

# FOREIGN EXCHANGE RESERVES

## Management of Norges Bank's foreign exchange reserves

4 | 2019

JANUARY 2020

REPORT FOR  
FOURTH QUARTER 2019



NORGES BANK

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# Management of the foreign exchange reserves

NORGES BANK

QUARTERLY REPORT  
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MANAGEMENT OF  
NORGES BANK'S FOREIGN  
EXCHANGE RESERVES

The foreign exchange reserves shall be available for transactions in the foreign exchange market as part of the conduct of monetary policy or with a view to promoting financial stability and to meet Norges Bank's international commitments. The reserves are divided into an equity portfolio, a fixed income portfolio and a petroleum buffer portfolio.

The foreign exchange reserves may be invested in cash deposits, Treasury bills and sovereign bonds, and equities listed on a regulated and recognised exchange. The fixed income portfolio's benchmark index is a market value-weighted index of all nominal government bonds with a residual maturity of between one month and 10 years issued by France, Germany,

Japan, the UK and the US. The equity portfolio's benchmark index is a tax-adjusted global equity index for medium- and large-sized companies limited to nine currencies. The strategic equity allocation of the total equity and fixed income portfolio is 20%.

The purpose of the petroleum buffer portfolio is to provide for an appropriate management of the government's need for converting foreign currency and NOK, and to make transfers to and from the Government Pension Fund Global (GPF). The petroleum buffer portfolio is invested in short-term fixed income instruments. There is no benchmark index for the petroleum buffer portfolio.

## Main points from 2019 Q4

- The market value of Norges Bank's foreign exchange reserves was NOK 547.2bn at the end of 2019 Q4, a decline of NOK 20.1bn during the quarter.
- The return on the foreign exchange reserves was 1.3% in Q4, 7.9% on equity investments and negative 0.6% on fixed income investments.
- A loan of NOK 10bn was issued to the petroleum buffer portfolio from the fixed income portfolio.
- The size and liquidity of the foreign exchange reserves are regarded as sufficient for meeting Norges Bank's commitments.

Table 1 Key figures

	2019 Q4			Foreign exchange reserves	2019			Foreign exchange reserves
	Fixed income investments	Equity investments	Petroleum buffer portfolio		Fixed income investments	Equity investments	Petroleum buffer portfolio	
<i>In billions of NOK</i>								
Market value (opening)	433.7	120.7	12.9	567.2	408.8	97.5	7.8	514.1
Market value (closing)	423.4	127.3	-3.5	547.2	423.4	127.3	-3.5	547.2
<b>Change in market value</b>	<b>-10.3</b>	<b>6.6</b>	<b>-16.4</b>	<b>-20.1</b>	<b>14.6</b>	<b>29.8</b>	<b>-11.3</b>	<b>33.1</b>
Net transfers	0.0	0.0	-16.1	-16.2	-2.5	0.0	-11.8	-14.2
Return in NOK terms	-10.3	6.6	-0.2	-3.9	17.0	29.8	0.5	47.3

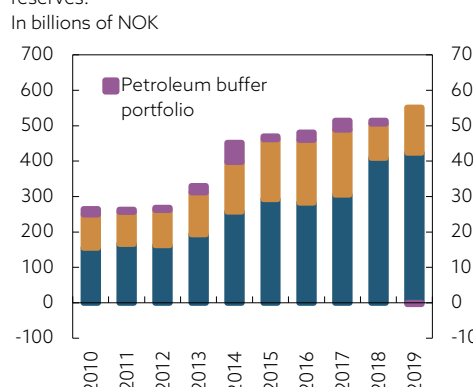
Table 2 Details of fixed income and equity investments

	2019 Q4			Total	2019		Foreign exchange reserves
	Fixed income investments	Equity investments			Fixed income investments	Equity investments	
<i>In billions of NOK</i>							
<b>Return in NOK terms</b>		<b>-10.3</b>	<b>6.6</b>	<b>-3.7</b>	<b>17.0</b>	<b>29.8</b>	<b>46.8</b>
Return in international currency terms		-2.6	9.7	7.0	11.4	28.1	39.6
Movements in the krone exchange rate		-7.6	-3.1	-10.7	5.6	1.7	7.3
<i>In percent</i>							
Return in NOK terms		-2.37	5.45	-0.66	4.20	30.60	9.29
Return in international currency terms		-0.59	7.91	1.25	2.86	28.31	7.78
Relative return in international currency		0.00	0.04	-	-0.07	-0.01	-
Expected relative volatility in NOK terms (annualised)		0.02	0.09	-	-	-	-

## Foreign exchange reserves

The market value of the foreign exchange reserves was NOK 547.2bn at the end of 2019 Q4. The value declined by NOK 20.1bn during the quarter, primarily owing to a net outflow of NOK 16.1bn from the petroleum buffer portfolio. Return measured in international currency terms increased the value by NOK 7.1bn, while a stronger krone reduced the value by NOK 10.7bn.

**Chart 1** Composition of the foreign exchange reserves.



### INTERNATIONAL CURRENCY

The foreign exchange reserves are held for the purpose of crisis management. Movements in the krone exchange rate will affect Norges Bank's equity, but not the Bank's ability to meet commitments in foreign currency. Therefore, unless stated otherwise, return will henceforth be measured in international currency. The petroleum buffer portfolio, which is not held for the purpose of crisis management, is excluded from the measurement of return.

## Fixed income investments

The market value of the fixed income investments at the end of 2019 Q4 was NOK 423.4bn, a decline of NOK 10.3bn during the quarter. A stronger krone contributed to a decline of NOK 7.6bn in the value. The return in international currency terms pulled down the value by NOK 2.6bn, equivalent to negative 0.6%. Net outflows from the fixed income portfolio were virtually zero for the quarter.

During 2019 Q4, US long-term yields increased by approximately 25 basis points, while short-term yields decreased slightly. The curve between two-year and ten-year yields therefore reached its steepest slope in 2019. Investments denominated in USD accounted for 50% of the fixed income portfolio, and earned a return of 0.1% in domestic currency terms.

Among safe fixed income markets, long-term German and French yields rose the

most in 2019 Q4, with a rise of close to 40 basis points. Short-term yields rose by between 10 and 15 basis points. EUR-denominated investments accounted for 34% of the fixed income portfolio. The rise in yields in 2019 Q4 was the main reason for the 1.4% return.

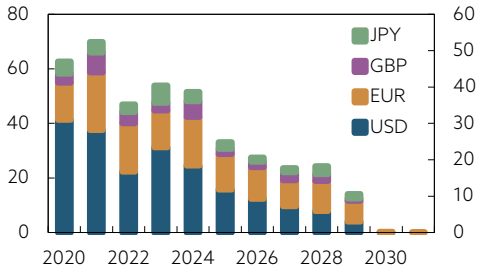
UK long-term yields rose by approximately 30 basis points during the quarter. Short-term UK yields also rose, albeit somewhat less. The rise in UK yields is the main reason why GBP-denominated investments, which account for 8% of the fixed income portfolio, generated a return of approximately negative 1.0% in domestic currency terms.

Japanese yields rose by close to 20 basis points in 2019 Q4. JPY-denominated investments, which account for 8% of the fixed income portfolio, earned a return of approximately negative 1.0% in JPY terms during the period.

**Table 3** Fixed income investments by currency at the end of Q4. Market value in billions of NOK

	Market value	Share	Duration	Yield
<b>Total</b>	423.4	100.00	3.72	0.73
EUR	143.8	33.98	4.22	-0.43
GBP	33.9	8.02	3.89	0.61
JPY	33.9	8.02	4.15	-0.15
USD	211.7	49.99	3.29	1.68

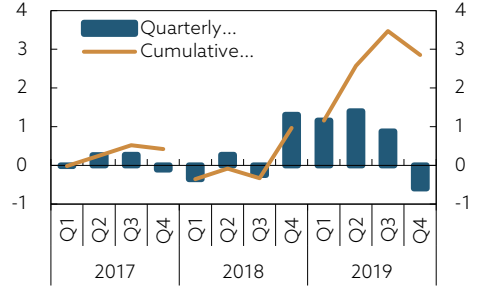
**Chart 2** Principal and coupon due per year at the end of Q4. In billions of NOK



**Table 4** Return on fixed income investments

	2019 Q4	2019
<i>In international currency terms</i>		
Return (percent)	-0.59	2.86
Return (millions of NOK)	-2 623	11 419
<i>In NOK terms</i>		
Return (percent)	-2.37	4.20
Return (millions of NOK)	-10 267	17 060

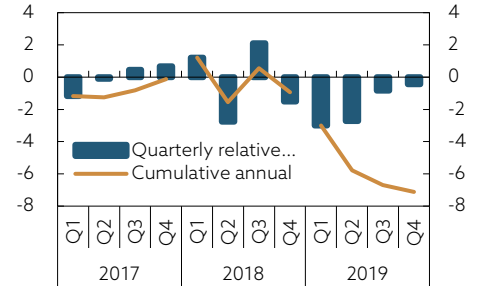
**Chart 3** Return measured in international currency terms. Fixed income investments. Percent



**Table 5** Relative return on fixed income investments

	2019 Q4	2019
<i>In international currency terms</i>		
Relative return (percentage points)	0.00	-0.07
Relative return (millions of NOK)	-20	-290

**Chart 4** Relative return in international currency terms. Fixed income investments. Basis points



**BENCHMARK INDEX**

The benchmark index for fixed income investments is provided by Bloomberg and is a market value-weighted index of all nominal government bonds with a residual maturity of between one month and 10 years issued by France, Germany, Japan, the UK and the US. The currency weighting in the fixed income index is 50% USD, 34% EUR, 8% GBP and 8% JPY.

**Equity investments**

The market value of the equity investments at the end of 2019 Q4 was NOK 127.3bn, an increase of NOK 6.6bn since the end of Q3. This primarily reflects rising equity markets, which generated a return of NOK 9.7bn or 7.9%. A stronger krone pulled down the market value by NOK 3.1bn.

North American equities posted the highest return in Q4, 8.2%. European and Asian investments posted returns of 8.0% and 6.7%, respectively. The technology sector posted the strongest return in Q4, 13.2%, while equities related to the electricity and water supply sector posted the weakest, 2.1%.

In 2019, global economic growth slowed to its lowest level since the financial crisis.

**Table 6** Equity investments excluding cash funds by industry at end-2019 Q4. In billions of NOK

	Market value	Share (%)
Oil and gas	6.6	5.2
Materials	4.8	3.8
Industrials	16.1	12.6
Consumer goods	13.6	10.7
Health care	16.4	12.9
Consumer services	14.5	11.4
Telecommunications	3.4	2.6
Utilities	3.3	2.6
Financials	26.1	20.5
Technology	22.4	17.6

**Table 8** Return on equity investments

	2019 Q4	2019
<i>In international currency terms</i>		
Return (percent)	7.91	28.31
Return (in millions of NOK)	9 672	28 141
<i>In NOK terms</i>		
Return (percent)	5.45	30.60
Return (in millions of NOK)	6 580	29 822

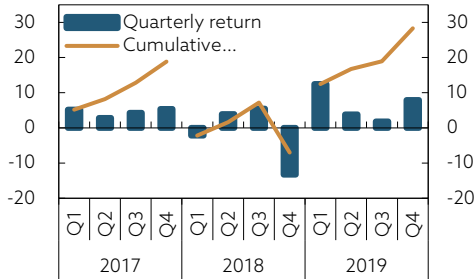
**Table 9** Relative return on equity investments

	2019 Q4	2019
<i>In international currency terms</i>		
Relative return (percentage points)	0.04	-0.01
Relative return (in millions of NOK)	48	0

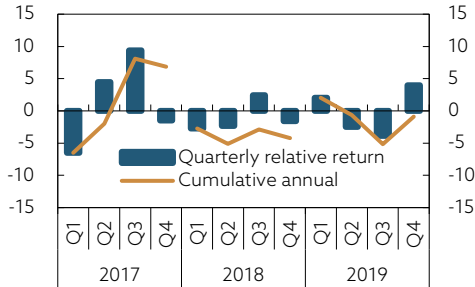
**Table 7** Equity investments by currency at end-2019 Q4. In billions of NOK

	Market value	Share (%)
AUD	3.1	2.4
CAD	3.7	2.9
CHF	4.2	3.3
DKK	0.8	0.7
EUR	14.3	11.2
GBP	7.4	5.8
JPY	11.8	9.3
SEK	1.3	1.0
USD	80.7	63.4

**Chart 5** Return in international currency terms. Equity investments. Percent



**Chart 6** Relative return in international currency terms. Equity investments. Basis points



**BENCHMARK INDEX**

The benchmark index for equity investments is a tax-adjusted version of the FTSE All-World Developed Market Index, limited to euro area countries, the US, Japan, the UK, Canada, Australia, Switzerland, Sweden and Denmark.

**Petroleum buffer portfolio**

At the end of 2019 Q4, the market value of the petroleum buffer portfolio was NOK -3.5bn. During Q4, NOK 31.3bn worth of foreign exchange was purchased from the State's Direct Financial Interest (SDFI). At the same time, Norges Bank sold NOK 37.8bn worth of foreign exchange in the market. In Q4, a total of NOK 9.6bn was transferred to the GPFG. Towards the end of 2019, the need for total transfers

to the GPFG was revised up substantially. The petroleum buffer portfolio was not sufficient to cover the transfer in December. It was therefore issued a loan of NOK 10bn from the fixed income portfolio to cover the transfer and the current foreign exchange transactions in January. The loan was issued at applicable market rates and with a maturity of three months.

### Financial risk

The foreign exchange reserves are invested in foreign currency, while Norges Bank's liabilities are mainly denominated in NOK. This means that movements in the krone exchange rate will have a considerable impact on Norges Bank's earnings in NOK terms. A stronger krone will reduce the krone value of the foreign exchange reserves, while a weaker krone will increase the krone value. For the purpose of crisis management, however, the krone value of the foreign exchange reserves will be of secondary importance. Excluding changes in the krone value, the financial risk associated with the foreign exchange reserves comprises market, credit and counterparty risk.

The foreign exchange reserves' market risk is determined by the composition of investments and movements in equity prices, interest rates and credit spreads. For equity and fixed income investments,

expected absolute volatility at the end of 2019 Q4 excluding exchange rate movements was 10.7% and 1.6%, respectively. This corresponds to an expected annual fluctuation in value of approximately NOK 14bn and NOK 7bn, respectively. At the same time, expected relative volatility was 0.09 and 0.02 percentage points for equity and fixed income investments, respectively.

Credit and counterparty risk is defined as the risk of losses if issuers or counterparties default on payment obligations. The credit risk on bond and Treasury bill investments in the foreign exchange reserves is low. According to credit ratings from Fitch, the US and German governments are rated AAA, the UK and French governments are rated AA, and the Japanese government is rated A.

Chart 7 Absolute volatility, excluding exchange rate movements. Foreign exchange reserves. Percent

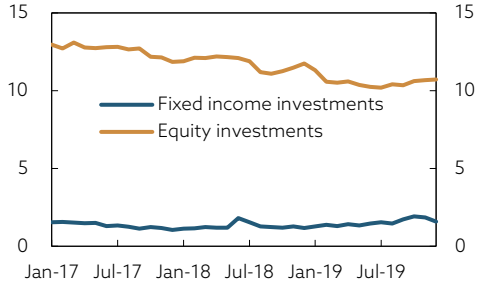
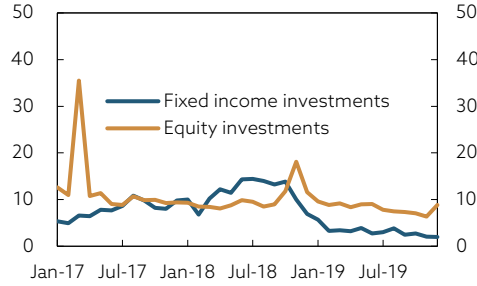


Chart 8 Relative volatility, including exchange rate movements. Foreign exchange reserves. Basis points



#### EXPECTED RELATIVE VOLATILITY

Under the Executive Board's principles for the foreign exchange reserves, maximum expected relative volatility is set at 0.5 percentage point for both fixed income and equity portfolios. Relative volatility of 50 basis points means that the excess return is expected to be within ±0.5 percentage point in two out of three years.

### International commitments

Pursuant to the Norges Bank Act, Norges Bank shall meet the commitments ensuing from membership of the IMF. This membership entails a standing commitment to furnish foreign exchange for IMF loans to other member

countries. See page 8 for an overview of Norges Bank's commitments to the IMF. The size and liquidity of the foreign exchange reserves are assessed to be sufficient to meet Norges Bank's international commitments.

## OVERVIEW OF NORGES BANK'S COMMITMENTS TO THE IMF

**QUOTA SUBSCRIPTIONS** are the IMF's primary source of funding and reflect the member country's relative size in the global economy. In 2010, the IMF approved the 14th General Review of Quotas, under which IMF quota subscriptions doubled with effect from 2016. Norway's quota subscription increased to SDR 3755m.<sup>1</sup> At the end of 2019 Q4, the amount drawn totalled SDR 625m, an increase of SDR 35m (Chart 9).<sup>2</sup>

The **NAB** (New Arrangements to Borrow) represents the IMF's second line of defence. Under the NAB, a number of member countries and institutions are committed to lending additional resources to the IMF. At the same time as the quota increase, Norway's resource commitments under the NAB were reduced by approximately the same amount. Norges Bank's commitments under the NAB now amount to SDR 1967m (Chart 10). Total outstanding drawings were SDR 103m at the end of 2019 Q4. Repayments made under the NAB during the quarter totalled SDR 26m. Since the quota increase in 2016, the IMF funds all new loans by drawing on the quotas. The IMF's Executive Board must specifically decide to activate the NAB in order to fund new lending by drawing on the NAB. Payments for loans approved by the IMF before 26 February 2016 will continue to be partly funded by drawing on the NAB.

**BILATERAL AGREEMENTS** serve as the IMF's third line of defence after quota subscriptions and the NAB. In 2009, Norges Bank provided the IMF with a borrowing agreement of SDR 3000m, which was continued under the NAB. In 2012, Norges Bank provided the IMF with a borrowing facility under a bilateral borrowing agreement of SDR 6000m, to be drawn on only in very special circumstances. This agreement expired in November 2016 and was never drawn on. In April 2017, on behalf of the Ministry of Finance, Norges Bank signed a new bilateral agreement with the IMF for the same amount, which will remain in effect until end-2019, with the possibility of a one-year extension. In June 2019, the Ministry of Finance approved Norges Bank's extension of the agreement for one year. At the end of 2019 Q4, no amounts had been drawn on the new borrowing agreement.

The **PRGT** (Poverty Reduction and Growth Trust) is an agreement signed by the Ministry of Finance and the IMF under which Norway will furnish SDR 300m in loan resources to the IMF's programme for low-income countries. Norges Bank is the agent for the loan and administers the commitments. This facility is now fully drawn, and under the agreement from 2010, only repayments will be made (Chart 11). Repayments made under the PRGT in 2019 Q4 totalled SDR 8m. In November 2016, a new borrowing agreement was signed under which Norway will provide the PRGT with an additional SDR 300m. At the end of 2019 Q4, no amounts had been drawn on the new borrowing agreement.

Loan resource commitments under the quota, NAB, bilateral agreements and the PRGT total SDR 12021m, of which the IMF had drawn SDR 728m at the end of 2019 Q4. A further SDR 11 294m may thus be drawn under these arrangements (see Table 14 under Key figures for further details).

**HOLDINGS OF SDRs** are allocated by the IMF to member countries. Member countries may change their SDR holdings by purchasing from or selling to members who have voluntarily agreed to be a counterparty in SDR transactions. In 2009, Norges Bank entered into an agreement with the IMF on the voluntary purchase and sale of SDRs, as long as holdings remain within 50%-150% of SDR allocations. Thus, if other countries wish to sell SDRs, Norges Bank may have to increase holdings of SDRs to SDR 2345m. Purchases of SDRs are charged to the foreign exchange reserves. The agreement also gives Norges Bank the right to sell SDRs. At the end of 2019 Q4, holdings of SDRs were SDR 1663m, a reduction of SDR 14m (Chart 12).

Chart 9 IMF quota. In billions of SDRs



Chart 10 NAB. In billions of SDRs

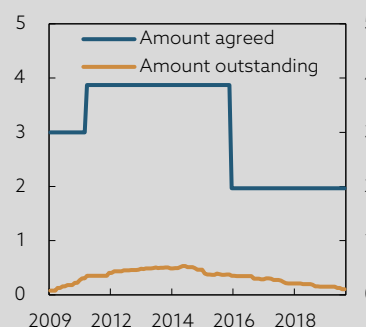


Chart 11 PRGT. In hundreds of millions of SDRs

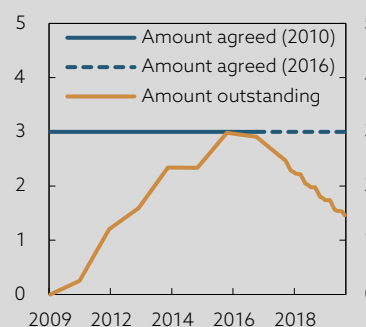
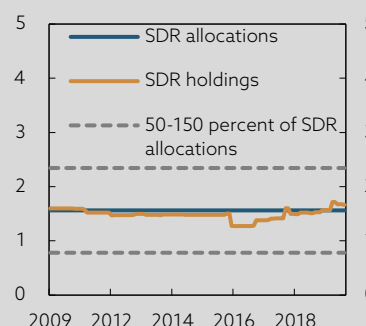


Chart 12 Holdings of SDRs. In billions of SDRs



<sup>1</sup> Special Drawing Rights (SDR). The SDR is an instrument the IMF can use to allocate international liquidity. The value of the SDR is based on a basket of five currencies: USD, EUR, JPY, GBP and CNY.

<sup>2</sup> The amount drawn is equal to Norway's reserve position in the IMF.



# Key figures

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**Table 10** Market value. In billions of NOK

	2019 Q4	2019	2018 Q4	2018
Market value of fixed income and equity investments	550.7	-	<b>506.3</b>	-
<b>Change in market value</b>	<b>-3.7</b>	<b>44.4</b>	13.2	<b>17.3</b>
Net transfers	0.0	-2.5	-0.8	-0.2
Return in NOK	-3.7	46.8	14.0	17.5
<i>Return in international currency</i>	7.0	39.6	-16.1	-3.7
<i>Change due to movements in the krone exchange rate</i>	-10.7	7.3	30.1	21.2
Market value of the petroleum buffer portfolio	-3.5	-	7.8	-
<b>Change in market value</b>	<b>-16.4</b>	<b>-11.3</b>	<b>-2.1</b>	<b>-17.5</b>
Net transfers	-16.1	-11.8	-2.8	-18.3
<i>Foreign exchange purchases from the SDFI</i>	31.3	142.4	47.7	168.3
<i>Foreign exchange purchases from the market</i>	-37.8	-140.8	-21.6	-157.5
<i>Transfers from the GPFG</i>	-9.6	-13.4	-28.9	-29.1
Return in NOK	-0.2	0.5	0.7	0.8
<b>Market value of the foreign exchange reserves</b>	<b>547.2</b>	-	<b>514.1</b>	-

**Table 11** Return in international currency terms. Percent

	2019 Q4	2019	2018 Q4	2018
Return on fixed income investments	-0.59	2.86	1.31	0.97
Return on equity investments	7.91	28.31	-13.24	-6.99
<b>Return on the foreign exchange reserves<sup>1</sup></b>	<b>1.25</b>	<b>7.78</b>	<b>-3.21</b>	<b>-0.78</b>
Return on benchmark index for fixed income investments	-0.59	2.93	1.32	0.98
Return on benchmark index for equity investments	7.87	28.32	-13.23	-6.95
Relative return on fixed income investments	0.00	-0.07	-0.02	-0.01
Relative return on equity investments	0.04	-0.01	-0.02	-0.04

<sup>1</sup> Excluding the petroleum buffer portfolio

**Table 12** Return in NOK terms. Percent

	2019 Q4	2019	2018 Q4	2018
Return on fixed income investments	-2.37	4.20	7.25	4.91
Return on equity investments	5.45	30.60	-7.98	-2.88
<b>Return on the foreign exchange reserves<sup>1</sup></b>	<b>-0.66</b>	<b>9.29</b>	<b>2.56</b>	3.29
Return on benchmark index for fixed income investments	-2.36	4.27	7.26	4.92
Return on benchmark index for equity investments	5.41	30.61	-7.97	-2.84
Relative return on fixed income investments	0.00	-0.07	-0.02	-0.01
Relative return on equity investments	0.04	-0.01	-0.02	-0.04

<sup>1</sup> Excluding the petroleum buffer portfolio

**Table 13** Key figures at quarter-end. Annualised data measured in international currency terms. Percent

	Past year	Past 3 years	Past 5 years	Past 10 years
Return on the foreign exchange reserves	7.78	4.56	3.98	5.52
<i>Fixed income investments</i>				
Return on fixed income investments	2.86	1.41	1.20	2.53
Return on the benchmark index	2.93	1.44	1.23	2.30
Relative return	-0.07	-0.03	-0.03	0.23
Realised absolute volatility <sup>1</sup>	1.80	1.49	1.73	2.19
Realised relative volatility <sup>1</sup>	0.03	0.05	0.05	0.32
Information rate <sup>2</sup>	-2.18	-0.53	-0.51	0.72
<i>Equity investments</i>				
Return on equity investments	28.31	12.36	10.16	11.37
Return on benchmark index	28.32	12.36	10.05	11.16
Relative return	-0.01	0.00	0.11	0.20
Realised absolute volatility <sup>1</sup>	11.66	10.80	11.23	11.50
Realised relative volatility <sup>1</sup>	0.12	0.09	0.14	0.22
Information rate <sup>2</sup>	-0.08	0.02	0.82	0.95

<sup>1</sup> Realised volatility is a measure of the fluctuation in monthly return values, expressed here by the annualised empirical standard deviation. Absolute/relative volatility expresses risk related to absolute/relative return.

<sup>2</sup> Information rate (IR) is a risk-adjusted return measure. IR is the ratio between excess return and the portfolio's realised relative market risk (measured by relative volatility).

**Table 14** Claims on and liabilities to the International Monetary Fund (IMF) at quarter-end. In millions of NOK

	Loan resource commitments <sup>2</sup>	Recognised in the balance sheet			Total amount
		Drawn on commitments	Subscription <sup>3</sup>	SDRs	
<i>Financial assets</i>					
IMF subscription (quota) <sup>1</sup>	-	-	45 791	-	45 791
Holdings of SDRs	-	-	-	20 283	20 283
Loans to the IMF - NAB	23 954	1 256	-	-	1 256
Loans to the IMF - Bilateral agreement	73 080	-	-	-	-
Loans to the IMF - PRGT	7 308	1 745	-	-	1 745
<b>Claims on the IMF</b>	<b>-</b>	<b>3 001</b>	<b>45 791</b>	<b>20 283</b>	<b>69 075</b>
<i>Financial liabilities</i>					
Krone liability to the IMF	-	-	38 172	-	38 172
Equivalent value of SDR allocations	-	-	-	19 063	19 063
<b>Liabilities to the IMF</b>	<b>-</b>	<b>-</b>	<b>38 172</b>	<b>19 063</b>	<b>57 235</b>
<b>Net positions with the IMF</b>	<b>-</b>	<b>3 001</b>	<b>7 619</b>	<b>1 220</b>	<b>11 840</b>

<sup>1</sup> The IMF allocates quotas to member countries, which primarily reflect member countries' relative size in the world economy. The quota provides the basis for determining the member country's voting power in the IMF, the member's financial contribution to the IMF, the amount of financing the member can access in the event of balance of payment problems and the amount of SDRs the member is allocated.

<sup>2</sup> Commitments giving the IMF a borrowing facility with Norges Bank up to an agreed amount. Only the portion drawn is recognised in the balance sheet. Norges Bank's commitments to the IMF are in SDRs; amounts have been translated into NOK.

<sup>3</sup> The net position is referred to as the reserve tranche position (RTP) comprising Norway's IMF quota less Norway's krone liability to the IMF, ie the net amount at the bottom of the column.