

FOREIGN EXCHANGE RESERVES

Management of the foreign exchange reserves

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REPORT FOR
THIRD QUARTER
2022

1 MANAGEMENT OF THE FOREIGN EXCHANGE RESERVES

The foreign exchange reserves are to 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-weighted index of all nominal government bonds with a residual maturity of between one month and 10 years issued by China, 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 (GPFG). 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 2022 Q3

- The market value of the foreign exchange reserves at the end of 2022 Q3 was NOK 737.9bn, an increase of NOK 69.6bn since 2022 Q2.
- The return on the foreign exchange reserves was -3,1% in international currency terms. The return on equity investments was -4.3%, while the return on fixed income investments was -2.8%. In NOK terms, the return on the foreign exchange reserves was 3.6%.
- The size and liquidity of the foreign exchange reserves are regarded as sufficient for meeting Norges Bank's commitments.

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. The petroleum buffer portfolio, which is not held for the purpose of crisis management, is excluded from the measurement of return.

Foreign exchange reserves

The market value of the foreign exchange reserves was NOK 737.9bn at the end of 2022 Q3. The value increased by NOK 69.6bn in Q3. A weaker krone increased the value by NOK 54.4bn, while the return in international currency terms reduced the value by NOK 17.8bn. Net transfers amounted to NOK 32.9bn. So far in 2022, the market value has increased by NOK 91.5bn.

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

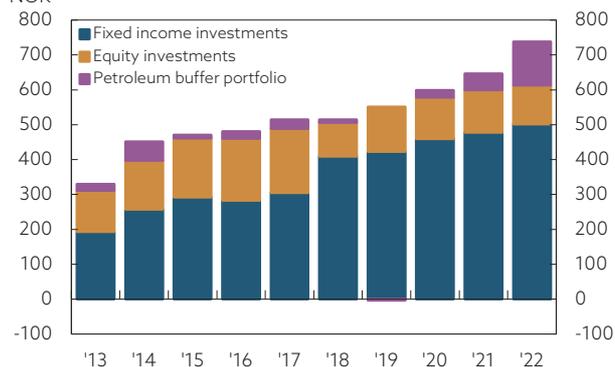


Table 1-1 Market value

	2022 Q3			Foreign exchange reserves	2022			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)	484.4	107.7	76.3	668.3	477.7	122.0	46.8	646.5
Market value (closing)	501.9	111.5	124.5	737.9	501.9	111.5	124.5	737.9
Change in market value	17.6	3.8	48.2	69.6	24.3	-10.5	77.7	91.5
Net transfers	-0.2	0.0	33.1	32.9	-0.9	0.0	59.3	58.4
Return in NOK terms	17.7	3.8	15.1	36.7	25.2	-10.5	18.4	33.1

Table 1-2 Details of fixed income and equity investments

	2022 Q3			Total	2022			Total
	Fixed income investments	Equity investments			Fixed income investments	Equity investments		
<i>In billions of NOK</i>								
Return in NOK terms		17.7	3.8	21.5	25.2	-10.5		14.7
Return in international currency		-13.3	-4.5	-17.8	-36.5	-27.8		-64.3
Movements in the krone exchange rate		31.0	8.3	39.3	61.7	17.3		79.0
<i>In percent</i>								
Return in international currency terms		-2.8	-4.3	-3.1	-7.6	-22.3		-10.6
Return in NOK terms		3.7	3.5	3.6	5.3	-8.6		2.5
Relative return in NOK terms		0.02	0.01	-	0.07	0.08		-
Expected relative volatility in NOK terms (annualised)		0.02	0.06					

Fixed income investments

The market value of the fixed income portfolio was NOK 501.9bn at the end of 2022 Q3, an increase of NOK 17.6bn from the previous quarter. A weaker krone increased the value by NOK 31.0bn, while the return in international currency terms reduced the value by NOK 13.3bn, equivalent to -2.8%. Net outflows from the fixed income portfolio amounted to NOK 0.2bn, reflecting transactions with the IMF.

Chart 1-2 Return in international currency terms. Fixed income investments. Percent



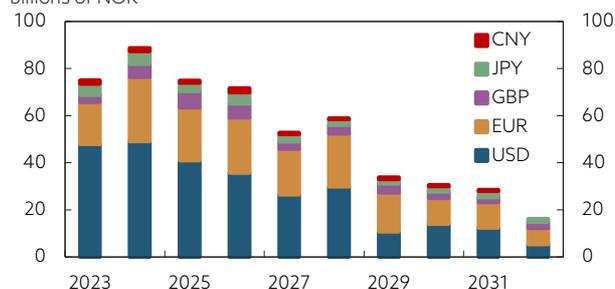
Chart 1-3 Relative return in NOK terms. Fixed income investments. Basis points



Table 1-3 Fixed income investments by currency at the end of 2022 Q3. Market value in billions of NOK

	Market value	Share	Duration	Yield
Total	501.94	100.00	3.64	3.06
CNY	10.05	2.00	3.50	2.25
EUR	171.25	34.12	4.04	1.89
GBP	34.97	6.97	3.97	4.06
JPY	35.08	6.99	4.18	0.04
USD	250.60	49.93	3.26	4.18

Chart 1-4 Principle and coupon due per year at the end of 2022 Q3. In billions of NOK



US The rise in US government bond yields continued through 2022 Q3. The two-year yield rose by 130 basis points, approximately 50 basis points more than the 10-year yield. The Federal Reserve raised its policy rate by 75 basis points in both July and September. Investments denominated in USD earned a negative return of -2.5% in Q3, primarily owing to the rise in yields. Current interest income made a positive contribution.

EUROPE The rise in European sovereign yields continued in 2022 Q3. German two-year yields rose by 105 basis points, while the 10-year yield rose by just over 70 basis points. The ECB raised its policy rate by 50 basis points in July and 75 basis points in September. Investments denominated in EUR earned a negative return of -2.9% in Q3, primarily owing to the rise in yields.

UK UK government bond yields rose in Q3. During Q3, the Bank of England's policy rate was raised twice by 50 basis points and is now 2.25%. The two- and 10-year yields rose by 250 and 194 basis points, respectively. Investments denominated in GBP earned a negative return of -8.1% in Q3, primarily owing to the rise in yields.

JAPAN Japanese yields rose marginally in Q3. Investments denominated in JPY earned a negative return of -0.1% in Q3.

CHINA Chinese yields fell in Q3 and short-term yields fell more than long-term yields. The two-year yield fell by approximately 15 basis points. The Chinese 10-year yield ended the quarter slightly above 2.8%. Investments denominated in CNY earned a return of 0.9%, primarily owing to current interest income.

Equity investments

The market value of the equity portfolio was NOK 111.5bn at the end of 2022 Q3, an increase of NOK 3.8bn since the end of 2022 Q2. The return in international currency terms reduced the market value by NOK 4.5bn. A weaker krone increased the value of the portfolio by NOK 8.3bn.

The return on the equity portfolio was -4.3% in Q3, in international currency terms. North American equities posted a return of -3.1%, European equities, -8.7% and Asia equities, -5.6%. Equities in the durable goods sector posted the strongest return in Q3, 2.1% and also made the largest contribution to the return on the portfolio. Equities in the telecommunications sector posted the weakest return in Q3, -15.3%

Chart 1-5 Return in international currency terms. Equity investments.



Chart 1-6 Relative return in NOK. Equity investments.



Table 1-4 Equity investments by sector. At the end of 2022 Q3. In billions of NOK

	Market value	Share
Materials	4	3 %
Consumer discretionary	17	15 %
Consumer staples	7	7 %
Energy	4	4 %
Financials	15	14 %
Health care	16	14 %
Industrials	14	13 %
Real estate	3	3 %
Technology	24	22 %
Telecommunications	3	3 %
Utilities	3	3 %

Table 1-5 Equity investments by currency. At the end of 2022 Q3. In billions of NOK

	Market value	Share
AUD	3	2 %
CAD	3	3 %
CHF	3	3 %
DKK	1	1 %
EUR	10	9 %
GBP	4	4 %
JPY	8	7 %
SEK	1	1 %
USD	79	70 %

Petroleum buffer portfolio

The market value of the petroleum buffer portfolio was NOK 124,5bn at the end of 2022 Q3, an increase of NOK 48.2bn for the quarter. During Q3, NOK 196.0bn worth of foreign exchange was purchased from the State's Direct Financial Interest (SDFI), and NOK 306.0bn worth of foreign exchange was transferred to the GPFG from the petroleum buffer portfolio. At the same time, Norges Bank purchased NOK 143.0bn worth of foreign exchange in the market.

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 2022 Q3, excluding exchange rate movements, was 21.0% and 3.2%, respectively. This corresponds to an expected annual fluctuation in value of approximately NOK 23.4bn and NOK 16.3bn, respectively. At the same time, expected relative volatility for equity and fixed income investments was 0.06 and 0.02 percentage point, respectively.

EXPECTED RELATIVE VOLATILITY

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

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. The lowest credit ratings from the three largest rating agencies Fitch, Moody's and Standard & Poor's, are equivalent to AAA for the German government, AA+ for the US government, AA for the French government, AA- for the UK government, A+ for the Chinese government and A for the Japanese government.

Chart 1-7 Absolute volatility, excluding exchange rate movements. Foreign exchange reserves. Percent

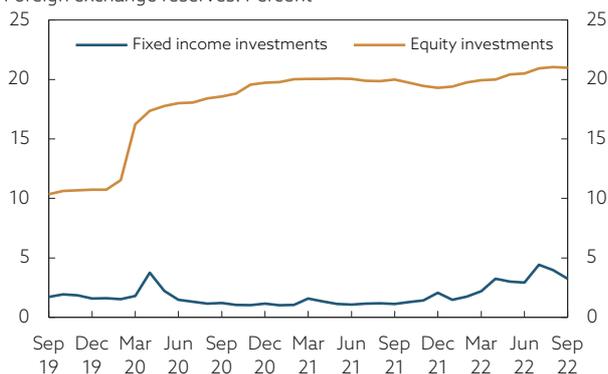


Chart 1-8 Relative volatility, including exchange rate movements. Foreign exchange reserves. Basis points



2 COMMITMENTS TO THE IMF

Pursuant to the Central Bank Act, Norges Bank shall meet the commitments ensuing from membership of the International Monetary Fund (IMF). This membership entails a standing commitment to furnish foreign exchange for IMF loans to member countries.

Loan resource commitments under the quota, the New Arrangements to Borrow (NAB), bilateral agreements and the Poverty Reduction and Growth Trust (PRGT) ¹ totalled SDR 10 673m on 30 September 2022. At the end of the quarter, the IMF had drawn SDR 1 428m. The total remaining amount that can be drawn under these arrangements is SDR 9 567m. The quota subscription, which determines a country's standing in the IMF, applies to all member countries, but participation in the funding of the IMF's borrowing arrangements is voluntary. The size and liquidity of the foreign exchange reserves are assessed to be sufficient to meet Norges Bank's international commitments.

Table 2-1 Details of lending programmes. Figures in thousands of SDRs

	Agreed amount	Amount outstanding	Amount remaining	Change in amount outstanding	
				2022 Q3	2022
Total	10 673 080	1 427 840	9 567 253	13 476	61 203
Quota	3 754 700	1 066 040	2 688 660	0	78 900
NAB	3 933 380	23 362	3 910 018	-2 949	-22 849
Bilateral agreements	2 585 000	0	2 585 000	0	0
PRGT ¹	400 000	338 438	383 575	16 425	5 152

Table 2-2 Details of SDR holdings. Figures in thousands

	SDR allocations	SDR holdings	Remaining voluntary purchases	Change in SDR holdings	
				2022 Q3	2022
SDR holdings	5 161 781	5 368 387	2 374 284	13 001	13 855

INTEREST RATE ON THE ARRANGEMENTS

Norges Bank receives SDR interest payments on the reserve position, the NAB, PRGT and SDR holdings, and pays the SDR interest rate on SDR allocations. The SDR interest rate is a weighted average of the yields on three-month government securities in the countries/currency areas included in the SDR basket. The floor for the SDR interest rate is 0.05%. For the reserve position, an interest deduction is applied for any burden sharing ². Under the burden sharing mechanism, member debtors and lenders share the cost of settling overdue obligations on outstanding credit to the IMF through an interest rate adjustment.

¹ The commitments include the 2020 arrangement under PRGT, but not the 2010 and 2016 agreements, as they can no longer be drawn on. The same applies for the total remaining amount that can be drawn. Amount outstanding includes all arrangements.

² The basis for the calculation is the reserve position less SDR 60m. The reason for the deduction is that, prior to 1978, only 75% of the quota was included in the calculation.

QUOTA SUBSCRIPTIONS are the IMF's primary source of funding and reflect the member country's relative size in the global economy. Norway's quota subscription is SDR 3 755m³. The amount drawn⁴ was unchanged during 2022 Q3 (Table 2-1 and Chart 2-1).

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. The IMF Executive Board must specifically decide to activate the NAB to fund new lending by drawing on the NAB. The government, represented by the Ministry of Finance, is the IMF's contractual counterparty. Commitments under the NAB amount to SDR 3 933m. Total outstanding drawings were reduced by SDR 2.9m during Q3 (Table 2-1 and Chart 2-2).

Chart 2-1 Quota. In billions of SDRs

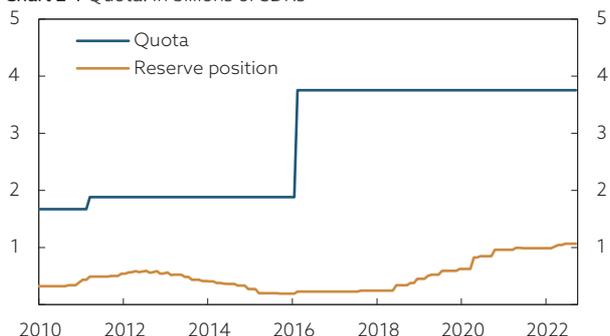
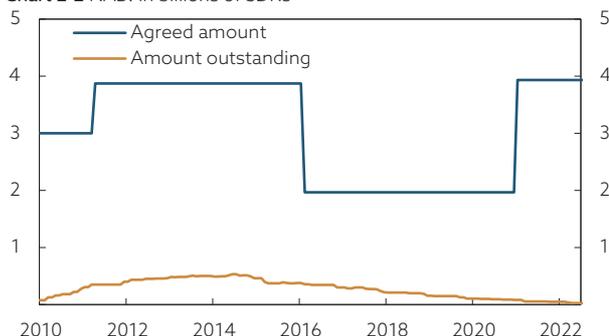


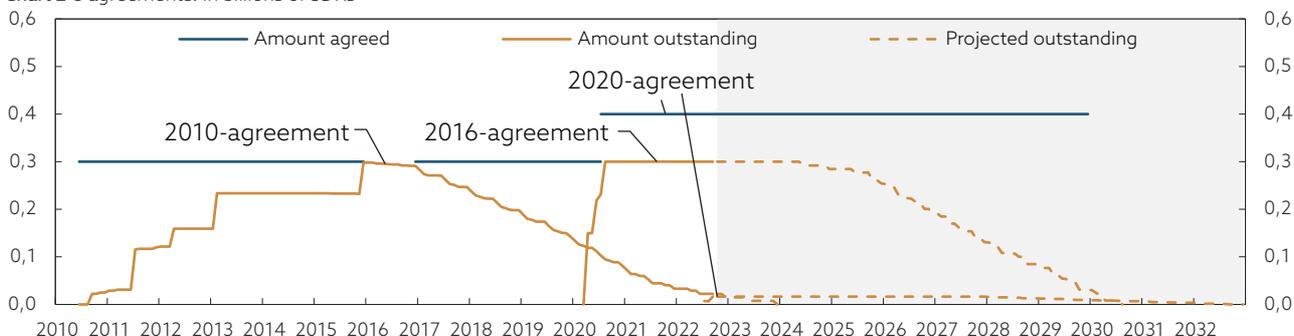
Chart 2-2 NAB. In billions of SDRs



BILATERAL AGREEMENTS serve as the IMF's third line of defence after quota subscriptions and the NAB. The current agreement, which entered into force on 1 January 2021 and applies until 31 December 2023, is for a SDR 2 585m borrowing facility. At the end of 2022 Q3, no amounts had been drawn on this agreement. Norges Bank is the IMF's contractual counterparty under the bilateral borrowing agreement. Norges Bank's borrowing agreements with the IMF are subject to the approval of the Ministry of Finance (cf Section 3-10, Subsection 2, of the Central Bank Act).

PRGT The Ministry of Finance has signed loan agreements with the IMF under the PRGT (Poverty Reduction and Growth Trust), which contribute to the IMF's borrowing arrangements for low-income member countries. Norges Bank signed borrowing agreements in both 2010 and 2016, and under each, Norway provided SDR 300m. These facilities are now fully drawn and under the agreements, only repayments will be made (Table 2-1 and Chart 2-3). In 2020, an additional borrowing agreement for SDR 400m was entered into. The amount drawn under this agreement in Q3 totalled SDR 16.4m. Norges Bank is the agent for PRGT loans and administers the commitments.

Chart 2-3 agreements. In billions of SDRs

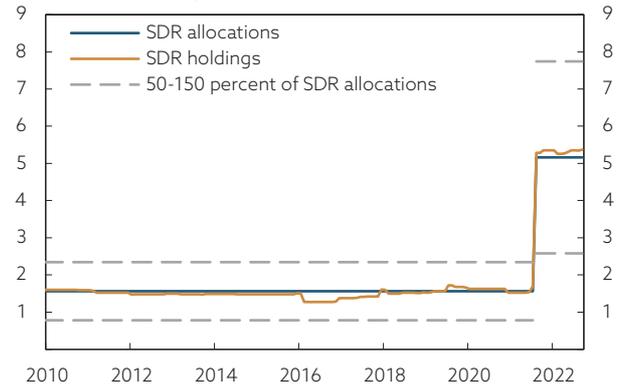


³ Special Drawing Rights (SDR). The SDR is an instrument the IMF can use to allocate international liquidity. The value of the SDR is based on a basket of five currencies: USD, EUR, JPY, GBP and CNY.

⁴ The amount drawn is equal to Norway's reserve position in the IMF.

SDR HOLDINGS are allocated by the IMF to member countries. Member countries, the IMF and other international organisations approved by the IMF (prescribed holders) may change their SDR holdings by purchasing from or selling to each other. Individual member countries and prescribed holders have entered agreements with the IMF on participating in SDR trading arrangements intended to support SDR liquidity. In 2009, Norges Bank entered into such 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, Norges Bank's holdings shall be between SDR 2 581m and SDR 7 743m. Purchases of SDRs are charged to the foreign exchange reserves. The agreement also gives Norges Bank the right to sell SDRs. In 2022 Q3, SDR holdings increased by around SDR 13.0m. At the end of Q3, Norway's holdings amounted to SDR 5 368m (Table 2-2 and Chart 2-4).

Chart 2-4 SDR holdings. In billions of SDRs



ANNEX KEY FIGURES

Table 1 Key figures at quarter-end. Annualised values in international currency terms. Percent

	Past year	Past three years	Past five years	Past 10 years
Return on the foreign exchange reserves	-9.30	-0.18	1.36	3.65
<i>Fixed income investments</i>				
Return on fixed income investments	-7.91	-2.28	-0.53	0.49
Return on the benchmark index	-7.96	-2.30	-0.53	0.48
Relative return	0.05	0.02	0.00	0.01
<i>Equity investments</i>				
Return on equity investments	-15.85	6.40	7.01	10.36
Return on the benchmark index	-15.96	6.29	6.97	10.20
Relative return	0.10	0.11	0.04	0.16

Table 2 Duration of and yield on fixed income investments. Past five quarters

	2022 Q3	2022 Q2	2022 Q1	2021 Q4	2021 Q3
Duration	3.64	3.69	3.78	3.83	3.89
CNY	3.50	3.40	3.42	3.37	3.41
EUR	4.04	4.14	4.22	4.24	4.42
GBP	3.97	4.26	4.13	4.19	4.39
JPY	4.18	3.72	4.10	4.26	4.05
USD	3.26	3.32	3.40	3.47	3.47
Yield	3.06	1.95	1.31	0.40	0.23
CNY	2.25	2.36	2.40	2.38	2.51
EUR	1.89	0.94	0.21	-0.47	-0.51
GBP	4.06	1.95	1.38	0.70	0.55
JPY	0.04	0.01	0.02	-0.06	-0.08
USD	4.18	2.90	2.20	0.94	0.64