

FOREIGN EXCHANGE RESERVES

Management of the foreign exchange reserves

3 | 2023

NOVEMBER 2023

REPORT FOR

THIRD QUARTER 2023

1 MANAGEMENT OF THE FOREIGN EXCHANGE RESERVES

The foreign exchange reserves are to be sufficiently liquid to be available for use in foreign exchange market transactions or as part of the conduct of monetary policy with a view to promoting financial stability and to meet Norges Bank's international commitments. The aim of the management of foreign exchange reserves is the highest possible return within the applicable risk limits. 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, government 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 market-weighted, 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 2023 Q3

- The market value of the foreign exchange reserves at the end of 2023 Q3 was NOK 702.5bn, a reduction of NOK 25.2bn since 2023 Q2.
- The return on the foreign exchange reserves was -0.7% in international currency terms. The return on equity investments was -2.6%, while the return on fixed income investments was -0.2%. In NOK terms, the return on the foreign exchange reserves was -2.8%.
- The size and liquidity of the foreign exchange reserves are regarded as sufficient for meeting Norges Bank's contingency needs and international 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 702.5bn at the end of 2023 Q3. The value was reduced by NOK 25.2bn in Q3. The return in international currency terms and a stronger krone reduced the value by NOK 4.8bn and NOK 14.8bn, respectively. Net transfers amounted to negative NOK 5.7bn, primarily from the petroleum buffer portfolio.

Table 1-1 Market value

	2023 Q3			Foreign exchange reserves	Year to date in 2023			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)	518.3	139.9	69.6	727.7	472.0	110.4	32.0	614.4
Market value (closing)	505.0	134.2	63.3	702.5	505.0	134.2	63.3	702.5
Change in market value	-13.2	-5.8	-6.2	-25.2	33.1	23.7	31.4	88.1
Net transfers	-0.7	0.0	-5.0	-5.7	-3.1	0.0	21.5	18.4
Return in NOK terms	-12.5	-5.8	-1.3	-19.6	36.1	23.7	9.9	69.7

Table 1-2 Details of fixed income and equity investments

	2023 Q3		Total	Year to date in 2023		Total
	Fixed income investments	Equity investments		Fixed income investments	Equity investments	
<i>In billions of NOK</i>						
Return in NOK terms	-12.5	-5.8	-18.3	36.1	23.7	59.8
Return in international currency terms	-1.3	-3.5	-4.8	3.0	16.0	19.1
Movements in the krone exchange rate	-11.2	-2.3	-13.5	33.1	7.7	40.8
<i>In percent</i>						
Return in international currency terms	-0.2	-2.6	-0.7	0.7	13.6	3.2
Return in NOK terms	-2.4	-4.1	-2.8	7.6	21.5	10.3
Relative return in NOK terms	0.01	-0.01	-	0.03	0.02	-
Expected relative volatility in NOK terms (annualised)	0.02	0.07				

Chart 1-1 Change in market value. In billions of NOK

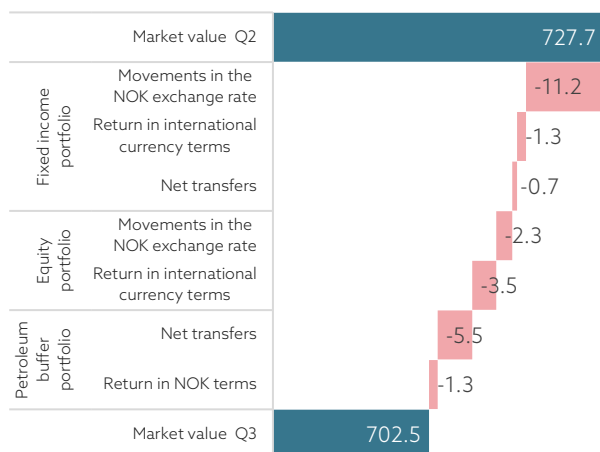
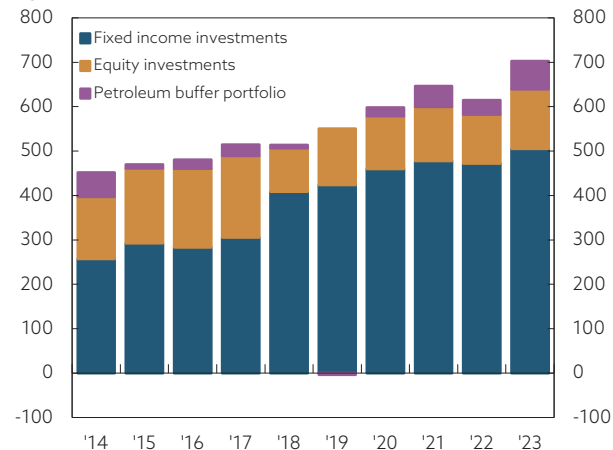


Chart 1-2 Composition of the foreign exchange reserves. In billions of NOK



Fixed-income investments

The market value of the fixed income portfolio was NOK 505.0bn at the end of 2023 Q3, a decrease of NOK 13.2bn from the previous quarter. A stronger krone reduced the value by NOK 11.2bn, while the return in international currency terms reduced the value by NOK 1.3bn, equivalent to -0.2%. Net transfers to the fixed income portfolio amounted to negative NOK 0.7bn, reflecting transactions with the IMF.

Chart 1-3 Return in international currency terms. Fixed income investments. Percent

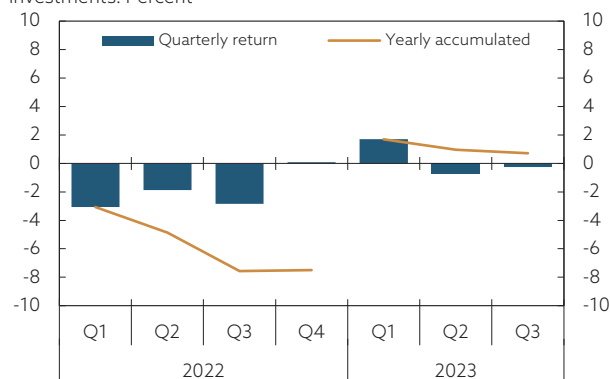


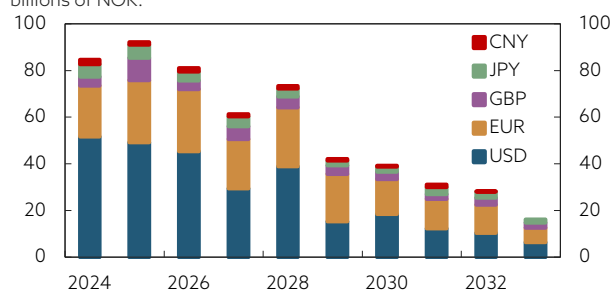
Chart 1-4 Relative return in NOK terms. Fixed income investments. Basis points



Table 1-3 Fixed income investments by currency at the end of 2023 Q3. Market value in billions of NOK

	Market value	Share	Duration	Yield
Total	505.02	100.00 %	3.54	3.96
CNY	10.10	2.00 %	3.59	2.42
EUR	172.12	34.08 %	3.96	3.19
GBP	35.48	7.03 %	3.85	4.46
JPY	35.57	7.04 %	4.08	0.24
USD	251.75	49.85 %	3.13	5.00

Chart 1-5 Principal and coupon due per year at the end of 2023 Q3. In billions of NOK.



USA US government bond yields rose in 2023 Q3. The yield curve ended the quarter less inverted: two-year yields rose by 15 basis points, while the 10-year yield rose close to 75 basis points. The Federal Reserve raised the federal funds rate target range by 25 basis points in the period. Investments denominated in USD earned a return of approximately -0.4% in Q3.

EUROPE European short-term government bond yields ended the quarter approximately unchanged, while the 10-year yield rose 45 basis points. The ECB raised its policy rate twice during the period. Investments denominated in EUR earned a return of -0.4% in Q3, primarily owing to the rise in long-term yields.

UK Short-term UK yields fell by almost 70 basis points in 2023 Q3. Yields with longer maturities

showed little change in Q3. The Bank of England raised its policy rate by 25 basis points to 5.25% in August and kept it unchanged in September. Investments denominated in GBP earned a return of 2.3%.

JAPAN In 2023 Q3, the rise in Japanese government bond yields was unusually steep, and long-term yields rose more than short-term yields. The Bank of Japan continued its monetary policy stance of yield curve control strategy and negative interest rates. Investments dominated in JPY earned a return of -1.0% in Q3 owing to the rise in yields.

CHINA Chinese yields rose somewhat in 2023 Q3. Short-term yields rose more than long-term yields. Investments dominated in CNY earned a return of 0.4% in Q3 owing to current income.

Equity investments

The market value of the equity portfolio was NOK 134.2bn at the end of 2023 Q3, a reduction of NOK 5.8bn since the end of 2023 Q2. The return in international currency terms and a stronger krone reduced the market value by NOK 3.5bn and NOK 2.3bn, respectively.

The return on the equity portfolio was -2.6% in 2023 Q3, in international currency terms. European equities posted a return of -4.2%, North

American equities, -2.3%, and Asian equities, -0.4%.

In Q3, equities related to utilities and water supply posted the weakest return, -8.1%. The technology sector made the largest negative contribution to the return on the portfolio at -0.8 percentage point and posted a return of -3.3% in Q3. Energy sector equities posted the strongest return in Q3, at 9.4%.

Chart 1-6 Return in international currency terms. Equity investments.



Chart 1-7 Relative return in NOK terms. Equity investments.

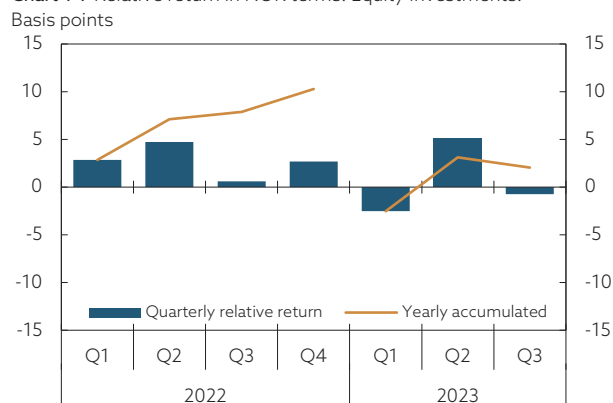


Table 1-4 Equity investments by sector. At the end of 2023 Q3. In billions of NOK

	Market value	Share
Materials	4	3%
Durable goods	20	15%
Consumer goods	8	6%
Energy	5	4%
Financials	18	14%
Health care	18	13%
Industrials	17	13%
Real estate	3	2%
Technology	34	25%
Telecommunications	3	3%
Utilities	3	2%

Table 1-3 Equity investments by currency. At the end of 2023 Q3. In billions of NOK

	Market value	Share
AUD	3	2%
CAD	3	2%
CHF	4	3%
DKK	1	1%
EUR	13	9%
GBP	5	4%
JPY	10	8%
SEK	1	1%
USD	94	70%

Petroleum buffer portfolio

The market value of the petroleum buffer portfolio was NOK 63.3bn at the end of 2023 Q3, a decrease of NOK 6.2bn for the quarter. During Q3, NOK 66.9bn worth of foreign exchange was purchased from the State's Direct Financial Interest (SDFI), and NOK 139.0bn worth of foreign exchange was transferred to the GPF from the petroleum buffer portfolio. At the same time, Norges Bank purchased NOK 67.1bn worth of foreign exchange in the market. The return on the portfolio came to NOK -1.3bn, primarily owing to a stronger krone.

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.

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.

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 2023 Q3, excluding exchange rate movements, was 16.0% and 2.7%, respectively. Both equity and fixed income portfolios are managed to track the benchmark fairly closely. At the end of Q3, expected relative volatility for equity and fixed income investments was 0.07 and 0.02 percentage point, 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. 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 1-8 Expected absolute volatility, excluding exchange rate movements. Foreign exchange reserves. Percent

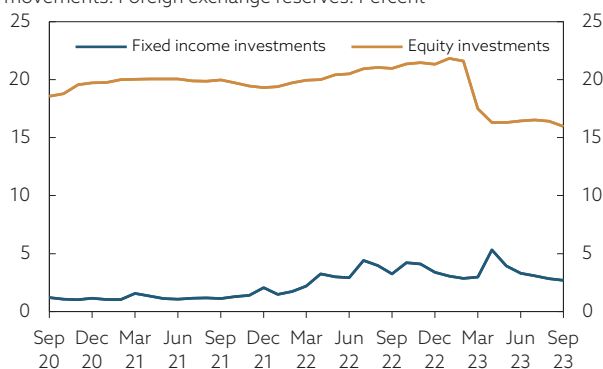
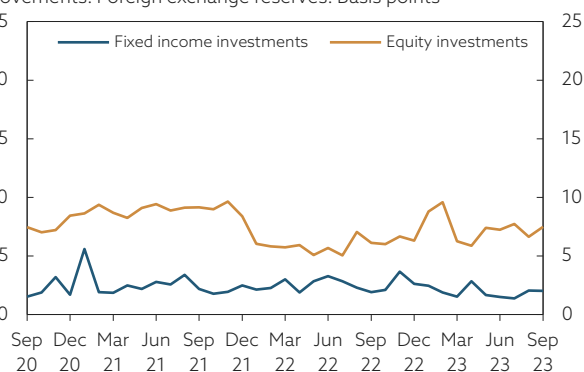


Chart 1-9 Expected relative volatility, including exchange rate movements. Foreign exchange reserves. Basis points



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 823m. ² on 30 September 2023. At the end of the quarter, the IMF had drawn SDR 1 682m. The total remaining amount that can be drawn under these arrangements is SDR 9 448m. 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. Amounts in thousands of SDRs

	Agreed amount	Amount drawn	Amount remaining	Change in amount drawn	
				2023 Q3	2023
Total	10 823 080	1 682 244	9 448 174	-30 069	239 500
Quota	3 754 700	1 069 219	2 685 481	-30 069	-23 662
NAB	3 933 380	11 362	3 922 018	0	-7 400
Bilateral agreements	2 585 000	0	2 585 000	0	0
PRGT ¹	550 000	601 663	255 675	0	270 562

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

	SDR allocations	SDR holdings	Remaining voluntary purchases	Change in SDR holdings	
				2023 Q3	2023
SDR holdings	5 161 781	5 499 252	2 243 419	114 441	25 455

INTEREST RATE ON THE ARRANGEMENTS

Norges Bank receives SDR interest payments on the reserve position³, 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 sharing⁴. 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 and 2022 arrangements 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 drawn includes all arrangements.

² 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 30 September 2023, SDR 1 = NOK 13.98.

³ The reserve position is equal to the amount drawn on Norway's quota and corresponds to the difference between the quota and the IMF's krone deposit with Norges Bank.

⁴ 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 755m. The amount drawn was reduced by SDR 30m in 2023 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 unchanged in 2023 Q3. (Table 2-1 and Chart 2-2).

Chart 2-1 Quota. In billions of SDRs

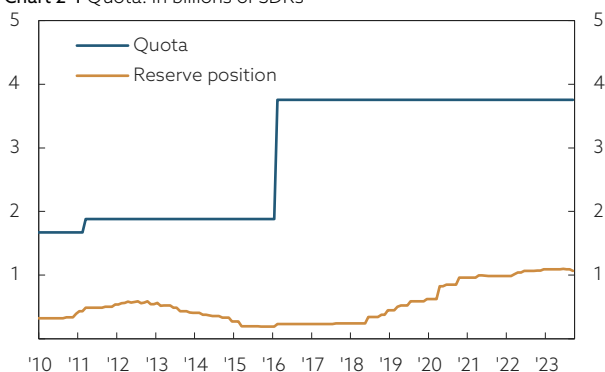
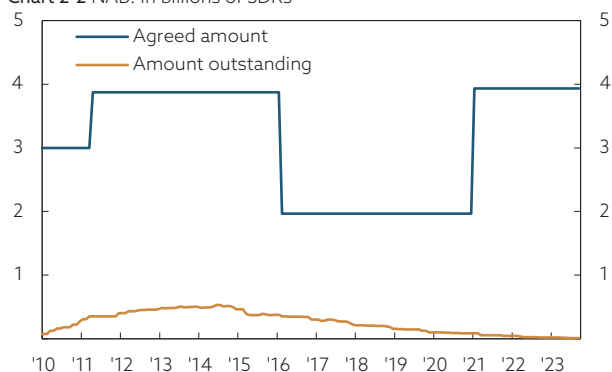


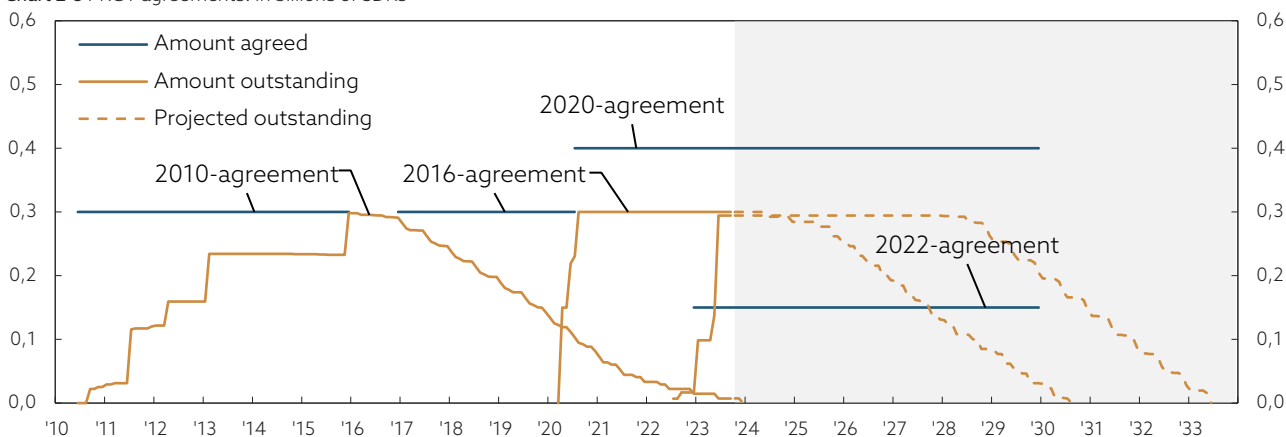
Chart 2-2 NAB. In billions of SDRs



BILATERAL AGREEMENTS serve as the IMF's third line of defence after quota subscriptions and the NAB. The current agreement entered into force on 1 January 2021 is for a SDR 2 585m borrowing facility. In August, the agreement was extended by one year, until 31 December 2024. At the end of 2023 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, 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, a borrowing agreement for SDR 400m was entered into. No amount was drawn under this agreement in 2023 Q3. In December 2022, an additional borrowing agreement for SDR 150m was entered into. This agreement had not been drawn on at the end of Q3. Norges Bank is the agent for PRGT loans and administers the commitments.

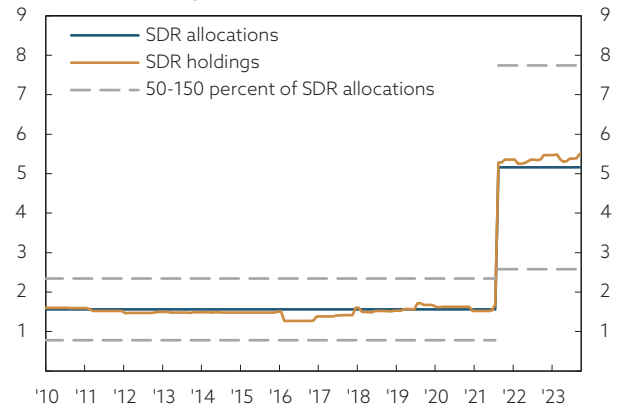
Chart 2-3 PRGT agreements. In billions of SDRs



SDR HOLDINGS are allocated by the IMF to member countries. Member countries, the IMF and prescribed holders⁵ 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 2023 Q3, SDR holdings were increased by SDR 114m. At the end of Q3,

Norway's holdings amounted to SDR 5 499m (Table 2-2 and Chart 2-4).

Chart 2-4 SDR holdings. In billions of SDRs



⁵ Prescribed holders of SDRs are 20 official entities authorised by the IMF Executive Board to hold SDRs, although they do not receive SDR allocations. Prescribed holders consist of four currency union central banks (European Central Bank, Bank of Central African States, Central Bank of West African States, and Eastern Caribbean Central Bank), twelve development institutions (African Development Bank, African Development Fund, Asian Development Bank, Caribbean Development Bank, Development Bank of Latin America, European Bank for Reconstruction and Development, Inter-American Development Bank, International Bank for Reconstruction and Development, International Development Association, Islamic Development Bank, Nordic Investment Bank, and International Fund for Agricultural Development), and four international monetary institutions (Arab Monetary Fund, Bank for International Settlements, European Investment Bank and Latin American Reserve Fund).

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	4.57	-0.08	1.39	3.29
<i>Fixed income investments</i>				
Return on fixed income investments	0.80	-2.82	-0.28	0.58
Return on the benchmark index	0.76	-2.86	-0.29	0.59
Relative return	0.04	0.03	0.00	-0.01
<i>Equity investments</i>				
Return on equity investments	21.73	9.89	8.63	10.23
Return on the benchmark index	21.68	9.75	8.57	10.10
Relative return	0.05	0.13	0.06	0.13

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

	2023 Q3	2023 Q2	2023 Q1	2022 Q4	2022 Q3
Duration	3.54	3.58	3.61	3.59	3.64
CNY	3.59	3.55	3.43	3.47	3.50
EUR	3.96	4.00	4.02	3.96	4.04
GBP	3.85	3.90	3.97	3.94	3.97
JPY	4.08	4.05	3.99	4.19	4.18
USD	3.13	3.18	3.23	3.21	3.26
Yield	3.96	3.73	3.23	3.33	3.06
CNY	2.42	2.29	2.48	2.49	2.25
EUR	3.19	2.95	2.63	2.61	1.89
GBP	4.46	5.04	3.69	3.52	4.06
JPY	0.24	0.04	0.05	0.19	0.04
USD	5.00	4.64	4.05	4.27	4.18