

FOREIGN EXCHANGE RESERVES

Management of Norges Bank's foreign exchange reserves

4 | 2018

FEBRUARY 2019

REPORT FOR
FOURTH QUARTER 2018



NORGES BANK

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NORGES BANK

QUARTERLY REPORT

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MANAGEMENT OF
NORGES BANK'S FOREIGN
EXCHANGE RESERVES

Management of the foreign exchange reserves

NORGES BANK

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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. No benchmark index has been set for the petroleum buffer portfolio.

Main points from 2018 Q4

- The market value of the foreign exchange reserves was NOK 514.1bn at year-end 2018, an increase of NOK 11.0bn over Q4.
- The return on the foreign exchange reserves was negative 3.2% in Q4, negative 13.2% on equity investments and 1.3% on fixed income investments.
- Over the quarter, NOK 64.5bn worth of foreign exchange was transferred from the equity portfolio to the fixed income portfolio, reflecting the reduction of the foreign exchange reserves' equity allocation.
- The size and liquidity of the foreign exchange reserves are regarded as sufficient for meeting Norges Bank's commitments.

Table 1 Key figures from 2018 Q4

	2018 Q4				Full year 2018			
	Fixed income investments	Equity investments	Petroleum buffer portfolio	Foreign exchange reserves	Fixed income investments	Equity investments	Petroleum buffer portfolio	Foreign exchange reserves
<i>In billions of NOK</i>								
Market value (opening)	320.5	172.6	9.9	503.0	305.3	183.7	25.3	514.3
Market value (closing)	408.8	97.5	7.8	514.1	408.8	97.5	7.8	514.1
Change in market value	88.3	-75.2	-2.1	11.0	103.6	-86.3	-17.5	-0.2
Net transfers	63.7	-64.5	-2.8	-3.6	85.6	-85.8	-18.3	-18.5
Return in NOK terms	24.6	-10.7	0.7	14.7	18.0	-0.5	0.8	18.3

Table 2 Details of fixed income and equity investments for 2018 Q4

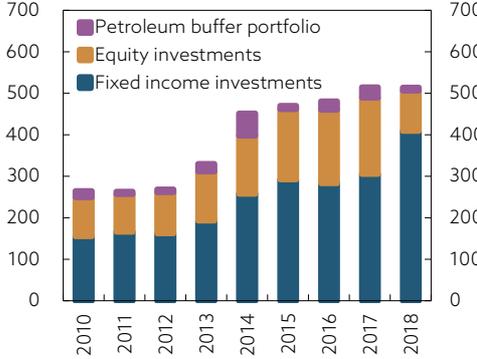
	2018 Q4		Total	Full year 2018		Total	
	Fixed income investments	Equity investments		Fixed income investments	Equity investments		
<i>In billions of NOK</i>							
Return in NOK terms		24.6	-10.7	14.0	18.0	-0.5	17.5
Return in international currency terms		4.6	-20.7	-16.1	3.5	-7.3	-3.7
Movements in the krone exchange rate		20.1	10.0	30.1	14.5	6.8	21.2
<i>In percent</i>							
Return in NOK terms		7.25	-7.98	2.56	4.91	-2.88	3.29
Return in international currency terms		1.31	-13.24	-3.21	0.97	-6.99	-0.78
Relative return in international currency terms		-0.02	-0.02	-	-0.01	-0.04	-
Expected relative volatility in NOK terms (annualised)		0.07	0.12	-	-	-	-

Foreign exchange reserves

The market value of the foreign exchange reserves was NOK 514.1bn at year-end 2018. In all, the value increased by NOK 11.0bn during Q4. A falling equity market reduced the value by around NOK 20.7bn, while declining yields and a net positive contribution from current interest income added a total of NOK 4.6bn. A weaker krone resulted in a NOK 30.1bn increase. During the quarter, a net outflow reduced the foreign exchange reserves by the equivalent of NOK 3.6bn. Owing to a rebalancing towards a reduced strategic equity allocation, NOK 64.5bn worth of foreign exchange was trans-

ferred from the equity portfolio to the fixed income portfolio during Q4.

Chart 1 Composition of the foreign exchange reserves. In billions of NOK



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 2018 Q4 was NOK 408.8bn, an increase of NOK 88.3bn since the end of Q3. The rise primarily reflects the transfers from the equity portfolio to the fixed income portfolio during the quarter. The return in international currency terms was NOK 4.6bn, approximately 1.3%, 2 basis points lower than the benchmark index. A weaker krone increased the value by NOK 20.1bn.

US government bond yields fell sharply in Q4 as a whole. In the first half of the period, there was minimal volatility in government bond yields, which had reached their highest levels since 2011. During November and December, yields fell considerably. There are several reasons for this decline. One is that the market perceived the monetary policy signals from the Federal Reserve as more dovish than previously. Concerns regarding global growth also contributed to a substantial decline in a number of equity indexes and a corresponding increased demand for safe US government bonds. Heightened political uncertainty in Washington may also have pushed down yields. US govern-

ment bond yields ended Q4 around 40 basis points lower. The five-year yield fell more than the two-year and 10-year yields. USD-denominated investments accounted for 50% of the fixed income portfolio and earned a return of 2.0% in USD terms.

Developments in the Brexit negotiations ensured considerable volatility in UK government bond yields, which also largely explains the approximately 30 basis point decline in yields in Q4. After the UK and the EU agreed on a withdrawal agreement in the middle of the quarter, there was rising discontent within the UK Government and in the House of Commons. Owing to the heightened uncertainty regarding the withdrawal agreement and the UK's future relationship with the EU, UK government bond yields fell. GBP-denominated investments accounted for 8% of the fixed income portfolio and earned a return of around 1.2% in sterling terms. JPY-denominated investments, which account for an equal share of the fixed income portfolio, earned a return of 0.4% in JPY terms. Japanese yields largely tracked global developments in Q4.

Both German and French government bond yields fell through Q4, but the decline was most pronounced in German yields. On the whole, the German 10-year yield fell by a little over 20 basis points, around 10 basis points more than the corresponding French yield. Many factors can explain the fall in European yields. Heightened uncertainty regarding the domestic political situation in Italy and budget negotiations with the European Commission led to considerably volatility in Italian yields,

as well as a related flight to safety, such as German government bonds. In addition, European key figures were weaker than expected, which has deferred expectations of further rate hikes by the ECB further out in time. Global conditions and equity market declines may also help to explain the fall in yields. EUR-denominated investments accounted for 34% of the fixed income portfolio, which earned a return of around 0.5% in EUR terms.

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

	Market value	Share	Duration	Yield
Total	408.8	100.00	3.59	1.28
EUR	139.3	34.06	3.75	-0.28
GBP	32.6	7.97	3.83	0.87
JPY	32.7	8.01	3.97	-0.15
USD	204.2	49.96	3.38	2.63

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

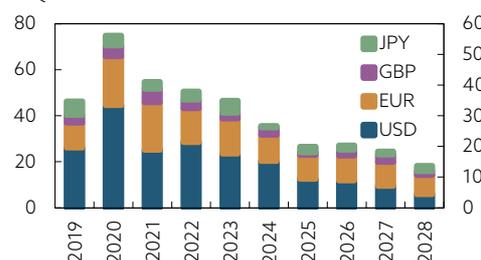


Table 4 Return on fixed income investments

	2018 Q4	Full year 2018
<i>In international currency terms</i>		
Return (percent)	1.31	0.97
Return (in millions of NOK)	4 563	3 515
<i>In NOK terms</i>		
Return (percent)	7.25	4.91
Return (in millions of NOK)	24 634	17 983

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

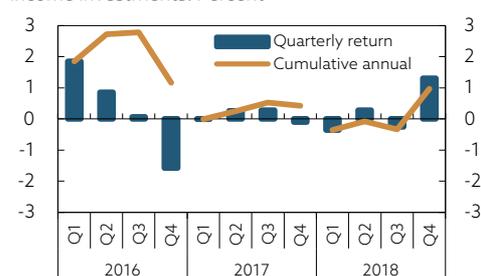


Table 5 Relative return on fixed income investments

	2018 Q4	Full year 2018
<i>In international currency terms</i>		
Relative return (percentage points)	-0.02	-0.01
Relative return (in millions of NOK)	-41	-23

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 was NOK 97.5bn at the end of 2018 Q4, a reduction of NOK 75.2bn from Q3. The reduction primarily reflects transfers from the equity portfolio to the fixed income portfolio. The

return in international currency terms was negative NOK 20.7bn, approximately negative 13.2%, which was 2 basis points lower than the benchmark index. A weaker krone increased the value by NOK 10.0bn.

In Q4, there were mounting concerns about global growth, in the light of the weak key figures, the escalation of the trade conflict between the US and China and other political uncertainty in a number of markets, among other factors. This contributed to lower equity prices, including in the US. Lower growth expectations particularly affected oil and gas companies, technology companies and materials companies, whereas electricity and water supply companies were less effected by cyclical developments and concerns regarding global trade developments. At the end of Q4, 65% of the equity portfolio was invested in

North America, 23% in Europe and 12% in Asia.

Asian equities posted the weakest returns in Q4, negative 13.7%. Investments in North America and Europe posted returns of negative 13.3% and negative 12.6%, respectively. The oil and gas sector posted with weakest returns in Q4, negative 21.2%, but the largest negative contribution was made by the technology sector, which posted a return of negative 17.0%. The electricity and water supply sector posted the highest returns in Q4, approximately 0%.

Table 6 Equity investments excluding cash funds by industry at the end of 2018 Q4. In billions of NOK

	Market value	Share (%)
Oil and gas	6.1	6.2
Materials	3.8	3.9
Industrials	11.7	11.9
Consumer goods	10.8	11.0
Health care	13.2	13.5
Consumer services	11.4	11.7
Telecommunications	2.8	2.9
Utilities	2.6	2.7
Financials	20.5	20.9
Technology	15.1	15.4

Table 7 Equity investments by currency at the end of 2018 Q4. In billions of NOK

	Market value	Share (%)
AUD	2.4	2.5
CAD	2.8	2.9
CHF	3.1	3.2
DKK	0.6	0.7
EUR	11.1	11.4
GBP	6.6	6.8
JPY	9.7	9.9
SEK	1.1	1.1
USD	60.0	61.5

Table 8 Return on equity investments

	2018 Q4	Full year 2018
<i>In international currency terms</i>		
Return (percent)	-13.24	-6.99
Return (in millions of NOK)	-20 665	-7 252
<i>In NOK terms</i>		
Return (percent)	-7.98	-2.88
Return (in millions of NOK)	-10 657	-471

Table 9 Relative return on equity investments

	2018 Q4	Full year 2018
<i>In international currency terms</i>		
Relative return (percentage points)	-0.02	-0.04
Relative return (in millions of NOK)	-31	-85

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 year-end, the market value of the petroleum buffer portfolio was NOK 7.8bn. During Q4, NOK 47.7bn worth of foreign exchange was purchased from the State's Direct Financial

Interest (SDFI). At the same time, Norges Bank sold NOK 21.6bn worth of foreign exchange in the market. In Q4, a total of NOK 28.9 was transferred to the GPFG.

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 major 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 year-end 2018 excluding exchange rate movements against the krone was

11.7% and 1.2%, respectively. This corresponds to an expected annual fluctuation in value of around NOK 11bn and NOK 5bn, respectively. While absolute volatility provides an indication of how much the foreign exchange reserves are expected to fluctuate in value, relative volatility provides an indication of how much the portfolios are expected to fluctuate in value compared with the portfolio's benchmark index. At year-end, expected relative volatility was 0.12 and 0.07 percentage points, respectively, for equity and fixed income investments.

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 assigned by 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

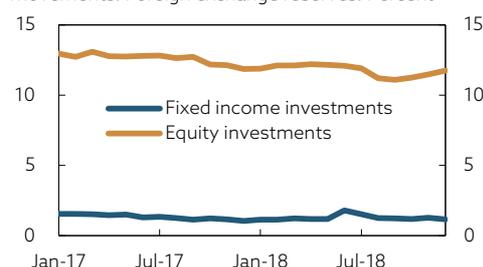
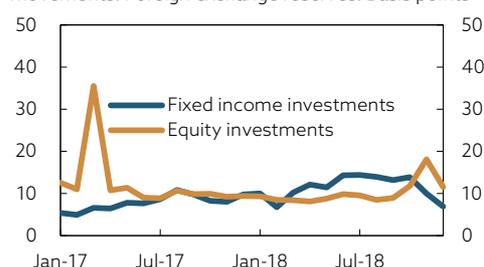


Chart 8 Relative volatility, including exchange rate movements. Foreign exchange reserves. Basis points



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 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 3 755m¹. At year-end 2018, the amount drawn² totalled SDR 450m (Chart 9). In 2018, the IMF drew on the quota in an amount equivalent to SDR 208m. Of this amount, SDR 110m was drawn in Q4.

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 1 967m (Chart 10). Total outstanding drawings were SDR 155m at year-end 2018. Repayments made under the NAB in 2018 totalled SDR 62m.

BILATERAL AGREEMENTS serve as the IMF's third line of defence. In 2009, Norges Bank provided the IMF with a borrowing facility under a bilateral borrowing agreement of SDR 3 000m, which was continued under the NAB. In 2012, Norges Bank provided the IMF with a borrowing facility under a bilateral borrowing agreement of SDR 6 000m, to be drawn on only in very special circumstances. This agreement expired in November 2016 and was never drawn on. On 21 April 2017, on behalf of the Ministry of Finance, Norges Bank signed a new bilateral agreement with the IMF for the same amount. The agreement is in effect until year-end 2019, with the possibility of a one-year extension. At year-end 2018, no amounts had been drawn on the new borrowing agreement.

The **PRGT** (Poverty Reduction and Growth Trust) signed in 2010 by the Ministry of Finance and the IMF, is an agreement 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). In 2018, repayments made under the PRGT totalled SDR 49m. In November 2016, a new borrowing agreement was signed under which Norway will provide the PRGT with an additional SDR 300m. At year-end 2018, no amounts had been drawn on the new borrowing agreement.

Loan resource commitments under the quota, NAB, bilateral agreements and the PRGT total SDR 12 021m, of which the IMF had drawn SDR 606m at year-end of 2018. A further SDR 11 416m may thus be drawn under these arrangements (See Table 14 under Key figures for further details).

HOLDINGS OF SDR has been 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 2 345m. Purchases of SDRs are charged to the foreign exchange reserves. The agreement also gives Norges Bank the right to sell SDRs. At year-end 2018, holdings of SDRs were SDR 1 521m (Chart 12).

Chart 9 IMF quota. In billions of SDRs

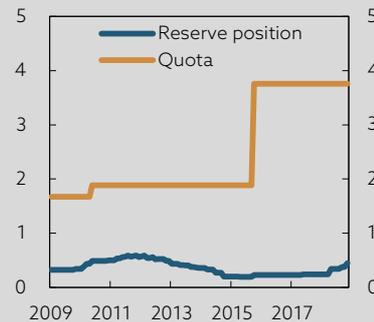


Chart 10 NAB. In billions of SDRs

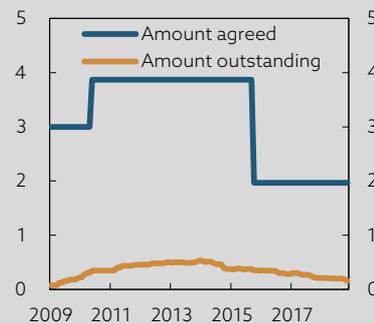


Chart 11 PRGT. In hundreds of millions of SDRs



Chart 12 Holdings of SDRs. In billions of SDRs



¹ Special Drawing Right (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. At 28 September 2018, SDR 1 = NOK 12.04.

² 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

	2018 Q4	Full year 2018	2017 Q4	Full year 2017
Market value of fixed income and equity investments	506.3	-	489.0	-
Change in market value	13.2	17.3	22.6	28.7
Net transfers	-0.8	-0.2	-1.5	-1.3
Return in NOK	14.0	17.5	24.1	30.0
<i>Return in international currency</i>	-16.1	-3.7	8.8	31.2
<i>Change due to movements in krone exchange rate</i>	30.1	21.2	15.2	-1.1
Market value of the petroleum buffer portfolio	7.8	-	25.3	-
Change in market value	-2.1	-17.5	12.4	4.6
Net transfers	-2.8	-18.3	12.2	5.5
<i>Foreign exchange purchases from the SDFI</i>	47.7	168.3	36.3	140.5
<i>Foreign exchange purchases in the market</i>	-21.6	-157.5	-38.5	-199.6
<i>Transfers from the GPFPG</i>	-28.9	-29.1	14.4	64.5
Return in NOK	0.7	0.8	0.2	-0.8
Market value of the foreign exchange reserves	514.1	-	514.3	-

Table 11 Return in international currency terms. Percent

	2018 Q4	Full year 2018	2017 Q4	Full year 2017
Return on fixed income investments	1.31	0.97	-0.10	0.42
Return on equity investments	-13.24	-6.99	5.34	18.86
Return on the foreign exchange reserves¹	-3.21	-0.78	1.87	6.90
Return on the benchmark index for fixed income investments	1.32	0.98	-0.11	0.42
Return on the benchmark index for equity investments	-13.23	-6.95	5.35	18.79
Relative return on fixed income investments	-0.02	-0.01	0.01	0.00
Relative return on equity investments	-0.02	-0.04	-0.01	0.07

¹Excluding the petroleum buffer portfolio.

Table 12 Return in NOK terms. Percent

	2018 Q4	Full year 2018	2017 Q4	Full year 2017
Return on fixed income investments	7.25	4.91	3.26	0.80
Return on equity investments	-7.98	-2.88	8.47	16.86
Return on the foreign exchange reserves¹	2.56	3.29	5.15	6.51
Return on the benchmark index for fixed income investments	7.26	4.92	3.25	0.80
Return on the benchmark index for equity investments	-7.97	-2.84	8.49	16.79
Relative return on fixed income investments	-0.02	-0.01	0.01	0.00
Relative return on equity investments	-0.02	-0.04	-0.02	0.07

¹Excluding the petroleum buffer portfolio.

Table 13 Key figures at year-end. Annualised data in international currency terms. Percent

	Past year	Past 3 years	Past 5 years	Past 10 years
Return on the foreign exchange reserves	-0.78	3.51	3.96	6.75
<i>Fixed income investments</i>				
Return on fixed income investments	0.97	0.85	1.76	3.56
Return on the benchmark index	0.98	0.83	1.79	2.53
Relative return	-0.01	0.02	-0.03	1.03
Realised absolute volatility ¹	1.51	1.58	1.79	2.71
Realised relative volatility ¹	0.07	0.05	0.06	1.09
Information rate (IR) ²	-0.14	0.34	-0.55	0.95
<i>Equity investments</i>				
Return on equity investments	-6.99	6.91	7.03	11.68
Return on the benchmark index	-6.95	6.74	6.88	11.39
Relative return	-0.04	0.17	0.15	0.29
Realised absolute volatility ¹	13.19	9.90	10.25	12.69
Realised relative volatility ¹	0.07	0.15	0.14	0.23
Information rate (IR) ²	-0.56	1.13	1.06	1.30

¹ 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.

² 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 year-end. In millions of NOK

	Loan resource commitments ²	Recognised in the balance sheet			Total amount
		Drawn on commitments	Subscription ³	SDRs	
<i>Financial assets</i>					
IMF subscription (quota) ¹	-	-	45 289	-	45 289
Holdings of SDRs	-	-	-	18 456	18 456
Loans to the IMF - NAB	23 681	1 876	-	-	1 876
Loans to the IMF - Bilateral agreement	72 245	-	-	-	-
Loans to the IMF - PRGT	7 224	2 394	-	-	2 394
Claims on the IMF	-	4 270	45 289	18 456	68 015
<i>Financial liabilities</i>					
Krone liability to the IMF	-	-	39 859	-	39 859
Equivalent value of SDR allocations	-	-	-	18 854	18 854
Liabilities to the IMF	-	-	39 859	18 854	58 713
Net positions with the IMF	-	4 270	5 430	-398	9 302

¹ 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 payments problems and the amount of SDRs the member is allocated.

² 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.

³ The net subscription 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.