive Board. The CEO's salary totalled 6.6 million kroner in 2016.

In addition to a fixed salary, those working directly on investment decisions and some other employees may also be entitled to performance-based pay. Performance-based pay is calculated on the basis of the performance of the fund, group and individual measured against set targets, and is paid over a number of years. Half is paid the year after it is accrued, while half is held back and paid over the following three years. The amount held back is adjusted in line with the return on the fund.

A total of 239 employees were entitled to performance-based pay in 2016. Their fixed salaries totalled 314 million kroner, while the upper limit for performance-based pay was 346 million kroner. On average, employees eligible for performance-based pay accrued 62 percent

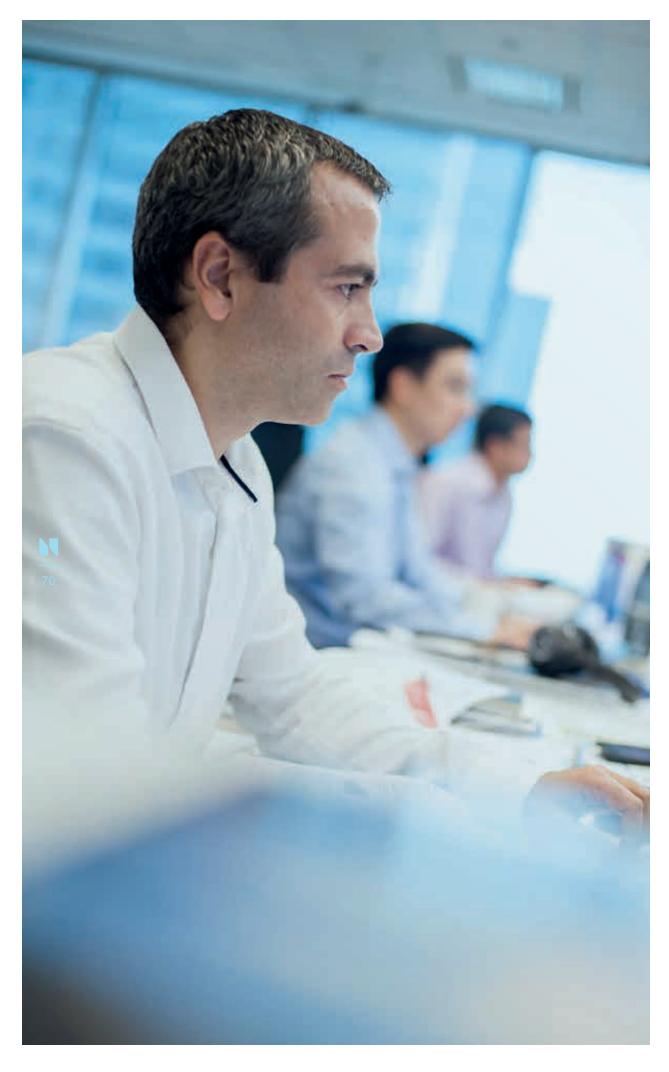
of the limit for 2016 based on multi-year performance. For 2016 in isolation, the average amount accrued was 52 percent of the upper limit. Performance-based pay may not exceed 100 percent of fixed salary, but for a limited number of employees at the international offices the limit is 200 percent.

Besides the leader group and employees in receipt of performance-based pay, 315 permanent employees worked in risk management, compliance and control, operations and support at the end of 2016. Their fixed salaries totalled 285 million kroner.



■ 51-75% of limit

■ 76-100% of limit



#### **5.2 OPERATIONAL IMPLEMENTATION**

# Limits for operational risk

Norges Bank's Executive Board sets limits for operational risk management and internal controls at Norges Bank Investment Management. We work systematically to identify unwanted events and improve our processes.

The Executive Board has decided there must be less than a 20 percent probability that operational risk factors will result in gross losses of 750 million kroner or more over a 12-month period, referred to as the Executive Board's risk tolerance. Our operational risk exposure was below this limit throughout 2016. We work systematically to identify unwanted events and constantly improve our processes to prevent such incidents. Reporting and following up on these incidents are an important part of efforts to improve operations and internal controls.

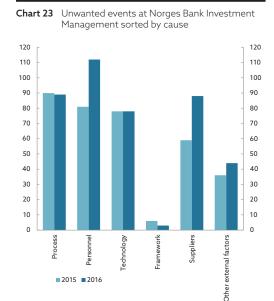
#### **UNWANTED EVENTS IN 2016**

We registered 414 unwanted events in 2016, up from 350 in 2015. Most of these had no financial consequences. Only eight of these events were considered significant. The estimated total financial impact of unwanted events in 2016 was 78.5 million kroner.

Four of the eight significant events had financial consequences. Two of these led to internal trading restrictions and had a financial impact of around 45.2 million kroner. The other two were related to trading of securities and had a financial impact of around 18 million kroner. One was a result of human error, while the other was due to a technical problem at our supplier. The remaining significant events mainly concerned information technology and security and had no direct financial consequences.

#### **COMPLIANCE WITH GUIDELINES**

The Ministry of Finance has set guidelines for the fund's management. No significant breaches of these guidelines were registered in 2016, and we did not receive any notifications from local supervisory authorities of any significant breaches of market rules or general legislation.



# A diverse workforce

We strengthened our organisation during the year with more focus on management and employee development, and recruitment to the investment departments and overseas offices.

We are working systematically on building an international investment organisation that can safeguard the value of the fund for future generations. Ours is a result-oriented and fast-paced organisation that demands high standards of precision and quality. Our employees have the global outlook and experience needed to manage a fund that is invested across much of the world.

Staff numbers rose further in 2016, but we also attached greater importance to developing managers and other employees. The workforce has been considerably enlarged in recent years to handle the management of a fast-growing fund. The complexity of our management task has increased, with greater demands in terms of governance, transparency and responsibility.

We also continued to develop and build Norges Bank Real Estate Management in 2016.

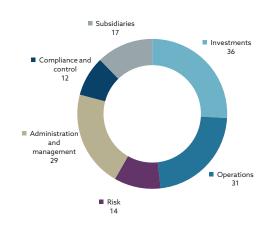
The number of permanent employees increased by 50 during the year, compared with 90 in 2015. A total of 47.2 percent of the workforce was based at our overseas offices in London, New York, Singapore and Shanghai at the end of the year, against 44.4 percent a year earlier. We had 568 employees at the end of the year, including 27 on our trainee programme.

Employees from 36 different nations bring considerable diversity to the organisation. We also have an overall aim of increasing the proportion of women. We continued to work on attracting and retaining female staff in general and female managers in particular.

**Chart 24** Number of employees by area. Norges Bank Investment Management



**Chart 25** Number of employees by area. Norges Bank Real Estate Management, including subsidiaries



#### **INVESTMENT PLATFORM**

Investment management is IT- and dataintensive. We use IT systems in every area of the fund's management, including trading, securities lending, valuation, accounting and the measurement of performance and risk. These processes are largely automated. Most of our IT systems are standard solutions customised to our requirements, and are supplied and operated by third parties. In some areas, our needs mean that standard solutions cannot be used, in which case we develop our own IT solutions and integrate them with our portfolio management system.

We have consolidated and simplified our portfolio of IT systems in recent years, insourcing a number of areas to create a more efficient operating model. Automation and standardisation are important for ensuring scalable and efficient processes. We have sound processes for developing and updating our systems as well as for managing and following up deviations. Investments in lessdeveloped markets require particular expertise and capacity to handle disruptions. We pay considerable attention to IT and information security, including access controls and safeguarding our systems. Information security has been tightened further in light of new requirements and external threats. IT infrastructure is an important element of the operational execution of our management task and a source of operational risk in itself. We have processes in place to manage this risk and have established internal control activities for information security and transaction management. This includes role and access management, integrity and traceability of transactions in automated processes.

#### **KNOWLEDGE BUILDING**

Given the fund's size and importance, there is considerable public interest in its management both in Norway and abroad. A high degree of transparency is a key element of our strategy. We strive constantly to increase knowledge about the fund and provide clear and relevant information on all aspects of its management. The fund has topped the Peterson Institute's transparency rankings for sovereign wealth funds for the past four years.

In 2016, we published, for the first time, extended information on real estate investments and on return and risk. We organised four press seminars and two press conferences where we presented our reports and results. We hosted the Norwegian Finance Research Conference for a sixth time, arranged four seminars and published six publications on topics relevant to the management of the fund. 2016 was both Norges Bank's bicentenary and 20 years since the first transfer was made to the fund. We used this as an opportunity to increase the knowledge of the history of Norges Bank and the fund both in Norway and abroad. As part of Norges Bank's bicentenary, we opened an exhibition on the fund at the Norwegian Petroleum Museum in Stavanger. The fund is also a key part of Norges Bank's new information centre for school pupils, opened in September.

Our task is to manage the nation's financial assets in a responsible, efficient and transparent manner. Openness and knowledge sharing are essential to give both current and future generations an insight into our results and how we achieve them.

#### **6.1 FINANCIAL STATEMENTS**

# Financial reporting

#### **FINANCIAL STATEMENTS**

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#### Income statement

Amounts in NOK million	Note	2016	2015
Profit/loss on the portfolio before foreign exchange gains and losses			
Income/expense from:			
- Equities and units	4	342 813	284 414
- Bonds	4	100 250	36 160
- Unlisted real estate	6	6 942	14 537
- Financial derivatives	4	-3 213	-1 984
- Secured lending	11	4 013	3 266
- Secured borrowing	11	23	50
Tax expense	9	-4 061	-2 628
Interest income/expense		-54	-18
Other costs		-40	-18
Profit/loss on the portfolio before foreign exchange gains and losses		446 673	333 779
Foreign exchange gains and losses		-306 099	668 138
Profit/loss on the portfolio		140 574	1 001 917
Management fee	10	-3 731	-3 933
Profit/loss for the period and total comprehensive income		136 843	997 984

### Balance sheet

Amounts in NOK million	Note	31.12.2016	31.12.2015
ASSETS			
Deposits in banks		17 759	2 543
Secured lending	11,12	134 338	123 385
Cash collateral posted	12	2 320	2 231
Unsettled trades		13 196	18 404
Equities and units	5	4 373 042	4 287 606
Equities lent	5,11	340 865	312 662
Bonds	5	2 220 286	2 476 729
Bonds lent	5,11	454 735	241 518
Unlisted real estate	6	188 469	180 021
Financial derivatives	5,12	9 366	8 829
Other assets		1 966	2 265
TOTAL ASSETS		7 756 342	7 656 193
LIABILITIES AND OWNER'S CAPITAL			
Liabilities			
Secured borrowing	11,12	213 520	149 735
Cash collateral received	12	3 688	2 570
Unsettled trades		22 195	22 438
Financial derivatives	5,12	4 501	5 266
Other liabilities		1 944	1 031
Management fee payable	10	3 731	3 933
Total liabilities		249 579	184 973
Owner's capital		7 506 763	7 471 220
TOTAL LIABILITIES AND OWNER'S CAPITAL		7 756 342	7 656 193

#### ACCOUNTING POLICY

The statement of cash flows is prepared in accordance with the direct method. Major classes of cash receipts and cash payments are presented separately. Specific categories of cash flows, primarily arising from the purchase and sale of financial instruments, are shown on a net basis. All investment activities and the management fee to Norges Bank that is charged to the GPFG are defined as operating activities. Cash comprises *Deposits in banks*.

Cash transfers between the GPFG and the Norwegian government in the form of inflows and withdrawals are classified as financing activities. These transfers have been settled in the period (cash principle). In the Statement of changes in owner's capital, accrued inflows/withdrawals are shown.

Management fee shown in the *Statement of cash flows* for a period is the settlement of the fee that was accrued and expensed in the previous year.

#### Statement of cash flows

Amounts in NOK million, receipt (+) / payment (-)	2016	2015
Operating activities		
Receipts of dividend from equities and units	118 517	108 904
Receipts of interest from bonds	74 832	75 283
Receipts of interest and dividend from unlisted real estate subsidiaries	3 657	3 532
Net receipts of interest and fee from secured lending and borrowing	4 097	3 324
Receipts of interest, dividend and fee from holdings of equities and units, bonds and unlisted real estate	201 103	191 043
Net cash flow from purchase and sale of equities and units	-72 588	-89 916
Net cash flow from purchase and sale of bonds	-38 151	-140 103
Net cash flow to/from investments in unlisted real estate subsidiaries	-17 269	-44 946
Net cash flow financial derivatives	84	-3 165
Net cash flow cash collateral related to derivative transactions	983	730
Net cash flow secured lending and borrowing	50 236	33 708
Net payment of taxes	-3 116	-1 499
Net cash flow related to interest on deposits in banks and bank overdraft	-	-6
Net cash flow related to other costs, other assets and other liabilities	-430	1 309
Management fee paid to Norges Bank	-3 933	-3 202
Net cash inflow/outflow from operating activities	116 919	-56 047
Financing activities		
Inflow from the Norwegian government	-	45 836
Withdrawal by the Norwegian government	-100 616	-
Net cash inflow/outflow from financing activities	-100 616	45 836
Net change in cash		
Deposits in banks at 1 January	2 543	11 731
Net increase/decrease of cash in the period	16 303	-10 211
Net foreign exchange gains and losses on cash	-1 087	1 023
Deposits in banks at end of period	17 759	2 543

Owner's capital for the GPFG comprises contributed capital in the form of accumulated net inflows from the Norwegian government and retained earnings in the form of total comprehensive income. Total owner's capital corresponds to the Ministry of Finance's krone account in Norges Bank.

### Statement of changes in owner's capital

Amounts in NOK million	Inflows from owner	Retained earnings	Total owner's capital¹
1 January 2015	3 448 941	2 978 596	6 427 537
Total comprehensive income	-	997 984	997 984
Net inflow/withdrawal during the period <sup>1</sup>	45 700	-	45 700
31 December 2015	3 494 640	3 976 580	7 471 220
1 January 2016	3 494 640	3 976 580	7 471 220
Total comprehensive income	-	136 843	136 843
Net inflow/withdrawal during the period <sup>1</sup>	-101 300	-	-101 300
31 December 2016	3 393 340	4 113 423	7 506 763

 $<sup>^{1}\,</sup>$  In 2016 there was a withdrawal from the krone account of NOK 105.2 billion. Of this, NOK 3.9 billion was used to pay the accrued management fee for 2015. In 2015, there was an inflow to the krone account of NOK 45.7 billion. Of this, NOK 3.2 billion was used to pay the accrued management fee for 2014.

# Notes to the financial reporting

#### Note 1 General Information

#### 1. INTRODUCTION

Norges Bank is Norway's central bank. The bank manages Norway's foreign exchange reserves and the Government Pension Fund Global (GPFG).

The GPFG shall support saving to finance future government expenditure and underpin long-term considerations relating to the use of Norway's petroleum revenues. The Norwegian Parliament has established the legal framework in the Government Pension Fund Act, and the Ministry of Finance has formal responsibility for the fund's management. The GPFG is managed by Norges Bank on behalf of the Ministry of Finance, in accordance with section 2, second paragraph of the Government Pension Fund Act and the management mandate for the GPFG issued by the Ministry of Finance. The Executive Board of Norges Bank has delegated day-to-day management of the GPFG to the Bank's asset management area, Norges Bank Investment Management (NBIM).

The Ministry of Finance has placed funds for investment in the GPFG in the form of a Norwegian krone deposit with Norges Bank (the krone account). Norges Bank manages the krone account in its own name by investing the funds in an investment portfolio consisting of equities, fixed-income securities and real estate. The GPFG is invested in its entirety outside of Norway.

In accordance with the management mandate for the GPFG, transfers are made to and from the krone account. When the Norwegian State's petroleum revenue exceeds the use of petroleum revenue in the fiscal budget, deposits will be made into the krone account. In the opposite situation, withdrawals will be made. Transfers to and from the krone account lead to a corresponding change in Owner's Capital.

The annual financial reporting for the GPFG is an excerpt from Norges Bank's financial reporting, and is included in Norges Bank's annual financial statements as note 20.

#### 2. APPROVAL OF THE FINANCIAL **STATEMENTS**

The annual financial statements of Norges Bank for 2016, which include the financial reporting for the GPFG, were approved by the Executive Board on 8 February 2017 and adopted by the Supervisory Council on 23 February 2017.

#### Note 2 Accounting policies

## REFERENCES TO ACCOUNTING POLICIES, SIGNIFICANT ESTIMATES AND CRITICAL ACCOUNTING JUDGEMENTS

This note describes significant accounting policies, significant estimates and critical accounting judgements that are relevant to the financial statements as a whole. Additional accounting policies, significant estimates or critical accounting judgements are included in the respective statements and notes.

#### EXPLANATION OF SIGNIFICANT ESTIMATES AND CRITICAL ACCOUNTING JUDGEMENTS

The preparation of the financial statements involves the use of estimates and judgements that may affect assets, liabilities, income and expenses. Estimates and judgements are based on historical experience and expectations about future events that are considered probable at the time the financial statements are presented. Estimates are based on best judgement; however actual results may deviate from estimates.

#### 1. BASIS OF PREPARATION

In accordance with the regulation concerning the annual financial statements of Norges Bank, the financial reporting of the GPFG shall be prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU. The annual financial statements are prepared with a closing date of 31 December, and are presented in Norwegian kroner (NOK), rounded to the nearest million kroner. Rounding differences may occur.

# 2. CHANGES IN ACCOUNTING POLICIES AND IMPLEMENTATION OF NEW AND/OR AMENDED STANDARDS OR INTERPRETATIONS

Accounting policies are applied consistently with those of the previous financial year. There are no new or amended IFRS standards and interpretations that have become effective for the financial year starting 1 January 2016, that have had a material impact on the financial statements.

# 3. ACCOUNTING POLICIES FOR THE FINANCIAL STATEMENTS AS A WHOLE

3.1 Financial assets and liabilities
Recognition and derecognition

Financial assets or liabilities are recognised in the balance sheet upon becoming a party to the instrument's contractual provisions, or when the risks and rewards of ownership are transferred, if this occurs at a different point in time. Transactions are recognised at trade date when the purchase or sale of the instrument involves settlement under normal market conditions.

Financial assets are derecognised when the contractual rights to the cash flows expire, or when the financial asset and substantially all the risks and rewards of ownership are transferred. Average acquisition cost is used upon derecognition. See note 11 Secured lending and borrowing for details of transferred assets that are not derecognised.

Financial liabilities are derecognised when the obligation has been settled, extinguished or cancelled.

#### Classification

Financial assets and liabilities are initially recognised at fair value. On initial recognition, all financial assets and liabilities are classified depending on the type of instrument, the contractual terms and the purpose of the investment in accordance with IAS 39 Financial instruments: Recognition and measurement.

Fair value through profit or loss (fair value option) Financial assets or liabilities that are managed and whose performance is evaluated on a fair value basis in accordance with a documented investment strategy, are designated at fair value through profit or loss on initial recognition. This implies that a fair value business model is used for the portfolios comprising these financial assets and/or liabilities, and that the primary objective is to achieve gains over the longer term connected to changes in fair value. The vast majority of financial assets and liabilities are classified as at fair value through profit or loss.

#### Held for trading

Financial assets and liabilities that are financial derivatives are classified as held for trading on initial recognition.

#### Loans and receivables

Financial assets and liabilities other than those classified as either at fair value through profit or loss or held for trading are classified as loans and receivables on initial recognition.

#### 3.2 Foreign currency

The functional currency is the Norwegian krone (NOK). Transactions in foreign currency are recognised in the financial statements at the exchange rate prevailing on the transaction date. Assets and liabilities in foreign currencies are translated into Norwegian kroner using the exchange rate at the balance sheet date.

In the income statement, the foreign exchange element linked to realised and unrealised gains and losses on assets and liabilities is disaggregated and presented on a separate line. Foreign exchange adjustments for the period are estimated based on the cost in foreign currency and changes in exchange rates between the time of purchase, or the previous balance sheet date for financial instruments purchased in earlier periods, and the balance sheet date. Upon realisation, the exchange rate at the transaction date is used.

#### SIGNIFICANT ESTIMATE

Gains and losses on securities and financial derivatives are based on changes in the price of the security/instrument (before foreign exchange gains and losses) and changes in foreign exchange rates (foreign exchange gains and losses). These are presented separately in the income statement. The method of allocating total gains and losses in Norwegian kroner to a security element and a foreign exchange element is an estimate, as different methods will result in different allocations.

#### Foreign exchange element

Unrealised gains and losses due to changes in foreign exchange rates are calculated based on the cost of the holding in local currency and the change in the foreign exchange rate from the time of purchase until the balance sheet date. If the holding has been purchased in a previous period, gains and losses from previous periods that have already been recognised in profit or loss are deducted to arrive at the gain or loss for the current period. Accordingly, for realised gains or losses, the foreign exchange rate on the date of sale is used, and previously recognised unrealised gains or losses for the holding are reversed in the current period.

#### Security element

Unrealised gains and losses from changes in the security price are calculated based on the change in the security price from the purchase date to the balance sheet date and the closing exchange rate at the balance sheet date. Gains and losses recognised in the income statement in previous periods are deducted to arrive at the gain or loss from security prices for the current period. Realised gains and losses from changes in security prices are based on the selling price, and previously recognised unrealised gains or losses for the holding are reversed in the current period.

#### 3.3 Subsidiaries

Subsidiaries are established that exclusively constitute investments as part of the management of the GPFG. These subsidiaries are entities over which the GPFG has control. Principle subsidiaries are listed in note 14 Interests in other entities.

IFRS 10 Consolidated financial statements has been applied. IFRS 10 defines an investment entity and introduces a mandatory exemption from consolidation for investment entities.

Subsidiaries that provide investment-related services for the GPFG and that are not investment entities, are consolidated in the financial statements of the GPFG. Other subsidiaries are measured at fair value through profit or loss in line with the exemption for consolidation for investment entities.

## <u>Subsidiaries measured at fair value through profit or loss</u>

Subsidiaries measured at fair value through profit or loss are presented in the balance sheet as *Unlisted real estate*. Subsidiaries invest, through other entities, exclusively in real estate. For further information on accounting policies for financial assets, applied to subsidiaries measured at fair value through profit or loss, see section 3.1. See note 6 for accounting policies specific to unlisted real estate.

#### Consolidated subsidiaries

Consolidated subsidiaries provide investment-related services for the GPFG in connection with the management of unlisted real estate investments. These companies do not own, directly or indirectly, investments in real estate. Intra-group transactions and intercompany balances are eliminated on consolidation.

#### ACCOUNTING JUDGEMENT

The GPFG is an investment entity based on the following:

- a) It obtains funds from the Norwegian government, a related party and its sole owner, and delivers professional investment services, being the management of the fund, to the Norwegian government, b) It commits itself towards the Norwegian government to invest solely for capital appreciation and investment income.
- c) It measures and evaluates returns for all its investments exclusively based on fair value.

An investment entity shall have a strategy that defines the time horizon for the realisation of investments. The GPFG has a very long time horizon. After an overall assessment, it has been concluded that the GPFG meets the criteria in the definition of an investment entity.

#### 4. NEW STANDARDS WITH EFFECT FROM 2017 OR LATER

IASB final standards and IFRIC interpretations with application dates from 2017 or later:

#### IFRS 9 Financial Instruments

IFRS 9 includes requirements for recognition, measurement, impairment and derecognition of financial instruments, and replaces IAS 39 Financial Instruments: Recognition and Measurement.

Under IFRS 9, financial assets with basic loan features shall be carried at amortised cost, unless the business model indicates that they should be carried at fair value. All other financial assets shall he carried at fair value

Classification and measurement of financial liabilities under IFRS 9 is a continuation of IAS 39, with the exception of financial liabilities designated as at fair value through profit or loss (fair value option), where changes in fair value relating to own credit risk shall be separated and presented in other comprehensive income.

Classification of financial assets and liabilities under the current standard will continue in the same category under IFRS 9. The implementation of the new standard will therefore not have a material effect on classification or measurement of financial instruments.

IFRS 9 was endorsed by the EU in the fourth quarter of 2016, and is effective from 1 January 2018. The option to early adopt the standard will not be used, and the standard will be applied from the financial year 2018.

IFRS 15 Revenue from contracts with customers IFRS 15 replaces all existing standards and interpretations for revenue recognition. The standard applies to all types of revenue contracts, with the exception of rental agreements, financial instruments and insurance contracts.

The standard is effective for the financial year beginning on or after 1 January 2018 and was endorsed by the EU in the fourth quarter of 2016.

The implementation of the standard will not have any effect for Norges Bank.

#### IFRS 16 Leases

The IASB published IFRS 16 Leases in January 2016, which supersedes IAS 17 Leases. The standard will mainly lead to changes in the lessee's balance sheet, where assets and liabilities from both financial and operational lease agreements shall be recognised.

The standard is effective for the financial year beginning on or after 1 January 2019 and is expected to be endorsed by the EU during 2017.

It is expected that the implementation of the standard will not have a material impact for Norges Bank.

#### Note 3 Returns per asset class

Table 3.1	Returns	per	asset	class

	2016	2015	4Q 2016	3Q 2016	2Q 2016	1Q 2016
Returns in the fund's currency basket						
Return on equity investments (percent)	8.72	3.83	4.91	6.03	0.66	-2.90
Return on fixed-income investments (percent)	4.32	0.33	-2.35	0.89	2.49	3.32
Return on real estate investments (percent) <sup>1</sup>	0.78	9.99	1.25	2.29	-1.42	-1.29
Return on fund (percent)	6.92	2.74	2.17	4.00	1.27	-0.63
Return on equity and fixed-income investments (percent)	7.12	2.52	2.20	4.05	1.36	-0.61
Return on equity and fixed-income benchmark index (percent)	6.97	2.07	1.92	3.88	1.47	-0.43
Relative return on equity and fixed-income investments (percentage points)	0.15	0.45	0.28	0.17	-0.11	-0.18
Relative return on equity investments (percentage points)	0.15	0.83	0.26	0.27	-0.15	-0.21
Relative return on fixed-income investments (percentage points)	0.16	-0.24	0.37	0.04	-0.06	-0.21
Returns in Norwegian kroner (percent)						
Return on equity investments	3.67	16.77	8.74	1.54	1.11	-7.14
Return on fixed-income investments	-0.53	12.83	1.21	-3.39	2.95	-1.19
Return on real estate investments	-3.91	23.71	4.95	-2.04	-0.98	-5.60
Return on fund	1.95	15.54	5.90	-0.41	1.72	-4.97

<sup>&</sup>lt;sup>1</sup> The return on real estate investments measured in international currency has been adjusted downwards for 2015 by 0.01 percentage point. This is due an error caused by the use of an incorrect Thai Baht rate in December 2015 to measure returns in the fund's currency basket. This correction has no impact on the GPFG's income statement or balance sheet for 2015.

Returns in table 3.1 are a reproduction of return information in table 1 in the annual report chapter Key figures for 2016. A time-weighted monthly rate of return methodology is applied in the return calculations. The fair value of holdings is determined at the time of cash flows into and out of the asset classes, and interim returns are geometrically linked. Returns are calculated net of non-reclaimable withholding taxes on dividends, interest and capital gains. Performance is reported in the fund's currency basket, as well as in Norwegian kroner, where the currency basket is weighted based on the currency composition of the benchmark indices for

equity and fixed-income investments. Returns measured in the fund's currency basket are calculated as the geometrical difference between the fund's returns measured in Norwegian kroner and the return of the currency basket. Returns on the benchmark indices for equity and fixed-income investments are calculated by weighting the monthly returns of the benchmark portfolio for equities and fixed-income respectively, with actual market capitalisation weights at the beginning of the month. Return on real estate investments includes the return on investments in listed and unlisted real estate.

# Note 4 Income/expense from Equities and units, Bonds and Financial derivatives

#### **ACCOUNTING POLICY**

The following accounting policies relate to the respective income and expense elements:

*Dividends* are recognised as income when the dividends are formally approved by the shareholders' meeting or comparable responsible party.

Interest income is recognised when the interest is earned. Interest expense is recognised as incurred.

Realised gain/loss mainly represents amounts realised when assets or liabilities have been derecognised. Realised gain/loss includes transaction costs, which are expensed as incurred. Transaction costs are defined as all costs directly attributable to the completed transaction. For investments in Equities and units and Bonds, these normally comprise commission fees and stamp duties.

*Unrealised gain/loss* represents changes in fair value for the period for the related balance sheet line item, that are not attributable to the aforementioned categories.

Tables 4.1 to 4.3 specify the income and expense elements for *Equities and units, Bonds* and *Financial derivatives*, where the line *Income/expense* shows the amount recognised in profit or loss for the respective income statement line.

Table 4.1 Specification Income/expense from equities and units

Amounts in NOK million	2016	2015
Dividends	118 584	107 383
Realised gain/loss	107 005	132 240
Unrealised gain/loss	117 224	44 791
Income/expense from equities and units before foreign exchange gain/loss	342 813	284 414

Table 4.2 S	pecification	Income/	expense/	from	bonds

Amounts in NOK million	2016	2015
Interest	72 573	78 243
Realised gain/loss	30 861	21 098
Unrealised gain/loss	-3 184	-63 181
Income/expense from bonds before foreign exchange gain/loss	100 250	36 160

#### Table 4.3 Specification Income/expense from financial derivatives

Amounts in NOK million	2016	2015
Dividends	102	21
Interest	-2 113	-869
Realised gain/loss	-3 251	-2 422
Unrealised gain/loss	2 049	1 286
Income/expense from financial derivatives before foreign exchange gain/loss	-3 213	-1 984

#### Note 5 Holdings of Equities and units, Bonds and Financial derivatives

#### **ACCOUNTING POLICY**

Investments in equities, units and bonds are designated upon initial recognition as at *fair value through profit or loss* and are carried in the balance sheet at fair value. Earned and accrued dividends and interest are presented in the balance sheet on the same line as the respective financial asset or liability and are specified in tables 5.1 and 5.2 for *Equities and units* and *Bonds*. Lent equities, units and bonds are presented separately. For more information on lent securities, see note 11 *Secured lending and borrowing*.

Financial derivatives are classified as *held for trading* and are carried in the balance sheet at fair value. Variation margin for exchange traded futures is considered to be settlement, and amounts are presented as *Deposits in banks*. Norges Bank does not engage in hedge accounting, and therefore none of the financial instruments are designated as hedging instruments.

For further information on fair value measurement of Equities and units, Bonds and Financial derivatives, see note 7 Fair value measurement. Changes in fair value for the period are recognised in the income statement and specified in note 4 Income/Expense from Equities and units, Bonds and Financial derivatives.

Table 5.1 Equities and units

	31.12.	2016	31.12.2015		
Amounts in NOK million	Fair value including dividends	Accrued dividends	Fair value including dividends	Accrued dividends	
Equities and units	4 713 907	5 557	4 600 268	5 491	
Total equities and units	4 713 907	5 557	4 600 268	5 491	
Of which equities lent	340 865		312 662		

		31.12.2016		31.12.2015			
Amounts in NOK million	Nominal value	Fair value including accrued interest	Accrued interest	Nominal value	Fair value including accrued interest	Accrued interest	
Government bonds							
Government bonds issued in the government's local currency	1 290 977	1 461 360	11 356	1 326 895	1 493 128	11 803	
Total government bonds	1 290 977	1 461 360	11 356	1 326 895	1 493 128	11 803	
Government-related bonds							
Sovereign bonds	11 625	12 408	211	21 935	23 045	385	
Bonds issued by local authorities	92 164	98 677	668	89 363	96 508	743	
Bonds issued by supranational bodies	54 791	58 474	511	66 665	72 351	737	
Bonds issued by federal agencies	161 022	164 578	1 000	189 712	194 925	1 409	
Total government-related bonds	319 602	334 137	2 390	367 675	386 829	3 274	
Inflation-linked bonds							
Inflation-linked bonds issued by government authorities	114 916	140 814	547	103 152	120 275	522	
Total inflation-linked bonds	114 916	140 814	547	103 152	120 275	522	
Corporate bonds							
Bonds issued by utilities	40 653	43 602	531	40 639	42 951	545	
Bonds issued by financial institutions	225 022	227 803	2 264	200 160	202 030	2 203	
Bonds issued by industrial companies	308 074	319 741	3 197	298 979	302 901	3 386	
Total corporate bonds	573 749	591 146	5 992	539 778	547 882	6 134	
Securitised bonds							
Covered bonds	140 209	147 237	1 477	158 708	168 925	2 284	
Commercial mortgage backed securities	1 357	327	1	2 544	1 208	5	
Total securitised bonds	141 566	147 564	1 478	161 252	170 133	2 289	
Total bonds	2 440 810	2 675 021	21 763	2 498 752	2 718 247	24 022	

Financial derivatives, such as futures, interest rate derivatives and foreign exchange derivatives are used in asset management to adjust the exposure in various portfolios, as a cost efficient alternative to trading in the underlying securities. This may be to adjust the exposure to equities or bonds. Furthermore, foreign exchange derivatives are used in

the financing of securities investment management. Equity derivatives with an option component are often a result of corporate actions and these can be converted to equities or sold. Participatory notes are used as an alternative to direct equity investments in certain markets.

Table 5.3 gives a specification of financial derivative holdings. Notional amounts (the nominal values of the underlying) are the basis for the calculation of any cash flows and gains/losses for the contracts. Notional amounts are presented gross, being the sum of the long and short positions, which provides information about the extent to which different types of financial derivatives are used.

Table 5.3 Financial derivatives

	31	1.12.2016		31.12.2015			
	Notional	Fair v	alue	Notional	Fair value		
Amounts in NOK million	amount	Asset	Liability	amount	Asset	Liability	
Foreign exchange derivatives	321 580	4 586	1 995	351 186	4 352	1 521	
Interest rate derivatives	31 284	528	2 506	37 123	553	3 745	
Equity derivatives	6 645	4 252	-	4 846	3 924	-	
Total financial derivatives	359 509	9 366	4 501	393 155	8 829	5 266	

## OVER-THE-COUNTER (OTC) FINANCIAL DERIVATIVES

Foreign exchange derivatives

This item consists of foreign currency exchange contracts (forwards) which are agreements to buy or sell a specified quantity of foreign currency on an agreed future date.

#### Interest rate derivatives

Interest rate swaps are agreements between two parties to exchange interest payment streams based on different interest rate calculation methods. Typically, one party pays a floating rate of interest and the other pays a fixed rate.

#### Equity derivatives

Equity derivatives are derivatives with exposure to an underlying equity. Equity derivatives include instruments with an option component such as warrants and rights. These instruments grant the owner the right to purchase an equity at an agreed price within a certain time frame. Equity derivatives also include participatory notes which is an instrument that provides exposure to an underlying equity.

#### **EXCHANGE-TRADED FUTURES CONTRACTS**

Futures contracts are listed contracts to buy or sell a specified asset (security, index, interest rate or other) at an agreed price at a future point in time. Settlement is normally made in cash, with initial and daily margin settlement of gains and losses.

#### Note 6 Unlisted real estate

#### **ACCOUNTING POLICY**

Investments in unlisted real estate are made through subsidiaries of Norges Bank, which exclusively constitute investments as part of the management of the GPFG. Subsidiaries are financed through equity and longterm debt financing. Subsidiaries presented as Unlisted real estate are designated upon initial recognition as financial instruments at fair value through profit or loss. See note 2 Accounting policies for more information.

The fair value of unlisted real estate is determined as the sum of the GPFG's share of the assets and liabilities in the underlying subsidiaries, measured at fair value. For further information on fair value measurement of unlisted real estate investments, see note 7 Fair value measurement.

Changes in fair value for the period are recognised in the income statement and are presented as Income/ expense from unlisted real estate.

Income generated in the real estate subsidiaries may be distributed to the GPFG in the form of interest and dividends as well as repayment of equity and long-term loan financing provided from the GPFG to the subsidiary. There are no significant restrictions on distribution of dividends and interest from the subsidiaries to the GPFG.

The following accounting policies apply to the respective income and expense elements presented in table 6.1:

Dividends are recognised as income when the dividends are formally approved by the shareholder's meeting, comparable responsible party, or as a consequence of the company's articles of association.

Interest income is recognised when the interest is earned.

Unrealised gain/loss represents the change in fair value for the balance sheet line item Unlisted real estate, that is not attributable to the realised gain from dividends and interest income.

Table 6.1 provides a specification of the income statement line Income/Expense from unlisted real estate, before foreign exchange gains and losses.

Table 6.1 Income/expense from unlisted real estate

Amounts in NOK million	2016	2015
Dividend	2 167	1 931
Interest income	1 490	1 601
Unrealised gain/loss	3 285	11 005
Income/expense from unlisted real estate before foreign exchange gain/loss	6 942	14 537

The change in the period for the balance sheet line *Unlisted real estate* is specified in table 6.2.

Table 6.2 Changes in carrying amounts unlisted real estate

Amounts in NOK million	31.12.2016	31.12.2015
Unlisted real estate, opening balance for the period	180 021	106 431
Payments to new investments <sup>1</sup>	19 147	44 167
Payments to existing investments <sup>1</sup>	2 808	1 692
Payments from existing investments <sup>1</sup>	-4 686	-913
Unrealised gain/loss	3 285	11 005
Foreign currency translation effect	-12 106	17 639
Unlisted real estate, closing balance for the period	188 469	180 021

<sup>&</sup>lt;sup>1</sup> This represents the net cash flows between the GPFG and subsidiaries presented as *Unlisted real estate*. The GPFG makes cash contributions to the subsidiaries in the form of equity and long-term loan financing to fund investments in real estate assets, primarily properties. Net income generated in the subsidiaries may be distributed to the GPFG in the form of repayment of equity and long-term loan financing.

#### UNDERLYING REAL ESTATE COMPANIES

Real estate subsidiaries have investments in other non-consolidated, unlisted companies. For a list of principle entities, see note 14 *Interests in other entities*.

In the tables below, a further specification of *Unlisted real estate* is provided. Table 6.3 specifies the GPFG's share of the net income generated in the underlying real estate companies, which is the basis for *Income/expense from unlisted real estate* presented in table 6.1. Table 6.4 specifies the GPFG's share of assets and liabilities in the underlying real estate companies which comprise the closing balance for *Unlisted real estate* as presented in table 6.2.

The following accounting policies apply to the respective income and expense elements as presented in table 6.3:

Rental income is recognised as income on a straight line basis over the lease term.

*Transaction costs* are incurred as a one-time cost when purchasing or selling properties. Transaction costs include stamp duty, registration fees, due diligence costs (fees to advisors, such as lawyers and valuation experts) and insurance. Transaction costs are expensed as incurred.

Amounts in NOK million	2016	2015
Net rental income <sup>1</sup>	7 645	6 921
Realised gain/loss	109	320
Fair value changes - properties <sup>2</sup>	1 416	9 265
Fair value changes - debt <sup>2</sup>	-191	435
Transaction costs	-411	-320
Interest expense external debt	-622	-666
Tax expense payable	-151	-100
Change in deferred tax	-174	-452
Fixed fees to asset managers <sup>3</sup>	-454	-308
Variable fees to asset managers <sup>3</sup>	-39	-343
Operating costs within the limit from the Ministry of Finance <sup>4</sup>	-81	-86
Other costs	-105	-129
Net income real estate companies	6 942	14 537

<sup>1</sup> Net rental income mainly comprises received and earned rental income, less costs relating to the operation and maintenance

Table 6.4 Assets and liabilities underlying real estate companies

Amounts in NOK million	31.12.2016	31.12.2015
Deposits in banks	2 272	2 491
Properties	204 635	197 549
External debt	-15 727	-17 432
Tax payable	-204	-215
Net deferred tax	-1 153	-1 048
Net other assets and liabilities	-1 354	-1 324
Total assets and liabilities underlying real estate companies	188 469	180 021

In addition to direct real estate investments presented in the balance sheet line Unlisted real estate, listed real estate investments are included in the real estate asset class. Listed real estate investments are presented in the balance sheet line Equities and units, and amount to NOK 49 928 million at year-end compared to NOK 54 134 million at year-end 2015.

<sup>&</sup>lt;sup>2</sup> Comprises solely fair value changes of properties and debt and will therefore not reconcile with unrealised gain/loss presented in table 6.1 which includes undistributed profits.

<sup>&</sup>lt;sup>3</sup> Fixed and variable fees to external asset managers are directly related to the underlying properties and are primarily linked to the operation and development of properties and leases. Variable fees are based on achieved performance over time.

<sup>&</sup>lt;sup>4</sup> See table 10.2 for specification of the operating costs that are measured against the management fee limit from the Ministry of Finance.

#### Note 7 Fair value measurement

#### **ACCOUNTING POLICY**

All assets and liabilities presented as Equities and units, Bonds, Unlisted real estate, Financial derivatives, Secured lending and borrowing, Deposits in banks and Cash collateral posted and received are held at fair value in the balance sheet.

Fair value, as defined by IFRS 13 *Fair value measurement*, is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

#### 1. INTRODUCTION

The fair value of the vast majority of assets and liabilities is based on quoted market prices. If the market for a security or an asset is not active, fair value is established by using standard valuation techniques. Estimating fair value introduces valuation uncertainty, mostly due to the use of unobservable inputs used in valuation models. This valuation risk is addressed by the management and control framework in Norges Bank Investment Management, which governs fair value measurement, and is described in section 6 of this note.

# 2. VALUATION UNCERTAINTY AND THE FAIR VALUE HIERARCHY

All balance sheet items measured at fair value are categorised in the three categories in the fair value hierarchy presented in table 7.1. The level of valuation uncertainty determines the categorisation:

- Level 1 comprises assets that are valued on the basis of unadjusted quoted prices in active markets and are considered to have very limited valuation uncertainty.
- Assets and liabilities classified as Level 2 are valued using models with observable inputs.
   Inputs are considered observable if they can be directly observed from transactions in an active market, or if there is compelling external evidence demonstrating an executable exit price. Holdings classified as Level 2 have some valuation uncertainty.
- Assets classified as Level 3 are valued using models with considerable use of unobservable inputs, leading to a high degree of valuation uncertainty.

An overview of models and valuation techniques with their respective observable and unobservable inputs, categorised per type of instrument, is provided in section 4 of this note.

#### SIGNIFICANT ESTIMATE

Level 3 investments consist of instruments held at fair value that are not traded or quoted in active markets. The fair values are therefore determined using valuation techniques that use models with unobservable inputs. The resulting values are particularly uncertain estimates, due to the significant use of unobservable inputs.

Table 7.1 classifies investments by level of valuation uncertainty into the fair value hierarchy and includes all balance sheet items measured at fair value.

Table 7.1 Investments by level of valuation uncertainty

	Level 1		Lev	Level 2		el 3	Total		
Amounts in NOK million	31.12.2016	31.12.2015	31.12.2016	31.12.2015	31.12.2016	31.12.2015	31.12.2016	31.12.2015	
Equities and units	4 673 199	4 564 401	28 845	32 260	11 863	3 607	4 713 907	4 600 268	
Government bonds	1 369 188	1 380 928	92 172	112 200	-	-	1 461 360	1 493 128	
Government-related bonds	279 772	331 310	53 463	54 477	902	1 042	334 137	386 829	
Inflation-linked bonds	124 646	108 484	16 168	11 791	-	-	140 814	120 275	
Corporate bonds	538 692	512 577	52 293	34 824	161	481	591 146	547 882	
Securitised bonds	136 088	160 797	11 149	8 128	327	1 208	147 564	170 133	
Total bonds	2 448 386	2 494 096	225 245	221 420	1 390	2 731	2 675 021	2 718 247	
Financial derivatives (assets)	291	359	9 075	8 470	-	-	9 366	8 829	
Financial derivatives (liabilities)	-	-	-4 501	-5 266	-	-	-4 501	-5 266	
Total financial derivatives	291	359	4 574	3 204	-	-	4 865	3 563	
Unlisted real estate	-	-	-	-	188 469	180 021	188 469	180 021	
Other <sup>1</sup>	-	-	-71 768	-26 946	-	-	-71 768	-26 946	
Total	7 121 876	7 058 856	186 896	229 938	201 722	186 359	7 510 494	7 475 153	
Total (percent)	94.8	94.4	2.5	3.1	2.7	2.5	100.0	100.0	

<sup>&</sup>lt;sup>1</sup> Other consists of non-investment assets and liabilities limited to money-market instruments such as secured lending and borrowing positions, deposits in banks, unsettled trades, posted and received cash collateral and other assets and liabilities.

Valuation uncertainty for the GPFG as a whole at the end of 2016 is virtually unchanged compared to the end of 2015. The majority of the total portfolio has low valuation uncertainty. At the end of 2016, 97.3 percent was classified as Level 1 or 2, which is essentially unchanged compared to year-end 2015. Movements between levels in the fair value hierarchy are described in section 3 of this note.

#### Equities and units

Measured as a share of total value, virtually all equities and units (99.1 percent) are valued based on official closing prices from stock exchanges and are classified as Level 1. A small number of equities and units (0.6 percent) are classified as Level 2. These are mainly equities for which trading has recently

been suspended, or illiquid securities that are not traded daily. A few securities (0.3 percent) that are not listed, or where trading has been suspended over a longer period, have high uncertainty related to fair value and are classified as Level 3.

#### Bonds

The majority of bonds (91.5 percent) have observable, executable market quotes and are classified as Level 1. A minority of bonds (8.4 percent) are classified as Level 2. These securities do not have a sufficient amount of observable quotes or they are priced based on comparable but liquid bonds. A few bonds (0.1 percent) that do not have observable quotes are classified as Level 3.

#### Unlisted real estate

All unlisted real estate investments are classified as Level 3, since models are used to value the underlying assets and liabilities with extensive use of non-observable market inputs. All unlisted real estate investments are measured at the value determined by external valuers. Exceptions to this policy are cases of newly acquired properties where the purchase price, excluding transaction costs, is normally considered to be the best estimate of fair value, or where there are indications that external valuation reports do not reflect fair value so that adjustments to valuations are warranted.

#### Financial derivatives

Some equity derivatives (rights and warrants) that are actively traded on exchanges are classified as Level 1. Other derivatives are classified as Level 2, as their valuation is based on standard models using observable market inputs. The majority of derivatives on the asset side of the balance sheet

are OTC foreign exchange derivatives and equity derivatives. On the liability side, the holdings consist of foreign exchange derivatives and interest rate derivatives.

Other assets and liabilities are classified as Level 2.

# 3. MOVEMENTS BETWEEN LEVELS OF VALUATION UNCERTAINTY

Reclassifications between Level 1 and Level 2
The relative share of equities classified as Level 1
has decreased marginally by 0.1 percentage point
compared to year-end 2015.

Bonds classified as Level 1 are reduced by 0.3 percentage point in 2016. This is mainly due to price and currency losses as well as reclassification of some holdings to Level 2. The reclassified bonds consist mainly of corporate bonds denominated in US dollar and government bonds in emerging markets.

Table 7.2 Specification of changes in Level 3 holdings

Amounts in NOK million	01.01.2016	Purchases	Sales	Settle- ments	Net gain/ loss	Trans- ferred into Level 3		Foreign exchange gains and losses	31.12.2016
Equities and units	3 607	9 956	-455	-41	-533	257	-842	- 86	11 863
Bonds	2 731	-	-1 011	-163	-33	6	-91	- 49	1 390
Unlisted real estate <sup>1</sup>	180 021	17 269	-	-	3 285	-	-	-12 106	188 469
Total	186 359	27 225	-1 466	-204	2 719	263	-933	-12 241	201 722

Amounts in NOK million	01.01.2015	Purchases	Sales	Settle- ments	Net gain/ loss	Trans- ferred into Level 3	Trans- ferred out of Level 3	Foreign exchange gains and losses	31.12.2015
Equities and units	1 983	418	-298	16	-397	3 021	-1 231	95	3 607
Bonds	25 269	2 859	-971	-243	-1 003	418	-24 188	589	2 731
Unlisted real estate <sup>1</sup>	106 431	44 946	-	-	11 005	-	-	17 639	180 021
Total	133 683	48 223	-1 269	-227	9 605	3 439	-25 419	18 323	186 359

<sup>&</sup>lt;sup>1</sup> Purchases represent the net cash flow in the period from the GPFG to subsidiaries presented as Unlisted real estate.

The GPFG's aggregate exposure that is considered particularly uncertain with respect to valuation (Level 3) increased by NOK 15 363 million in 2016, to an exposure at the end of the year of NOK 201 722 million.

The relative share of equities and units classified as Level 3 has increased by 0.2 percentage point compared to 2015. This increase is mainly due to a merger of two listed portfolio companies that have previously been classified as Level 1. As compensation for the shares in one of the companies, the GPFG received shares with a lock-in period. After the lock-in period these shares can be converted to normal listed shares (Level 1). Due to the lock-in period, the valuation of these shares is model-based, with the use of unobservable inputs, leading to a Level 3 classification

There is no change in the relative share of bonds classified as Level 3. In absolute terms, the value of bonds classified as Level 3 is reduced, mainly due to sales.

All unlisted real estate investments are classified as Level 3, and the increase of NOK 8 448 million in 2016 is mainly due to new investments and to a lesser extent value increases, partly offset by currency effects.

#### 4. VALUATION TECHNIQUES

Norges Bank Investment Management has defined hierarchies for which price sources to be used for valuation. Holdings that are included in the benchmark index are normally valued in accordance with the index providers' prices, while the remaining holdings of equities and bonds are valued almost exclusively using prices from other reputable external price providers. The next section sets out the main valuation techniques for those instruments included in Level 2 and Level 3 of the fair value hierarchy. Furthermore, it highlights the most significant observable and unobservable inputs to the val-

uation models and their interaction with sensitivity testing for instruments included in Level 3.

#### Unlisted real estate (Level 3)

The fair value of unlisted real estate is determined as the sum of the underlying assets and liabilities as presented in note 6 Unlisted real estate. Assets and liabilities consist mainly of properties and external debt. Properties are valued each reporting date by external independent valuation specialists using valuation models. Valuation of properties is inherently predisposed to significant forward-looking judgements. These include key assumptions and estimates with respect to each individual property type, location, future revenue streams and relevant discount rates. These assumptions represent mainly unobservable inputs and Unlisted real estate is therefore classified as Level 3 in the fair value hierarchy. Estimates used reflect recent comparable market transactions of properties with a similar location, condition and quality, and are based on local market conditions. Valuations reflect the best estimate of market value at the valuation date and are sensitive to fluctuations in the input factors.

Valuation of commercial real estate in the European and American markets is based on variations of discounted cash flow models.

Yields and assumptions regarding expected future cash flows are the most important variables that affect sensitivity to changes in fair value. Expected future cash flows are impacted by changes in assumptions related to, but not limited to:

- Expected inflation (market, consumer price index, costs, etc.)
- Market rental value, market rental value growth, renewal probabilities, void periods and costs
- Tenant defaults
- Changes in credit spreads and discount rates for commercial real estate loans.

Changes in key assumptions can have a material effect on the valuation of the real estate portfolio. This is illustrated in the sensitivity analysis by using other reasonable alternative assumptions for yield and market rents. The sensitivity analysis is based on a statistically relevant sample, representative for the real estate portfolio, and reflects both favourable and unfavourable changes.

#### Equities and units (Level 2 and 3)

Equities and units that are valued based on models with observable inputs provided by vendors according to the pricing hierarchy, are classified as Level 2. These holdings are often not traded daily, or are listed shares of suspended companies. The valuation models take into account various observable market inputs such as comparable equity quotes, last traded date, volumes and reasons for suspension.

Some holdings in Level 3 are illiquid because of lock-in periods. Valuation models for these holdings take into account both observable inputs, such as comparable equity quotes and unobservable inputs such as historic volatility.

Other holdings of Level 3 equities and units that have been suspended for a prolonged period, are valued either based on the last market price using regression analysis or based on comparable companies.

Fair value of equities classified as Level 3 is sensitive to whether trading is resumed and how markets have moved from the time the trading was suspended, as well as specific factors related to the individual company such as the financial situation and volatility.

#### Bonds (Level 2 and 3)

Bonds that are valued based on indicative quotes, or liquid comparable issues with executable quotes for those that are less liquid, are classified as Level 2. These holdings usually consist of less liquid bonds than those actively traded on the market.

Bonds that are valued by external price vendors, based on models making use of significant unobservable inputs are classified as Level 3. Such inputs include probability of expected cash flows, outdated indirect quotes on comparable issues and spreads to reference curves. These holdings include defaulted and highly illiquid bonds.

The fair value of bonds classified as Level 3 is sensitive to changes in risk premiums and liquidity discounts, as well as the future recovery, in the event of default. In some instances, sensitivity analyses are carried out on the underlying discount rate or spread against the discount curve.

#### Financial derivatives (Level 2)

Foreign exchange derivatives, consisting mainly of foreign exchange forward contracts, are valued using industry standard models with predominantly observable market data inputs such as forward rate yields.

Interest rate derivatives consist of interest rate swaps, and are valued using industry standard models with predominantly observable market data inputs such as interest from traded interest rate swaps.

Equity derivatives, such as rights and warrants, are mainly valued based on prices provided by vendors according to the pricing hierarchy. In some cases where an equity derivative is not traded, observable inputs such as conversion factors, subscription price and strike price are utilised to value the instruments. Participatory certificates are valued using the underlying price of the quoted equity, adjusted for observable inputs related to credit and liquidity risk.

#### 5. SENSITIVITY ANALYSIS FOR LEVEL 3 HOLDINGS

Table 7.3 Additional specification Level 3 and sensitivities

	Specification	Specification Sensitivities 31.12.2016 of Level 3		Specification of Level 3	Sensitivities 31.12.2015	
Amounts in NOK million	holdings 31.12.2016	Unfavourable changes	Favourable changes	holdings 31.12.2015	Unfavourable changes	Favourable changes
Equities and units	11 863	-2 638	2 606	3 607	-1 227	1 190
Government-related bonds	902	-90	90	1 042	-104	104
Corporate bonds	161	-16	16	481	-78	78
Securitised bonds	327	-33	33	1 208	-121	121
Total bonds	1 390	-139	139	2 731	-304	304
Unlisted real estate	188 469	-9 678	10 711	180 021	-7 801	8 637
Total	201 722	-12 455	13 456	186 359	-9 332	10 131

There is uncertainty associated with the fair value of investments classified as Level 3 and the downside valuation uncertainty is NOK 12 455 million at year-end 2016, an increase of NOK 3 123 million from 2015. Upside valuation uncertainty has increased with NOK 3 325 million to NOK 13 456 million at the end of 2016. The increase in valuation uncertainty compared to 2015 is mainly due to new real estate investments and increased holdings of equities classified as Level 3.

Real estate values are particularly sensitive to changes in yields and assumptions influencing future revenues. In an unfavourable change, an increase of 0.2 percentage point in the yield, and a reduction of 2 percent in future market rents will result in a decrease in value of the real estate portfolio of approximately 5.1 percent (4.3 percent in 2015) or NOK 9 678 million. In a favourable change, a similar reduction in the yield of 0.2 percentage point and an increase in future market rents of 2 percent will increase the value of the real estate portfolio by 5.7 percent (4.8 percent in 2015) or NOK 10 711 million.

Sensitivity of fair values for unlisted real estate investments has increased compared to last yearend. The unlisted real estate portfolio has undergone some structural shifts with sales in the logistics portfolios in Europe and the US, together with purchases in various markets. The portfolio has a slightly higher level of uncertainty related to key assumptions used in the sensitivity analysis at yearend, contributing to an increase in sensitivity.

Sensitivity in absolute values has increased for the equity portfolio and decreased for the bond portfolio, in line with the holdings classified as Level 3. The decrease in relative sensitivity for the equity portfolio compared to 2015 is caused by the fact that the valuation models used for new holdings in Level 3 are less sensitive to changes in unobservable inputs. The sensitivity in fair value for bonds is somewhat lower than for equities, particularly for bonds with shorter maturities.

#### 6. CONTROL ENVIRONMENT

The control environment for fair value measurement of financial instruments and investments in unlisted real estate is organised around a formalised and documented accounting and valuation policy and guidelines, which are supported by work and control procedures. The policy document lays down valuation policies and outlines procedures for the Norges Bank Investment Management valuation committee.

The valuation environment has been adapted in accordance with market standards and established practices for valuation. This is implemented in practice through daily valuation of all holdings, except for unlisted real estate investments where valuations are performed on a quarterly basis. These processes are scalable in terms of market changes and are based on internal and external data solutions.

All holdings and investments are generally valued by external, independent valuation providers. These have been selected on the basis of thorough analyses performed by the departments responsible for valuation.

Valuation providers are monitored on an ongoing basis through regular discussions, controls and price challenges for individual securities. For a large portion of holdings, prices from independent price providers are based on quoted market prices. For holdings that are not sufficiently liquid for valuation to be based on quoted prices, widely accepted

models are used. Observable inputs are used where possible, but unobservable inputs are used in some cases, due to illiquid markets.

The valuation process is subject to numerous controls, performed on a daily basis by the valuation departments. The controls are based on defined thresholds and sensitivities, which are monitored and adjusted in accordance with prevailing market conditions. At each month-end for financial instruments and at the end of each guarter for unlisted real estate investments, more extensive controls are performed to ensure valuation is in accordance with fair value. As part of this review, particular attention is paid to illiquid financial instruments and unlisted real estate investments, i.e. investments deemed to pose valuation challenges. Illiquid instruments are identified using sector and currency classifications, credit rating indicators, bid/ask spreads, and activity in the market.

A valuation memo and report are prepared at each quarter-end, documenting the results of the controls performed and the most important sources of valuation uncertainty.

The valuation committee, which comprises Norges Bank Investment Management's leader group, meets every quarter prior to the publication of the financial reporting. The committee reviews the valuation documentation, discusses major pricing issues and approves the valuation.

#### Note 8 Risk

#### INVESTMENT MANDATE FOR THE GPFG

See note 1 for a description of the framework for management of the GPFG.

The GPFG shall seek to obtain the highest possible return after costs measured in the currency basket of the benchmark, within the set management limits. The strategic benchmark index set by the Ministry of Finance is divided into three asset classes with an allocation of 60 percent to equities, up to 5 percent to real estate and the remainder to bonds. The benchmark for equities is constructed based on market capitalisation for equities in the countries included in the benchmark. The benchmark for bonds specifies a defined allocation between government bonds and corporate bonds. The currency distribution is a result of these weighting principles. The GPFG may not invest in securities issued by Norwegian entities or issued in Norwegian kroner. These securities are also excluded from the benchmark. The GPFG can also not invest in real estate located in Norway.

#### NORGES BANK'S GOVERNANCE STRUCTURE

The Executive Board of Norges Bank has delegated the responsibility for the management of the GPFG to the Chief Executive Officer (CEO) of Norges Bank Investment Management.

The CEO of Norges Bank Investment Management is authorised through a job description and an investment mandate. The Executive Board has issued principles for risk management, responsible investment and compensation to Norges Bank Investment Management employees. The organisation must adhere to internationally recognised standards in the areas of valuation, performance measurement and management, measurement and control of risk. Reporting to the Executive Board is carried out monthly, and more extensively on a quarterly basis. The Governor of Norges Bank and

the Executive Board are notified immediately in the event of special events or significant matters.

#### **GOVERNANCE STRUCTURE**

Investment responsibilities within Norges Bank Investment Management are further delegated through investment mandates. Responsibility for processes and personnel is delegated through job descriptions, while process requirements are described in policies and guidelines. The composition of the leader group and the delegation of authority shall ensure segregation of duties between investment management, treasury and trading, operations, risk management and compliance. Real estate is structured as a separate unit with its own leader group, and the CEO for Real estate reports to the CEO of Norges Bank Investment Management.

The investment risk committee complements the delegation of responsibility by advising on investment risk management, and the investment universe committee advises on the portfolio's investment universe.

Internal risk reporting requirements are set by Norges Bank Investment Management's CEO through job descriptions in the risk area. Reporting to the CEO is carried out on a daily, weekly and monthly basis. The CEO shall be notified immediately of any special events or serious breaches of the investment mandate. Equivalent reporting requirements are embedded in the real estate organisation.

#### FRAMEWORK FOR INVESTMENT RISK

In the investment mandate for the GPFG, there are a number of limits and restrictions within the combined equity and bond asset class, as well as within the individual asset classes. The investment mandate contains a separate management framework for real estate investments. The framework underpins how a diversified exposure to global real estate markets shall be established and managed.

Clear roles and responsibilities are a cornerstone of process design at Norges Bank Investment Management. Changes to existing investment mandates, the portfolio hierarchy or new counterparties are monitored and require approval by the Chief Risk Officer (CRO), or a person authorised by the CRO.

The Executive Board's principles for risk management are further described through policies and guidelines. Responsibility for effective processes related to risk management is delegated to the CRO and Chief Compliance Officer (CCO). Risk management related to unlisted real estate investments is delegated to the CRO and CCO in Real estate.

Risk management is defined as management of market risk, credit risk, counterparty risk, operational risk and risk related to environmental, social and governance factors. The first three items listed are defined as investment risk. Within Norges Bank Investment Management, the investment area is responsible for managing risk in the portfolio and in individual mandates, while the risk management areas independently measure, manage and report investment risk across the portfolio, asset classes and other levels within the portfolio that reflect the investment process. In Real estate, independent risk analyses are required in advance of new unlisted investments.

#### Investment risk - market risk

Norges Bank Investment Management defines market risk as the risk of loss or a change in the market value of the portfolio, or parts of the portfolio, due to changes in financial market variables and real estate values. Market risk for the investment portfolio, both absolute and relative to the benchmark, is measured along the dimensions concentration risk, volatility and correlation risk, systematic factor risk and liquidity risk. For real estate, this involves measurement of the share of real estate under construction, vacancy and tenant concentration. Market risk is actively taken to generate investment returns in line with the objectives of the investment mandates.

#### Investment risk - credit risk

Norges Bank Investment Management defines credit risk as the risk of loss due to an issuer not meeting

its payment obligations. Credit risk is measured both in relation to single issuers, where the probability of default and loss given default are taken into account, and portfolio credit risk, where credit risk takes into account the correlation of credit losses between instruments and issuers. Credit risk is actively taken to generate investment returns in line with the objectives of the investment mandates.

#### Investment risk - counterparty risk

Norges Bank Investment Management defines counterparty risk as the risk of loss due to counterparty bankruptcy or other events leading to counterparties defaulting. Counterparties are necessary to ensure effective liquidity management and effective trading and management of market and credit risk. Counterparty risk also arises in connection with securities lending and with the management of the equity and bond portfolios, as well as the real estate portfolio. Counterparty risk is controlled and limited to the greatest extent possible, given the investment strategy.

#### Risk management process

Norges Bank Investment Management employs several measurement methodologies, processes and systems to control investment risk. Robust and widely accepted risk management systems and processes are complemented by internally developed measurement methodologies and processes.

#### **MARKET RISK**

Norges Bank Investment Management measures market risk in both absolute terms for the actual portfolio, and the relative market risk for holdings in the GPFG.

Continuous monitoring, measurement and assessment of market risk is performed along multiple risk dimensions, employing a number of methodologies and approaches. Combining different and complementary risk measures provides a better insight into the risk profile of the holdings in the GPFG.

Asset class by country and currency
The portfolio is invested across several asset classes,
countries and currencies as shown in table 8.1.

Table 8.1 Allocation by asset class, country and currency

			Market value in percent y country and currency <sup>1</sup>		Market value in percent by asset class		Assets minus liabilities excluding management fee	
Asset class	Market	31.12.2016	Market	31.12.2015	31.12.2016	31.12.2015	31.12.2016	31.12.2015
Equities	Developed	90.5	Developed	91.0				
	US	37.6	US	35.5				
	UK	9.8	UK	11.3				
	Japan	9.0	Japan	9.3				
	Germany	5.4	Germany	5.7				
	France	5.2	Switzerland	5.5				
	Total other	23.5	Total other	23.7				
	Emerging	9.5	Emerging	9.0				
	China	2.7	China	2.9				
	Taiwan	1.5	Taiwan	1.4				
	India	1.0	India	1.1				
	Brazil	0.8	South Africa	0.5				
	South Africa	0.6	Brazil	0.5				
	Total other	2.9	Total other	2.6				
Total equities					62.47	61.16	4 691 863	4 571 807
Fixed-income	Developed	87.6	Developed	87.6				
	US Dollar	43.7	US Dollar	42.0				
	Euro	25.3	Euro	25.5				
	Japanese Yen	5.9	Japanese Yen	6.5				
	British Pound	4.6	British Pound	5.4				
	Canadian Dollar	3.0	Canadian Dollar	3.0				
	Total other	5.1	Total other	5.2				
	Emerging	12.4	Emerging	12.4				
	Mexican Peso	1.9	Mexican Peso	1.9				
	South Korean Won	1.7	South Korean Won	1.6				
	Indian Rupee	0.9	Turkish Lira	1.0				
	Polish Zloty	0.8	Indian Rupee	1.0				
	Brazilian Real	0.8	Chinese Yuan	0.8				
	Total other	6.3	Total other	6.1				
Total fixed-inc	ome				34.31	35.69	2 576 875	2 668 147
Real estate	US	46.0	US	44.3				
	UK	23.0	UK	27.6				
	France	14.6	France	11.1				
	Germany	7.6	Germany	7.3				
	Switzerland	3.6	Switzerland	3.8				
	Total other	5.2	Total other	5.9				
Total real esta	ite <sup>2</sup>				3.22	3.15	241 756	235 199

Market value in percent per country and currency includes derivatives and cash.
 Total real estate includes listed real estate investments. These are presented in the balance sheet as Equities and units.

#### Concentration risk

The GPFG has substantial investments in government-issued bonds. The portfolio also has investments in private companies that issue both bonds and equities.

At the end of the year, the share of equities in the fund was 62.5 percent. This is an increase of 1.3 percentage points compared to year-end 2015, where the share was 61.2 percent. The share of the

bond portfolio in the fund decreased to 34.3 percent as per year-end 2016, from 35.7 percent at the end of 2015. This change in asset class allocation in 2016 was mainly a result of better returns for equities than bonds. Emerging markets had stronger equity returns than developed markets. This resulted in an increase of the share of equities invested in emerging markets. The real estate portfolio's share of the fund increased by 0.1 percentage point in 2016 to 3.2 percent.

Table 8.2 shows the largest holdings in bonds issued by governments. These include government bonds issued in local currency, sovereign bonds and inflation-linked bonds issued in local currency.

Table 8.2 Largest holdings within the segment government bonds

Amounts in NOK million	Market value 31.12.2016
US	579 357
Japan	161 544
Germany	137 231
UK	88 983
Mexico	54 214
South Korea	51 995
France	49 121
Italy	43 339
Spain	34 926
India	30 695

Market value 31.12.2015
532 806
203 895
163 019
84 952
56 678
50 318
45 175
41 870
41 018
32 888

Table 8.3 shows the portfolio's largest holdings of non-government issuers, including both bond and equity holdings. Covered bonds issued by financial institutions and debt issued by other underlying companies are included in the bonds column.

Table 8.3 Largest holdings excluding sovereigns, both bonds and equities

Amounts in NOK million, 31.12.2016	Sector	Equities	Bonds	Total
Nestlé SA	Consumer goods	50 985	710	51 696
Apple Inc	Technology	44 965	4 648	49 613
Royal Dutch Shell Plc	Oil and gas	46 153	3 287	49 440
Bank of America Corp	Finance	18 153	20 291	38 444
JPMorgan Chase & Co	Finance	23 211	14 998	38 209
Microsoft Corp	Technology	34 665	2 947	37 612
Alphabet Inc	Technology	36 566	955	37 521
Novartis AG	Healthcare	32 349	2 675	35 024
Roche Holding AG	Healthcare	32 896	2 110	35 005
Kreditanstalt für Wiederaufbau	Government-related	-	34 529	34 529

Amounts in NOK million, 31.12.2015	Sector	Equities	Bonds	Total
Nestlé SA	Consumer goods	51 056	737	51 793
Apple Inc	Technology	41 599	2 864	44 463
Roche Holding AG	Healthcare	34 980	2 322	37 302
Novartis AG	Healthcare	33 935	3 066	37 001
Lloyds Banking Group Plc	Finance	17 412	18 516	35 928
Bank of America Corp	Finance	12 358	21 151	33 509
HSBC Holdings Plc	Finance	27 242	5 973	33 215
Kreditanstalt für Wiederaufbau	Government-related	-	33 187	33 187
Microsoft Corp	Technology	30 448	2 532	32 980
JPMorgan Chase & Co	Finance	17 583	15 074	32 657

Table 8.4 Distribution of real estate investments per sector, percent

Sector	31.12.2016	31.12.2015
Office	50.2	48.0
Retail	9.5	9.4
Logistics	17.5	18.8
Other	1.7	0.8
Total unlisted real estate investments <sup>1</sup>	78.9	77.0
Listed real estate investments <sup>1</sup>	21.1	23.0
Total	100.0	100.0

<sup>&</sup>lt;sup>1</sup> Unlisted real estate investments are presented in the balance sheet as *Unlisted real estate*. Listed real estate investments are presented in the balance sheet as *Equities and units*.

# Volatility and correlation risk

Norges Bank Investment Management uses models to quantify the risk of value changes associated with all or parts of the portfolio. Volatility is a standard risk measurement based on the statistical concept of standard deviation, which takes into account the correlation between different investments in the portfolio. This risk measure provides an estimate of how much one can expect the portfolio value to change or fluctuate, based on market conditions over the past three years. In two of three years, the portfolio return is expected to be lower than the estimated volatility and higher than the negative value of the estimated volatility. Expected

volatility can be expressed in terms of the portfolio's absolute risk or relative risk. Norges Bank Investment Management uses the same model for portfolio risk as for relative volatility.

In accordance with current investment mandates as per 31 December 2016 issued by the Ministry of Finance and the Executive Board of Norges Bank, as well as internal guidelines for investment and risk management, unlisted real estate investments are not included in the calculations for relative volatility. Real estate is included in the framework for relative volatility in the new investment management mandate, effective from 2017.

## CALCULATION OF EXPECTED VOLATILITY

Expected volatility for the portfolio, and volatility relative to the benchmark index, is estimated by using a parametric calculation method based on current investments. The model weights weekly return data equally over a sampling period of three years.

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In addition to the mentioned model, other risk models are employed that capture the market dynamics of recent periods to a greater extent, as well as models that measure tail risk.

Expected shortfall is a tail risk measure that measures the expected loss of a portfolio in extreme

market situations. The expected shortfall measure provides an estimate of the annualised expected loss for a given confidence level. Shortfall at a 97.5 percent confidence level is based on historical simulations and given by the annualised average relative return, measured in the currency basket, for the 2.5 percent worst weeks.

## CALCULATION OF EXPECTED SHORTFALL

Expected shortfall for the portfolio, measured against its benchmark index, is estimated using historical simulations based on current investments. The model weights weekly returns equally over a sampling period of ten years, so that the measure can capture extreme market movements. A confidence level of 97.5 percent is used for the calculations.

Tables 8.5 and 8.6 present risk both in terms of the portfolio's absolute risk and the relative risk.

Table 8.5 Portfolio risk in terms of expected volatility, in percent

	Expected volatility, actual portfolio							
	31.12.2016	Min 2016	Max 2016	Average 2016	31.12.2015	Min 2015	Max 2015	Average 2015
Portfolio	10.6	10.2	10.7	10.5	10.4	8.1	10.4	9.5
Equities	14.0	12.9	14.1	13.7	12.9	10.9	12.9	12.0
Fixed-income	9.7	9.6	10.3	10.0	10.1	7.9	10.2	9.4

Table 8.6 Relative risk, expected relative volatility, in basis points

	Expected relative volatility							
	31.12.2016	Min 2016	Max 2016	Average 2016	31.12.2015	Min 2015	Max 2015	Average 2015
Equity and fixed-income portfolio <sup>1</sup>	28	26	29	28	28	26	38	32
Equities	37	34	38	36	36	35	52	42
Fixed-income	44	41	55	51	52	52	64	57

<sup>&</sup>lt;sup>1</sup> Real estate is included in the framework for relative volatility in the new investment management mandate, effective from 2017.

Risk measured as expected volatility shows a slight increase in 2016, from 10.4 percent at the start of the year to 10.6 percent at the end of 2016. Expected volatility for the equity portfolio increased by 1.1 percentage points to 14.0 percent at year-end 2016, while volatility for the bond portfolio decreased by 0.4 percentage point to 9.7 percent at year-end 2016. The risk measure indicates expected annual value fluctuations in the fund of 10.6 percent, or approximately NOK 800 billion.

The mandate for the GPFG outlines that expected relative volatility for the aggregated equity and bond portfolio shall not exceed a limit of 125 basis points. This limit was increased from 100 basis points on 1 February 2016. Measurement of risk and follow up of compliance with the limit is monitored based on the risk model described above. Expected relative volatility for the fund has been relatively stable in 2016 and was 28 basis points at the end of the year, which is in line with the level as per yearend 2015.

With effect from 1 March 2016, the Executive Board introduced a limit for expected shortfall for the aggregated equity and fixed-income investments and the associated benchmark index. Norges Bank Investment Management shall organise the management with the aim that the annualised expected shortfall does not exceed 3.75 percentage points. Expected shortfall is measured and monitored based on the risk models described above. At the end of the year, expected shortfall was 0.87 percentage point, compared to 0.95 percentage point at year-end 2015.

#### Strengths and weaknesses

The strength of these types of risk models is that one can estimate the risk in a portfolio across different asset classes, markets, currencies, securities and derivatives and express this risk as a single numerical value, which takes into account the correlation between different asset classes, securities and risk factors.

The model-based risk estimates are based on historical relationships and will provide reliable forecasts in markets without significant changes in volatility. Estimates will be less reliable in periods marked by significant changes in volatility and correlation. Calculated volatility gives a point estimate of risk and provides little information on the total risk profile and any tail risk. Annualisation means that it is assumed that volatility and the composition of the portfolio are consistent over time. To compensate for these shortcomings, complementary models and methods are employed, such as stress tests and analyses of concentration risk and realised return.

#### **CREDIT RISK**

Credit risk is the risk of losses resulting from issuers of bonds defaulting on their payment obligations. Bonds in the portfolio's benchmark index are all rated investment grade by one of the major credit rating agencies. Investments in bonds are made based on internal assessments of expected return and risk profile.

Table 8.7 Bond portfolio specified by credit rating

Amounts in NOK million, 31.12.2016	AAA	AA	А	ВВВ	Lower rating	Total
Government bonds	716 767	260 859	271 238	173 321	39 176	1 461 360
Government-related bonds	143 279	136 550	36 316	15 579	2 413	334 137
Inflation-linked bonds	109 025	9 493	3 662	12 459	6 175	140 814
Corporate bonds	5 290	59 469	219 333	297 198	9 856	591 146
Securitised bonds	126 001	16 054	2 010	3 499	-	147 564
Total bonds	1 100 361	482 424	532 559	502 058	57 620	2 675 021

Amounts in NOK million, 31.12.2015	AAA	AA	А	ВВВ	Lower rating	Total
Government bonds	729 752	250 061	310 491	199 943	2 883	1 493 128
Government-related bonds	164 106	154 183	31 908	32 097	4 534	386 829
Inflation-linked bonds	86 119	6 897	3 095	24 164	-	120 275
Corporate bonds	3 216	43 196	208 613	281 665	11 193	547 882
Securitised bonds	134 834	21 973	6 626	6 566	134	170 133
Total bonds	1 118 027	476 310	560 733	544 435	18 744	2 718 247

During 2016, the share of holdings in government-related bonds and securitised bonds was slightly reduced while holdings in European and American corporate bonds increased. As per year-end, government and government-related bonds, including inflation-linked bonds, amounted to 72.4 percent of the bond portfolio compared to 73.6 percent at year-end 2015, while corporate bonds increased to 22.1 percent of the bond portfolio at the end of 2016 from 20.2 percent at year-end 2015.

The share of bonds grouped under *Lower rating* increased to 2.2 percent of the bond portfolio as per year-end 2016, compared to 0.7 percent per year-end 2015. This was mainly due to downgrades to this category for Brazil and Turkey as a result of lower growth forecasts and unstable political conditions.

Holdings of AAA bonds were stable through the year at 41.1 percent of the bond portfolio, while the share of AA bonds increased to 18.0 percent at the end of 2016 compared to 17.5 percent at year-end 2015. A and BBB bonds were similarly reduced to 19.9 percent and 18.8 percent at year-end 2016, from 20.6 percent and 20.0 percent at year-end 2015. Defaulted bonds had a market value of NOK 164 million at year-end 2016, down from NOK 869 million at year-end 2015. The nominal size of defaulted bonds was NOK 15.2 billion at the end of 2016, compared to NOK 16.6 billion at year-end 2015. Defaulted bonds are grouped under Lower rating. The total bond portfolio's credit quality decreased slightly during the year.

Table 8.8 Bond portfolio by credit rating and currency, in percent

31.12.2016	AAA	AA	A	BBB	Lower rating	Total
US Dollar	23.8	2.8	6.6	8.6	0.3	42.1
Euro	11.0	6.2	2.2	5.1	0.2	24.7
Japanese Yen	-	-	6.6	-	-	6.6
British Pound	0.3	3.7	0.4	0.7	-	5.1
Canadian Dollar	1.6	1.1	0.3	0.3	-	3.3
Other currencies	4.4	4.2	3.8	4.1	1.6	18.1
Total	41.1	18.0	19.9	18.8	2.2	100.0

31.12.2015	AAA	AA	A	ВВВ	Lower rating	Total
US Dollar	22.7	2.6	6.2	9.0	0.3	40.8
Euro	12.1	5.5	2.0	5.1	0.2	24.9
Japanese Yen	-	-	7.8	-	-	7.8
British Pound	0.5	4.0	0.5	0.7	-	5.7
Canadian Dollar	1.5	1.1	0.3	0.3	-	3.1
Other currencies	4.4	4.4	3.9	5.0	0.1	17.8
Total	41.1	17.5	20.6	20.0	0.7	100.0

At year-end 2016, there were no credit derivatives in the portfolio.

In addition to credit ratings from credit rating agencies, measurement of credit risk is complemented with credit risk models, of which one is based on credit ratings and the other is based on observable credit premiums. Both these methods also take into account correlation and expected value of bonds in a bankruptcy situation. The models are used for risk measurement and monitoring of credit risk in the fixed-income portfolio.

# **COUNTERPARTY RISK**

Counterparties are required to ensure efficient liquidity management and efficient trading and management of market and credit risk. Exposure to counterparty risk is related to trading in OTC derivatives and currency contracts, cleared OTC and listed derivatives, repurchase and reverse repurchase agreements, securities lending, securities posted as collateral in derivatives trades and participatory certificates. Unsecured deposits in banks are also defined as having counterparty risk. Such counterparty risk arises partly in connection with the daily

cash management of the fund and in connection with purchases and sales of unlisted real estate. Furthermore, there is exposure to counterparty risk related to counterparties in the international settlement and custody systems where transactions settle. This can occur both for currency trades and for the purchase and sale of securities. Settlement risk and exposure from trades with long maturities are also defined as counterparty risk.

Various counterparties are used to reduce concentration risk and there are strict requirements for counterparty credit rating. Credit rating requirements are generally higher for counterparties to unsecured deposits in banks than in situations where collateral is received. Changes in counterparty credit ratings are monitored continuously.

Netting agreements are in place for trades in OTC derivatives, currency contracts and repurchase and reverse repurchase agreements, in order to reduce counterparty risk. Further reduction of counterparty risk is achieved through requirements for collateral for counterparty net positions with a positive market value. For instruments where collateral is used, minimum requirements have been set, relating to the credit quality, time to maturity and concentration of the collateral. Netting and collateral agreements are entered into for all approved counterparties for these types of trades.

There are also requirements governing the way real estate transactions are conducted. Counterparty risk that arises is analysed in advance of the transaction and requires approval from the CRO. In 2016, 14 transactions were approved by the CRO through this process.

Counterparty risk is also reduced by setting exposure limits for individual counterparties. Exposure per counterparty is measured daily against limits set by the Executive Board and the CEO of Norges Bank Investment Management.

The methods used to calculate counterparty risk are in accordance with internationally recognised standards. In essence, it is the Basel regulations for banks that are used for measuring counterparty risk, with certain adjustments based on internal analyses. The risk models calculate the expected counterparty exposure in the event of a counterparty default. For OTC derivatives and currency contracts, the current exposure method in the Basel regulations is applied. For each contract, the market value and a rate for potential future exposure is calculated. Netting agreements and collateral are taken into account in the calculation of net exposure.

For repurchase agreements, securities lending transactions executed through an external agent and securities posted as collateral in derivatives trades, a method is used that adds a premium to the market value to reflect the position's volatility. These positions are also adjusted for netting and actual collateral received and posted when determining net exposure.

Exposure to counterparty risk is related to counterparties in the settlement and custody systems, both for currency trades and for the purchase and sale of securities. Settlement risk for most currency trades is low. Settlement risk is reduced using the currency settlement system CLS (Continuous Linked Settlement), or by trading directly with custodians. In a few currencies, Norges Bank is exposed to settlement risk when the sold currency is delivered to the counterparty before the receipt of currency is confirmed. This type of exposure is included on the line OTC derivatives including foreign exchange contracts in table 8.9.

Norges Bank Investment Management also invests in Saudi Arabian participatory certificates, which are instruments issued by registered foreign institutional investors to international investors. This instrument causes counterparty risk against the issuer of the note.

In table 8.9, exposure is broken down by type of activity/instrument associated with counterparty risk.

Total counterparty risk measured in terms of gross and net exposure has increased in 2016. Gross risk exposure increased by NOK 39.4 billion to NOK 120.3 billion, and net exposure increased by NOK 41.3 billion to NOK 113.1 billion.

The increase is mainly related to larger holdings in unsecured bank deposits and securities lending, as well as increased risk exposure from interest rate swaps cleared by a central clearing counterparty.

Gross risk exposure from securities lending increased to NOK 64.9 billion at year-end 2016 from NOK 51.6 billion at year-end 2015. Both bonds and equities are lent through the securities lending programme. During the year, there has been a change in the composition of securities lending transactions, where the proportion of bond lending increased to 49 percent of the total securities lending as per year-end 2016, from 30 percent at year-end 2015. The increase in net risk exposure was slightly higher than the increase in gross risk exposure throughout the year. This was mainly caused by reduced netting effects at year-end 2016 compared to year-end 2015.

Table 8.9 Counterparty risk by type of position

Amounts in NOK million, 31.12.2016	Gross exposure	Effect of netting	Collateral and guarantees	Net exposure
Securities lending	64 908	-	868	64 040
Unsecured bank deposits <sup>1</sup>	20 570	-	-	20 570
OTC derivatives including foreign exchange contracts	19 347	3 667	2 608	13 071
Cleared OTC and listed derivatives <sup>2</sup>	8 003	1 183	-1 685	8 505
Participatory certificates	3 934	-	-	3 934
Repurchase and reverse repurchase agreements	3 523	492	149	2 882
Settlement risk towards broker and long settlement transactions	50	-	-	50
Total	120 335	5 342	1 940	113 054

<sup>&</sup>lt;sup>1</sup> Includes bank deposits in non-consolidated real estate subsidiaries.

<sup>&</sup>lt;sup>2</sup> Relates to futures trades and interest rate swaps cleared by a central clearing counterparty.

Amounts in NOK million, 31.12.2015	Gross exposure	Effect of netting	Collateral and guarantees	Net exposure
Securities lending	51 551	-	1 390	50 161
Unsecured bank deposits <sup>1</sup>	5 084	-	-	5 084
OTC derivatives including foreign exchange contracts	17 003	7 068	340	9 595
Cleared OTC and listed derivatives <sup>2</sup>	2 327	21	-1	2 307
Participatory certificates	3 475	-	-	3 475
Repurchase and reverse repurchase agreements	1 386	728	-444	1 102
Settlement risk towards broker and long settlement transactions	60	-	-	60
Total	80 886	7 817	1 285	71 785

<sup>&</sup>lt;sup>1</sup> Includes bank deposits in non-consolidated real estate subsidiaries.

The line OTC derivatives including foreign exchange contracts in the table comprises foreign exchange derivatives, equity derivatives (excluding participatory certificates) and interest rate swaps. Counterparty risk for positions in derivatives is followed up on a net basis.

Norges Bank's counterparties have a credit rating from independent credit rating agencies. An internal credit evaluation can only be used as the basis for counterparty approval in instances when the counterparty risk is considered low. Credit ratings for counterparties are monitored and complemented by alternative credit risk indicators.

<sup>&</sup>lt;sup>2</sup> Relates to futures trades and interest rate swaps cleared by a central clearing counterparty.

Table 8.10 shows approved counterparties classified according to their credit rating category at year-end 2016. The table also includes brokers that are used when purchasing and selling securities.

Table 8.10 Counterparties by credit rating<sup>1</sup>

Table 5.16 Counterparties by create rating							
		nk's counterparties Iding brokers)		Brokers			
	31.12.2016	31.12.2015	31.12.2016	31.12.2015			
AAA	-	-	-	-			
AA	30	28	28	28			
Α	58	62	72	70			
BBB	15	16	24	24			
BB	1	-	11	5			
В	-	-	18	15			
Total	104	106	153	142			

 $<sup>^{\, 1}</sup>$  As counterparties are counted per legal entity, several counterparties may be included per corporate group.

During the year, there has been a slight decrease in the number of counterparties, to 104 at year-end 2016, from 106 at year-end 2015. The number of brokers increased to 153 at year-end 2016, from 142 at year-end 2015. This is mainly due to more brokers in emerging markets such as China, Russia and South Africa.

## Verification of models

Risk models used in estimating and controlling investment risk are continuously evaluated and verified for their ability to estimate risk. The special nature of the investment portfolio and the investment universe, as well as the GPFG's long-term investment horizon are taken into account when evaluating the models.

# LEVERAGE

Leverage may be used to ensure effective management of the investments, but not with the aim of increasing the economic exposure to risky assets. The use of leverage is regulated both in the investment management mandate issued by the Ministry of Finance and in the investment mandate issued by the Executive Board of Norges Bank to Norges Bank

Investment Management. Leverage is the difference between total net exposure and market value of the portfolio. Net exposure is determined by including the market value of securities and positions in derivatives are converted to underlying exposure. When exposure is greater than market value, the portfolio is leveraged.

The GPFG's leverage was 0.9 percent for the aggregated equity and bond portfolio at the end of 2016, compared to 0.1 percent at the end of 2015. For the real estate portfolio, there are set requirements in the investment mandate from the Executive Board in Norges Bank limiting the maximum leverage of the portfolio to 35 percent. The real estate portfolio had a leverage of 7.7 percent at the end of 2016.

# SALE OF SECURITIES NORGES BANK DOES NOT OWN

Sale of securities not owned by Norges Bank (short sales) can only be carried out if there are established borrowing agreements to cover a negative position. Such transactions are rarely undertaken, and no securities had been sold in this manner at year-end 2016.

# Note 9 Tax

#### **ACCOUNTING POLICY**

Norges Bank is exempt from income tax on its operations in Norway, but is subject to taxes in a number of foreign jurisdictions. *Tax expense* in the income statement represents income taxes that are not reimbursed through local tax laws or treaties, and consists of taxes on dividends, interest income and capital gains related to investments in *Equities and units* and *Bonds*, as well as tax on fee income from *Secured lending*. The majority of these taxes are collected at source.

Withholding taxes, net of deductions for refundable amounts, are recognised at the same time as the related dividend or interest income. See the accounting policy in note 4 *Income/expense from Equities* and units, Bonds and Financial derivatives. Refundable withholding taxes are recognised in the balance sheet as a receivable within *Other assets*.

Other income tax, not collected at source, is recognised in the income statement in the period the related income or gains arise and is presented in the balance sheet as a payable within *Other liabilities*, until it has been settled.

Current and deferred income taxes incurred within companies included in *Unlisted real estate* are recognised in the income statement as *Income/expense from unlisted real estate*, and are specified in note 6 *Unlisted real estate*, table 6.3. Tax payable and deferred tax balances are specified in table 6.4 in the same note

All uncertain tax positions, such as disputed refundable amounts for withholding taxes as well as tax payable positions in a limited number of jurisdictions, are assessed each reporting period. The best estimate of the probable amount for collection or payment is recognised in the balance sheet.

Table 9.1 shows tax expenses per type of investment and type of tax.

Table 9.1 Specification tax expense

Amounts in NOK million, 2016	Gross income before taxes	Income tax on dividend, interest and fees	Capital gains tax	Other	Tax expense	Net income after taxes
Income/expense from:						
Equities and units	342 813	-3 887	-18	-	-3 905	338 908
Bonds	100 250	-62	-27	-	-89	100 161
Secured lending	4 013	-67	-	-	-67	3 946
Other	-	-	-	-	-	-
Tax expense		-4 016	-45	-	-4 061	

Amounts in NOK million, 2015	Gross income before taxes	Income tax on dividend, interest and fees	Capital gains tax	Other	Tax expense	Net income after taxes
Income/expense from:						
Equities and units <sup>1</sup>	284 414	-2 490	-5	-	-2 495	281 919
Bonds	36 160	-62	-17	-	-79	36 081
Secured lending	3 266	-53	-	-	-53	3 213
Other	-	-	-	-1	-1	-
Tax expense		-2 605	-22	-1	-2 628	

<sup>&</sup>lt;sup>1</sup> Comparable amounts for *Equities and units* have been restated to conform to current year presentation.

Table 9.2 shows withholding tax receivable and tax payable recognised in the balance sheet within Other Assets and Other liabilities, respectively.

Table 9.2 Specification of tax assets and liabilities

Amounts in NOK million	31.12.2016	31.12.2015
Withholding tax receivable	600	1 546
Tax payable	-	1

# Note 10 Management costs

## ACCOUNTING POLICY

Management fee is recognised in the GPFG's income statement as an expense. Management fee is accrued throughout the financial year, but is cash settled in the following year. Management fee payable is a financial liability classified as a loan and measured at amortised cost.

The GPFG is managed by Norges Bank. Costs relating to the management of the fund are mainly incurred in Norges Bank. Management costs are also incurred in subsidiaries of Norges Bank exclusively established as part of the management of the GPFG's investments in unlisted real estate.

# MANAGEMENT COSTS IN NORGES BANK

The Ministry of Finance reimburses Norges Bank for costs incurred in connection with the management

of the GPFG, in the form of a management fee. The management fee is equivalent to the actual costs incurred by Norges Bank, including performance-based fees to external managers, and is expensed in the income statement line *Management fee*. Costs included in the management fee are specified in table 10.1.

Table 10.1 Management fee

	2016		2015	
Amounts in NOK million		Basis points		Basis points
Salary, social security and other personnel related costs	1 177		1 134	
Custody costs	379		394	
IT services, systems, data and information	649		638	
Research, consulting and legal fees	261		245	
Other costs	244		200	
Allocated costs Norges Bank	161		129	
Base fees to external managers	638		615	
Management fee excluding performance-based fees	3 509	4.9	3 355	4.8
Performance-based fees to external managers	222		578	
Total management fee	3 731	5.2	3 933	5.7

# MANAGEMENT COSTS IN SUBSIDIARIES

Management costs incurred in subsidiaries consist of operating costs related to the management of

the unlisted real estate portfolio. These costs are specified in table 10.2.

Table 10.2 Management costs, real estate subsidiaries

Amounts in NOK million	2016	2015
Salary, social security and other personnel related costs	27	26
IT services, systems, data and information	36	31
Research, consulting and legal fees	19	25
Other costs	18	13
Total management costs, real estate subsidiaries	100	95
Of which management costs non-consolidated subsidiaries	81	86
Of which management costs consolidated subsidiaries	19	9

Management costs incurred in non-consolidated and consolidated subsidiaries are presented in the income statement as *Income/expense from unlisted real estate* and *Other costs*, respectively.

In addition to the management costs presented in table 10.2, operating costs are also incurred in subsidiaries related to the ongoing maintenance, operation and development of properties and leases. These costs are not defined as management costs, since they are directly related to the underlying properties, and are not part of the management of the real estate portfolio. Other operating costs are expensed directly in the portfolio result and are presented in the income statement line *Income/expense from unlisted real estate*. See table 6.3 in note 6 *Unlisted real estate* for further information.

# UPPER LIMIT FOR REIMBURSEMENT OF MANAGEMENT COSTS

The Ministry of Finance has established an upper limit for the reimbursement of management costs. For 2016, the sum of total management costs incurred in Norges Bank and its subsidiaries, exclud-

ing performance-based fees to external managers, is limited to 8 basis points of average assets under management. In accordance with guidelines from the Ministry of Finance, the calculation of average assets under management is based on the market value of the portfolio in Norwegian kroner at the start of each month in the calendar year. Other operating costs incurred in subsidiaries, as well as costs incurred in partly-owned real estate entities, are not included in the costs that are measured against this limit. Total management costs that are measured against the limit amount to NOK 3 609 million in 2016. This consists of management costs in Norges Bank, excluding performance-based fees to external managers, of NOK 3 509 million, and management costs in subsidiaries of NOK 100 million. This corresponds to 5.0 basis points of assets under management on an annual basis.

Total management costs including performance-based fees amount to NOK 3 831 million in 2016. This corresponds to 5.3 basis points of assets under management on an annual basis.

# Note 11 Secured lending and borrowing

Secured lending and borrowing are transactions where the GPFG posts or receives securities or cash from a counterparty which are collateralised (secured) by other securities or cash. The transactions take place under variations of agreements such as securities lending agreements, (reverse-)

repurchase agreements and equity swaps in combination with purchases or sales of equities.

The objective of secured lending and borrowing is to provide an incremental return on the securities and cash holdings of the GPFG.

# ACCOUNTING POLICY

Income and expense from secured lending and borrowing transactions
Income or expense, comprising mainly interest and net fees is recognised on a straight-line basis over the term of the agreement and is presented in the income statement as Income/expense from secured lending or Income/expense from secured borrowing, respectively.

Table 11.1 specifies income and expense from secured lending and borrowing.

Table 11.1 Income/expense from secured lending and borrowing

Amounts in NOK million	2016	2015
Income/expense from secured lending	4 013	3 266
Income/expense from secured borrowing	23	50
Net income/expense from secured lending and borrowing	4 036	3 316

# ACCOUNTING POLICY

#### Transferred financial assets

Securities lent to counterparties in connection with secured lending and borrowing transactions are not derecognised when the agreement is entered into, as the derecognition criteria are not met. As the counterparty has the right to sell or pledge the security, the security is considered transferred. Lent securities are presented on separate lines in the balance sheet, as *Equities lent* and *Bonds lent*. During the lending period, the accounting for the underlying securities is in accordance with accounting policies for the relevant securities.

#### Secured lending

Cash collateral posted to counterparties in secured lending transactions is derecognised. A corresponding receivable reflecting the cash amount that will be returned is recognised as a financial asset, *Secured lending*. This asset is designated at initial recognition as a financial asset measured at *fair value through profit or loss*.

# Secured borrowing

Cash collateral received in connection with secured borrowing transactions is recognised as *Deposits in banks* together with a corresponding financial liability, *Secured borrowing*. This liability is designated at initial recognition as a financial liability measured at *fair value through profit or loss*.

#### Collateral received in the form of securities

Collateral in the form of securities, received through *Secured lending and borrowing* transactions, where the GPFG has the right to sell or pledge the security, is not recognised in the balance sheet, unless reinvested

Table 11.2 shows the amount presented as *Secured lending* as well as associated collateral received in the form of securities.

Table 11.2 Secured lending

Amounts in NOK million	31.12.2016	31.12.2015
Secured lending	134 338	123 385
Of which unsettled trades (liability)	-7 725	-20 120
Secured lending excluding unsettled trades	126 613	103 264
Associated collateral in the form of securities (off balance sheet)		
Equities received as collateral	31 970	28 603
Bonds received as collateral	101 011	78 912
Total security collateral received related to lending	132 981	107 516

Table 11.3 shows transferred securities with the associated liability presented as *Secured borrowing*, as well as collateral received in the form of securities.

Table 11.3 Transferred financial assets and secured borrowing

Amounts in NOK million	31.12.2016	31.12.2015
Transferred financial assets		
Equities lent	340 865	312 662
Bonds lent	454 735	241 518
Total transferred financial assets	795 600	554 180
Associated cash collateral, recognised as liability		
Secured borrowing	213 520	149 735
Of which unsettled trades (asset)	-4 142	-15 520
Secured borrowing excluding unsettled trades	209 378	134 215
Associated collateral in the form of securities or guarantees (off balance sheet)		
Equities received as collateral	388 340	290 529
Bonds received as collateral	236 471	146 803
Total security collateral received related to transferred financial assets	624 811	437 332

None of the collateral received in the form of securities has been reinvested per year-end 2016 or 2015. Therefore, these securities are not recognised in the balance sheet.

# Note 12 Collateral and offsetting

#### ACCOUNTING POLICY

Cash collateral OTC derivative transactions

Cash collateral posted in connection with OTC derivative transactions is derecognised. A corresponding receivable reflecting the cash amount that will be returned is recognised as an asset, Cash collateral posted. Cash collateral received in connection with OTC derivative transactions is recognised as Deposits in banks together with a corresponding liability, Cash collateral received. Both Cash collateral posted and Cash collateral received are designated at initial recognition as financial assets/liabilities measured at fair value through profit or loss.

#### Offsetting

Financial assets and liabilities are not offset and presented net in the balance sheet because the criteria in IAS 32 *Financial instruments: Presentation* is not met. Table 12.1 therefore does not include a column for amounts offset/netted in the balance sheet.

#### COLLATERAL

For various counterparties and transaction types, cash collateral will both be posted to and received from the same counterparty. Therefore, received cash collateral can be netted against posted cash collateral and vice-versa as shown in table 12.1. Cash collateral posted and Cash collateral received in the balance sheet are related exclusively to OTC derivative transactions. Collateral in the form of cash or securities is also posted and received in connection with secured lending and borrowing transactions, see note 11 Secured lending and borrowing for more information.

# **OFFSETTING**

Table 12.1 shows an overview of financial assets and liabilities, the effects of legally enforceable netting agreements and related collateral to reduce credit risk. The column Assets/Liabilities in the balance sheet subject to netting shows the carrying amounts of financial assets and liabilities that are subject to legally enforceable netting agreements. These amounts are adjusted for effects of potential

netting with the same counterparty of recognised financial assets and liabilities, together with posted or received cash collateral. This results in a net exposure in the column Assets/Liabilities after netting and collateral.

Some netting agreements are considered to potentially not be legally enforceable. Transactions under such contracts are shown together with unsettled trades in the column *Unsettled trades and assets/liabilities not subject to enforceable netting agreements*. Unsettled trades can be cancelled if the counterparty defaults before assets involved in the trade are transferred.

In the event of counterparty default, a collective settlement between Norges Bank and the bank-ruptcy estate could be performed for certain groups of instruments, irrespective of whether the instruments belong to the GPFG or Norges Bank's foreign exchange reserves. Such cross nettings will be settled between these portfolios and are therefore not adjusted for in the table.

# Table 12.1 Assets and liabilities subject to netting agreements

Amounts in NOK million, 31.12.2016 Description	Amounts su Assets in the balance sheet subject to netting	bject to enfo Financial liabilities related to same counter- party	Cash Cash collateral received (recog- nised as liability)	Security collateral received (not	Assets After netting and collateral	Unsettled trades and assets not subject to enforceable netting agreements	Gross financial assets recognised in the balance sheet
ASSETS							
Secured lending	121 263	-	106 368	14 895	-	13 075	134 338
Cash collateral posted	2 320	2 320	-	-	-	-	2 320
Financial derivatives	5 114	2 519	2 573	-	22	4 252	9 366
Total	128 697	4 839	108 941	14 895	22	17 327	146 024

Amounts in NOK million, 31.12.2016 Description	Amounts su Liabilities in the balance sheet subject to netting	ribject to enf Financial assets related to same counter- party	Cash collateral posted (recognised as asset)	Security collateral posted (not derecog- nised)	ements Liabilities after netting and collateral	Unsettled trades and liabilities not subject to enforceable netting agreements	Gross financial liabilities recognised in the balance sheet
LIABILITIES							
Secured borrowing	193 462	-	106 368	87 094	-	20 058	213 520
Cash collateral received	2 755	2 573	-	-	182	933	3 688
Financial derivatives	4 501	2 519	1 982	-	-	-	4 501
Total	200 718	5 092	108 350	87 094	182	20 991	221 709

Amounts in NOK million, 31.12.2015 Description	Amounts su Assets in the balance sheet subject to netting	bject to enfo Financial liabilities related to same counter- party	Cash Cash collateral received (recog- nised as liability)	Security collateral received (not	Assets After netting and collateral	Unsettled trades and assets not subject to enforceable netting agreements	Gross financial assets recognised in the balance sheet
ASSETS							
Secured lending	102 486	-	74 972	27 514	-	20 899	123 385
Cash collateral posted	2 231	2 227	-	-	4	-	2 231
Financial derivatives	5 535	2 918	2 528	-	89	3 294	8 829
Total	110 252	5 145	77 500	27 514	93	24 193	134 445

Amounts in NOK million, 31.12.2015  Description	Amounts su Liabilities in the balance sheet subject to netting	Financial assets related to same counter- party	Cash collateral posted (recognised as asset)	Security collateral posted (not derecog- nised)	Liabilities after net- ting and collateral	Unsettled trades and liabilities not subject to enforceable netting agreements	Gross financial liabilities recognised in the balance sheet
LIABILITIES							
Secured borrowing	131 499	-	74 972	56 450	77	18 236	149 735
Cash collateral received	2 570	2 528	-	-	42	-	2 570
Financial derivatives	5 400	2 918	2 229	-	253	-134	5 266
Total	139 469	5 446	77 201	56 450	372	18 102	157 571

# Note 13 Related parties

#### **ACCOUNTING POLICY**

Norges Bank is owned by the Norwegian government and under IAS 24.25 is exempt from the disclosure requirements pertaining to related party transactions and outstanding balances, including commitments, with the Norwegian government. This includes transactions with other entities that are related parties because the Norwegian government has control of, joint control of, or significant influence over both Norges Bank and the other entities.

Norges Bank, including the GPFG, is a separate legal entity that is wholly state-owned through the Ministry of Finance. See note 1 General information for information regarding the relationship between the Ministry of Finance, Norges Bank and the GPFG. The GPFG conducts all transactions at market terms.

# TRANSACTIONS WITH THE GOVERNMENT

The Ministry of Finance has placed funds for investment in the GPFG in the form of a Norwegian krone deposit with Norges Bank (the krone account). The krone deposit is subsequently placed with Norges Bank Investment Management for investment. In accordance with the management mandate for the GPFG, transfers are made to and from the krone account. See additional information regarding the inflow/withdrawal for the period in the Statement of changes in owner's capital.

# TRANSACTIONS WITH NORGES BANK

Norges Bank is not exposed to any economic risk from the management of the GPFG. The Ministry of Finance reimburses Norges Bank for costs incurred in connection with the management of the GPFG in the form of a management fee, see note 10 Management costs. In 2016, NOK 3.9 billion was deducted from the krone account to pay the accrued management fee for 2015 to Norges Bank.

Internal trades in the form of money market lending or borrowing and repurchase agreements between the GPFG and Norges Bank's long-term reserves are presented in the balance sheet as a net balance between the two reporting entities as Other assets and Other liabilities. At year-end 2016, the net balance between portfolios represented a liability for the GPFG of NOK 1.5 billion. Associated income and expense items are presented net in the income statement as Interest income/expense.

#### TRANSACTIONS WITH SUBSIDIARIES

Subsidiaries of Norges Bank are exclusively established as part of the management of the GPFG's investments in unlisted real estate. For an overview of the principal companies, see note 14 Interests in other entities. For more information regarding transactions with subsidiaries, see note 6 Unlisted real estate.

# Note 14 Interests in other entities

Investments in unlisted real estate are made through subsidiaries of Norges Bank, exclusively established as part of the management of the GPFG. These subsidiaries invest, through holding companies, in entities that invest in properties. These entities may be subsidiaries or joint ventures.

The overall objective of the ownership structures used for unlisted real estate investments is to safeguard the financial wealth under management and

to ensure the highest possible net return after costs, in accordance with the mandate from the Ministry of Finance. The key criteria when deciding the ownership structure are legal protection, governance and operational efficiency. Tax expense may represent a significant cost for the unlisted real estate investments. The expected tax costs for the fund are therefore among the factors considered when determining the ownership structure.

Table 14.1 shows the principal companies that own and manage the properties as well as the consolidated subsidiaries.

Table 14.1 Real estate companies

Company	Business address	Property address	Ownership share and voting right in percent	Effective ownership share of underlying properties in percent	Recognised from
Non-consolidated companies					
United Kingdom					
NBIM George Partners LP	London	London	100.00	25.00	2011
MSC Property Intermediate Holdings Limited	London	Sheffield	50.00	50.00	2012
NBIM Charlotte Partners LP	London	London	100.00	57.75	2014
NBIM Edward BT	London	London	100.00	100.00	2014
NBIM Caroline Partners LP	London	London	100.00	100.00	2015
NBIM James Partners LP	London	London	100.00	100.00	2015
NBIM Henry Partners LP	London	London	100.00	100.00	2016
NBIM Elizabeth Partners LP	London	London	100.00	100.00	2016
Luxembourg					
NBIM S.à r.l.	Luxembourg	N/A	100.00	N/A	2011
France					
NBIM Louis SAS	Paris	Paris	100.00	50.00	2011
SCI 16 Matignon	Paris	Paris	50.00	50.00	2011
Champs Elysées Rond-Point SCI	Paris	Paris	50.00	50.00	2011
SCI PB 12	Paris	Paris	50.00	50.00	2011
SCI Malesherbes	Paris	Paris	50.00	50.00	2012
SCI 15 Scribe	Paris	Paris	50.00	50.00	2012
SAS 100 CE	Paris	Paris	50.00	50.00	2012
SCI Daumesnil	Paris	Paris	50.00	50.00	2012
SCI 9 Messine	Paris	Paris	50.00	50.00	2012
SCI Pasquier	Paris	Paris	50.00	50.00	2013
NBIM Marcel SCI	Paris	Paris	100.00	100.00	2014
NBIM Victor SCI	Paris	Paris	100.00	100.00	2016
Germany	. a				20.0
Die Welle 1 Frankfurt Immobilien GmbH & Co. KG	Cologne	Frankfurt	50.00	50.00	2012
Die Welle 3 Frankfurt Immobilien GmbH & Co. KG	Cologne	Frankfurt	50.00	50.00	2012
NKE Neues Kranzler Eck Berlin Immobilien GmbH & Co. KG	Cologne	Berlin	50.00	50.00	2012
Tower SZ Munich GmbH & Co. KG	Hamburg	Munich	50.00	50.00	2013
STEG LBG 2 S.C.S	Luxembourg	Munich	94.90	94.90	2014
STEG LBG 3 S.C.S	Luxembourg	Munich	94.90	94.90	2014
Switzerland					
NBIM Antoine CHF S.à r.l.	Luxembourg	Zürich	100.00	100.00	2012
Europe					
Prologis European Logistics Partners S.à r.l.	Luxembourg	Multiple European cities	50.00	50.00	2013

Company	Business address	Property address	Ownership share and voting right in percent	Effective ownership share of underlying properties in percent	Recognised from
United States			•	•	
T-C 1101 Pennsylvania Venture LLC	Wilmington, DE	Washington	49.90	49.90	2013
T-C Franklin Square Venture LLC	Wilmington, DE	Washington	49.90	49.90	2013
T-C 33 Arch Street Venture LLC	Wilmington, DE	Boston	49.90	49.90	2013
T-C 470 Park Avenue South Venture LLC	Wilmington, DE	New York	49.90	49.90	2013
T-C 475 Fifth Avenue Venture LLC	Wilmington, DE	New York	49.90	49.90	2013
No. 1 Times Square Development LLC	Wilmington, DE	New York	45.00	45.00	2013
OFC Boston LLC	Wilmington, DE	Boston	47.50	47.50	2013
425 MKT LLC	Wilmington, DE	San Francisco	47.50	47.50	2013
555 12th LLC	Wilmington, DE	Washington	47.50	47.50	2013
Prologis U.S. Logistics Venture LLC	Wilmington, DE	Multiple American cities	46.30	44.96	2014
OBS Boston LLC	Wilmington, DE	Boston	47.50	47.50	2014
100 Federal JV LLC	Wilmington, DE	Boston	45.00	45.00	2014
Atlantic Wharf JV LLC	Wilmington, DE	Boston	45.00	45.00	2014
BP/CGCenter MM LLC	Wilmington, DE	New York	45.00	45.00	2014
T-C 2 Herald Square Venture LLC	Wilmington, DE	New York	49.90	49.90	2014
T-C 800 17th Street Venture NW LLC	Wilmington, DE	Washington	49.90	49.90	2014
T-C Foundry Sq II Venture LLC	Wilmington, DE	San Francisco	49.90	49.90	2014
T-C Hall of States Venture LLC	Wilmington, DE	Washington	49.90	49.90	2014
SJP TS JV LLC	Wilmington, DE	New York	45.00	45.00	2015
T-C Republic Square Venture LLC	Wilmington, DE	Washington	49.90	49.90	2015
T-C 888 Brannan Venture LLC	Wilmington, DE	San Francisco	49.90	49.90	2015
Hudson Square Properties, LLC	Wilmington, DE	New York	48.00	48.00	2015
ConSquare LLC	Wilmington, DE	Washington	48.00	48.00	2016
100 First Street Member LLC	Wilmington, DE	San Francisco	44.00	44.00	2016
303 Second Street Member LLC	Wilmington, DE	San Francisco	44.00	44.00	2016
Consolidated subsidiaries					
Singapore					
NBRE Management Singapore Pte. Ltd.	Singapore	N/A	100.00	N/A	2015
Japan					
NBRE Management Japan Advisors K.K.	Tokyo	N/A	100.00	N/A	2015
United Kingdom					
NBRE Management Europe Limited	London	N/A	100.00	N/A	2016

The activity in the consolidated subsidiaries consists of providing investment-related services to the GPFG. The activity is presented in the income statement as *Other costs* and in the balance sheet as *Other assets* and *Other liabilities*.

In addition to the companies shown in table 14.1, Norges Bank has wholly-owned holding companies, established in connection with investments in unlisted real estate. These holding companies do not engage in any operations and do not own any properties directly. The holding companies have their business address in the same country as the properties, or in relation to NBIM S.à r.l. in Luxembourg.

# Independent Auditor's Report

# Report on the Audit of the Financial Reporting

#### Opinion

We have audited the financial reporting for the investment portfolio of the Government Pension Fund Global, which is included in Norges Bank's annual financial statements. Subsidiaries of Norges Bank that exclusively constitute investments as part of the management of the investment portfolio are included in the financial reporting. The financial reporting comprises the balance sheet as at 31 December 2016, the income statement, the statement of changes in owner's capital, the statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial reporting presents fairly, in all material respects, the financial position for the investment portfolio of the Government Pension Fund Global as at 31 December 2016, and its financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by EU.

# Basis for Opinion

We conducted our audit in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of Norges Bank as required by laws and regulations, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

# Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements for 2016. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.



# Management of the equity and fixed-income portfolio

Kev audit matter

Norges Bank has established overall governance models and control activities for evaluation of the equity and fixed-income management.

How the matter was addressed in our audit

Processes and control activities in the equity and fixed-income management related to amongst others trading, securities lending, interest income and dividends, valuation, foreign currency translation and performance- and risk measurement are largely automated.

We assessed those elements of the overall governance models that are relevant to financial reporting.

Deviations in the automated processes are analysed and followed up.

We assessed and tested the design of the control activities related to IT operations, change management and information security. For a sample of these controls, we have tested if they have operated effectively in the reporting period.

Norges Bank's IT systems are based on standard systems with varying degrees of customisation and modifications. The operation of the IT systems is largely outsourced to various service providers.

We assessed and tested the design of selected automated control activities for the IT systems related to trading, securities lending, recognition of interest income and dividends, valuation, foreign currency translation and performance- and risk measurement. For a sample of these controls, we have tested if they have operated effectively in the reporting period.

IT systems used in portfolio management are essential for accounting and reporting.

We assessed and tested the design of selected manual control activities for the areas listed above related to analysis and the monitoring of deviations identified through the automated processes. For a sample of these controls, we have tested if they have operated effectively in the reporting period.

For a more detailed description of the development, management and operation of IT systems in Norges Bank, see chapter 5.3 Management organisation in the annual report 2016.

We assessed various third party confirmations (ISAE 3402 reports) received from service providers that Norges Bank uses in portfolio management, to assess whether these service providers had adequate internal controls in areas that are important for Norges Bank's financial reporting. We used our own IT specialists to understand the overall governance model for IT and in the assessment and testing of the control activities related to IT.

Effective internal controls in the automated portfolio management processes as well as in handling deviations is vital to ensure accurate, complete and reliable financial reporting and is therefore a key audit matter.

## Valuation of investments in unlisted real estate

#### Kev audit matter

The Government Pension Fund Global has invested in unlisted real estate through subsidiaries of Norges Bank. Investments in subsidiaries presented as unlisted real estate in the balance sheet are measured at fair value. See notes 6 and 7 for a description of the investments, accounting policies and valuation methods.

The valuation of unlisted real estate investments involves uncertainty and is based on information about each individual property type and location, as well as a number of assumptions and estimates. The assumptions and estimates are essential for the valuation, and the valuation of unlisted real estate is therefore a key audit matter.

How the matter was addressed in the audit

Norges Bank has established various control activities for monitoring of the valuations conducted by external valuation specialists. We have assessed and tested the design of selected control activities related to key assumptions and estimates, including future revenue streams, expenses and applicable discount rates. For a sample of properties, we have tested if these control activities have operated effectively in the reporting period.

For a sample of commercial properties in the United Kingdom, Germany and USA, we received the external valuation reports from Norges Bank and tested that the applied valuation methods were in accordance with generally accepted valuation standards and practices. We tested a sample of rental income against budget and assessed the reasonableness of the estimates for future rental income and discount rates with external sources. We assessed the valuer's independence, qualifications and experience.

We used our own experts in the review of the valuation reports.

We reconciled the fair value in the financial reporting with the valuation reports.

We assessed whether the disclosures in note 6 and 7 regarding valuation of unlisted real estate was adequate.

#### Risk and return disclosures

Key audit matter

Returns are measured in foreign currency based on a weighted composition of currencies in the benchmark indices for equity and fixed-income investments.

In the investment mandate for the Government Pension Fund Global, there are several limits and restrictions for the management of the fund.

Absolute and relative return information for the Government Pension Fund Global's equity and fixed-income investments is presented in note 3 Returns per asset class. Information regarding risk is presented in note 8 Risk.

Measurement of absolute and relative returns and information regarding market risk, presented in note 8, tables 8.5 and 8.6 and in the section on volatility and correlation risk, is important information about the performance of, and risk associated with, management of the Government Pension Fund Global and is therefore a key audit matter.

How the matter was addressed in the audit

Norges Bank has established various control activities related to the calculation of returns and market risk.

We assessed and tested selected control activities related to the application of formulas in the calculations of returns, the consistency between accounting and performance measurement, and that external sources of information were accurate and correctly applied in the calculations.

In addition, we recalculated that the absolute returns for the year, and relative returns for selected days, were calculated in accordance with the methods described in note 3.

For information regarding market risk in note 8, tables 8.5 and 8.6, and in the section on volatility and correlation risk, we assessed whether the calculations were conducted in accordance with the calculation methods and assumptions as described in note 8. In addition, we assessed and tested the design of selected controls established by Norges Bank to monitor the service provider. For a sample of these controls, we have tested if they have operated effectively in the reporting period.

We collected and compared the reports from the service provider regarding market risk with the disclosures in note 8, tables 8.5 and 8.6, and the disclosures regarding expected shortfall in the section on volatility and correlation risk.

We assessed whether the disclosures on returns in note 3 and the disclosures on market risk in note 8, tables 8.5 and 8.6, and in the section on volatility and correlation risk were adequate.

# Other information

Management is responsible for the other information. The other information comprises the annual report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Executive Board and management for the Financial Statements

The Executive Board and management are responsible for the preparation and fair presentation of the financial statements in accordance with International Financial Reporting Standards as adopted by the EU. The Executive Board and management are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

# Auditor's Responsibilities for the Audit of the Financial Statements

Our objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including ISAs, will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with laws, regulations, and auditing standards and practices generally accepted in Norway, including International Standards on Auditing (ISAs), we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

• identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error. We design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not

detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Norges Bank's internal control.
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Executive Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit

We also provide the Executive Board with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Executive Board, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Oslo, 8 February 2017 **Deloitte AS** 

Aase Aa. Lundgaard
State Authorised Public Accountant

Note: This translation from Norwegian has been prepared for information purposes only.

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