Norges Bank Investment Management

Government Pension Fund Global

Annual report 2022

Our mission is to safeguard and build financial wealth for future generations

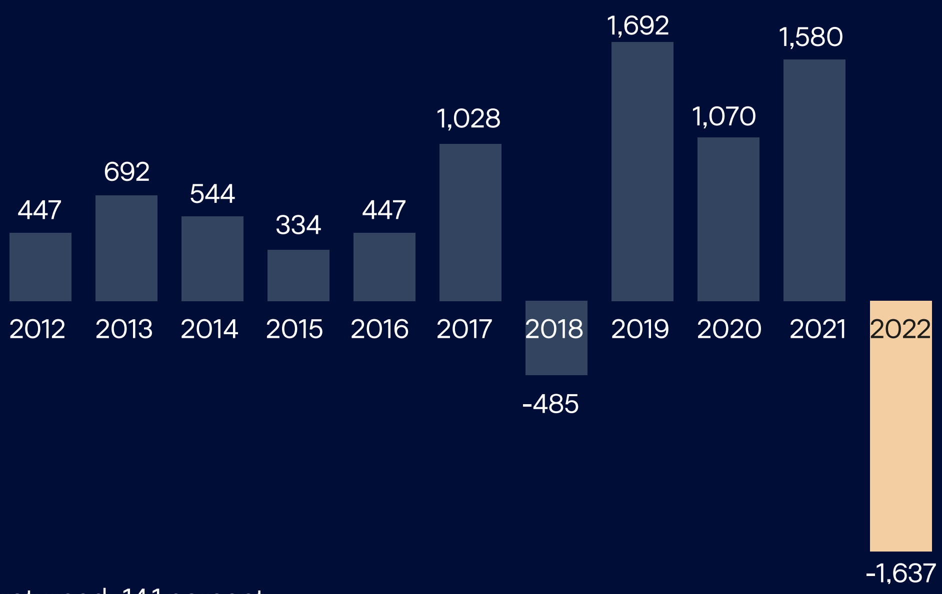
Return

-14.1%

return

0.87

percentage point higher return than the benchmark index



The Government Pension Fund Global returned -14.1 percent, or -1,637 billion kroner, in 2022. This was 0.87 percentage point, or 117 billion kroner, higher than the return on the bechmark index.

Equities

-15.4%

return

Fixed income

-12.1%

return

Unlisted real estate

0.1%

return

Unlisted renewable energy infrastructure

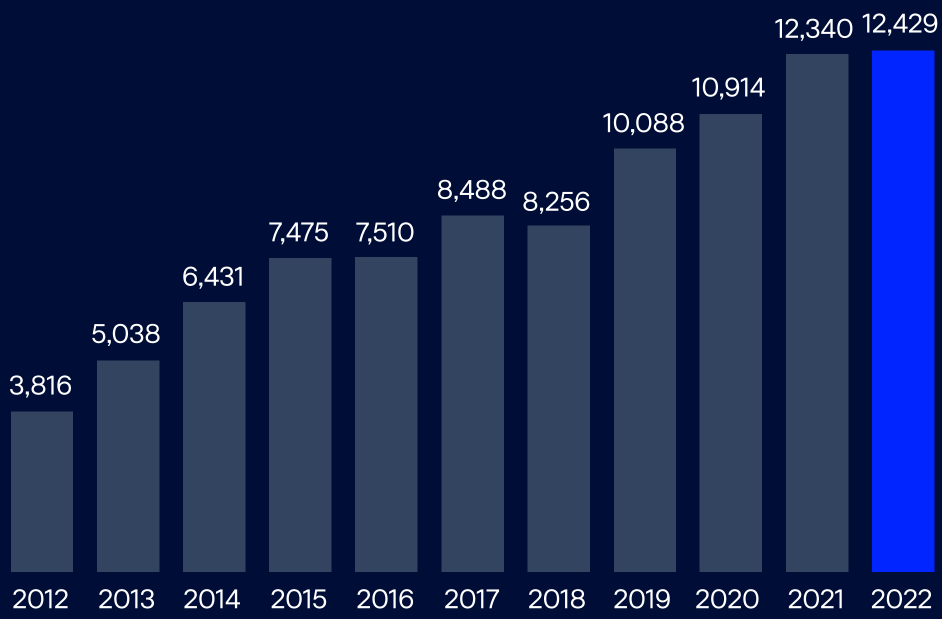
5.1%

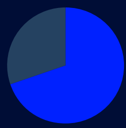
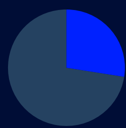
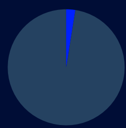
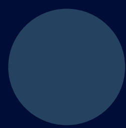
return

Market value

12,429
billion kroner

The fund's market value was 12,429 billion kroner at the end of 2022, up from 12,340 billion kroner a year earlier.



Equities	**8,672** billion kroner	**69.8%** of the fund	
Fixed income	**3,412** billion kroner	**27.5%** of the fund	
Unlisted real estate	**330** billion kroner	**2.7%** of the fund	
Unlisted renewable energy infrastructure	**15** billion kroner	**0.1%** of the fund	

Contents

1. Results

From left to right, top to bottom: Mona Helen Sørensen, Egil Herman Sjursen, Kjersti-Gro Lindquist, Pål Longva, Hans Aasnæs, Arne Hyttnes, Øystein Børsum, Nina Udnes Tronstad, Kristine Ryssdal, Ida Wolden Bache, Karen Helene Ulltveit-Moe.

The Executive Board's assessment of the results

2022 saw substantial movements in global financial markets. Russia's invasion of Ukraine contributed to a sharp rise in energy prices in Europe. Together with strong demand and constraints on the supply side of the economy, this led to a marked increase in inflation globally. Interest rates rose, and both equity and bond markets gave negative returns in the first three quarters of the year before rallying slightly in the fourth quarter.

The return on the Government Pension Fund Global closely follows developments in global equity and bond markets. Weak markets during the year meant that the fund's investments returned -14.1 percent.

-14.1%

return on the fund's investments.

The return was 0.87 percentage point higher than the return on the benchmark index the fund is measured against. The Executive Board is satisfied that the return was higher than the return on the benchmark index in a year of negative returns.

The fund had a market value of 12,429 billion kroner at the end of 2022. Its investments broke down into 69.8 percent equities, 27.5 percent fixed income, 2.7 percent unlisted real estate and 0.1 percent unlisted renewable energy infrastructure.

The fund's return before management costs was -14.1 percent in terms of the fund's currency basket. Equities returned -15.4 percent, bonds -12.1 percent, unlisted real estate 0.1 percent and unlisted renewable energy infrastructure 5.1 percent. Management costs amounted to 0.04 percent of assets under management.

Although the return was negative measured in the fund's currency basket, the value of the fund in Norwegian kroner increased during the year. This was because the krone fell against the currencies in which the fund is invested, and because new capital was added to the fund. High prices for sales of oil and gas led to an inflow of capital from the government of 1,085 billion kroner net after the payment of management fees. This is the largest annual inflow since the fund was formed. The new capital was phased into the fund in an effective way.

Norges Bank manages the fund with a view to achieving the highest possible long-term return within the constraints laid down in the mandate from the Ministry of Finance. Norges Bank manages the fund close to the benchmark index, but all investment processes have active components. This puts Norges Bank in a better position to generate the highest possible return and be a responsible investor.

Norges Bank uses a range of investment strategies in its management of the fund. They are grouped into three main categories: market exposure, security selection and fund allocation. Norges Bank has reported contributions to the relative return from the same three strategies throughout the period since 2013. Management within each category has, however, been subject to change.

5.7%

in annual return in the period between 1998 and 2022.

The bulk of the fund is managed under the strategy for market exposure. The main aim of this strategy is to achieve market exposure mirroring the benchmark index as cost-efficiently as possible. Transaction costs are minimised by avoiding mechanical replication of index changes. An excess return is also generated by pursuing various indexing strategies.

Security selection is based on fundamental analysis, and Norges Bank uses both internal and external mandates. Specialist expertise and delegated mandates allow investment decisions to be made independently of the market consensus.

Fund allocation is the strategy that made the largest positive contribution to the excess return in 2022. This strategy exploits how a long investment horizon and a limited need for liquidity make it possible to accept substantial fluctuations in the fund's value, and to invest even where it may take a long time to realise the underlying value. Investments in unlisted real estate and unlisted renewable energy infrastructure are part of the allocation strategy. Norges Bank can also act differently to other funds in challenging market situations. At the beginning of the year, the fund had a slightly smaller allocation to equities than the benchmark index, and its bond investments had a lower duration. This helped the fund to outperform the benchmark in 2022.

Norges Bank applies these different strategies across the fund's various asset classes. The contributions to the relative return from equity, fixed-income and real asset management show that management of fixed income contributed most to the fund's excess return in 2022.

In 2022, Norges Bank achieved an overall return before management costs that was 0.87 percentage point higher than the return on the fund's benchmark index. The Executive Board notes that all three main strategies contributed positively to this excess return.

The Executive Board emphasises the importance of assessing performance over time, and is satisfied that the return, both in 2022 and over time, has been higher than the return on the benchmark index the fund is measured against.

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The objective of the highest possible return is to be achieved with acceptable risk.

In the period between 1998 and 2022, the annual return on the fund was 5.7 percent. The annual net real return, after deductions for inflation and management costs, was 3.5 percent.

Over the same period, the annual return before management costs was 0.30 percentage point higher than the return on the benchmark index from the Ministry of Finance. In the period since 2013, during which the strategies have been grouped into market exposure, security selection and fund allocation, the annual excess return before management costs has been 0.33 percentage point. The contributions from the three main strategies show that fund allocation has made a slightly negative contribution to the relative return, while market exposure and security selection have both made a positive contribution.

The objective of the highest possible return is to be achieved with acceptable risk. Risk is measured, analysed and followed up using a broad set of measures and analyses. The management mandate requires Norges Bank to manage the fund with a view to ensuring that expected relative volatility (tracking error) does not exceed 1.25 percentage points. Expected relative volatility was 0.39 percentage point at the end of 2022, compared with 0.50 percentage point a year earlier.

Measured over the full period since 1998, realised relative volatility has been 0.65 percentage point.

The management of the fund is to be cost-effective. Cost-effective management supports the objective of the highest possible return after costs. In the period from 2013 to 2022, annual management costs averaged 0.05 percent of assets under management. In 2022, management costs amounted to 5.2 billion kroner, or 0.04 percent of assets under management. The Executive Board is satisfied that management costs are low compared to other managers.

The Executive Board adopted a new strategy plan for the management of the fund at the end of 2022. The plan builds on previous strategy plans but makes minor adjustments to the three main strategies. These strategies are complementary and seek to exploit the fund's size and long investment horizon.

The mandate from the Ministry of Finance requires responsible investment to be an integral part of the management of the fund. A good long-term return is considered to depend on sustainable economic, environmental and social development. The management of climate risk is a priority for our work on responsible investment. The Ministry added a specific target for this work to the mandate for Norges Bank in 2022, along with new requirements for measuring, managing and reporting on climate risk. The Executive Board is pleased that Norges Bank has published a clear climate action plan for the period 2022–2025.

Norges Bank's Executive Board
Oslo, 8 February 2023

Ida Wolden Bache
Chair of the Executive Board

Pål Longva
First Deputy Chair
of the Executive Board

Øystein Børsum
Second Deputy Chair
of the Executive Board

Kristine Ryssdal
Board member

Arne Hyttnes
Board member

Karen Helene Ulltveit-Moe
Board member

Hans Aasnæs
Board member

Nina Udnes Tronstad
Board member

Egil Herman Sjursen
Board member

From left to right: Mie Caroline Holstad, Chief Investment Officer Real Assets - Nicolai Tangen, Chief Executive Officer - Dag Huse, Chief Risk Officer - Carine Smith Ihenacho, Chief Governance and Compliance Officer - Daniel Balthasar, Co-Chief Investment Officer Equities - Birgitte Bryne, Chief Technology and Operating Officer - Trond Grande, Chief of Staff and Deputy Chief Executive Officer - Geir Øivind Nygård, Chief Investment Officer Asset Strategies - Pedro Furtado Reis, Co-Chief Investment Officer Equities.

A turbulent year

2022 brought greater geopolitical turmoil in the world and instability in global markets than we have seen for a very long time. This led to losses on both equity and bond investments.

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Without the judgements and decisions my colleagues make, the fund's losses would have been even greater.

When I started as CEO of Norges Bank Investment Management in 2020, there were already signs that the years ahead could be turbulent ones in global markets. I must admit I did wonder whether the fund might make record losses on my watch.

Last year, equity markets had their worst year since the financial crisis in 2008, while rising interest rates also meant negative returns on bonds. All in all, an eye-watering 30 trillion dollars was wiped off the world's stocks and bonds – or around 25 times the value of the fund.

Being invested in pretty much the entire world, we have nowhere to hide in such times of trouble. Our accounts for 2022 show a negative return for the fund of 1,637 billion kroner, which is about the same as the entire Norwegian government budget.

However, the fund was worth more at the end of 2022 than a year earlier. Although we lost a lot of money on our investments, the fund still grew in size, thanks to large inflows of capital on the back of high oil and gas prices, and to the Norwegian krone falling against the currencies in which the fund is invested.

After this year of turbulent markets, I would like to take the opportunity to acknowledge the work my colleagues put in every single day. Without the judgements and decisions they make, the fund's losses would have been even greater. Our excess return for 2022, the amount by which we outperformed the benchmark index, was 117 billion kroner, which is roughly half as much again as Norway's defence budget.

The fund is like a big machine with countless different parts that need to work together. We need to keep up with rules and regulations in 70 countries, monitor millions of automated transactions, defend ourselves against cyberattacks, and constantly evaluate new investment opportunities and avoid bad ones. It is my 572 colleagues who get all of these different parts to work together.

These people make the fund what it is.

Oslo, 7 March 2023

Nicolai Tangen

Nicolai Tangen
Chief Executive Officer,
Norges Bank
Investment Management

Negative return on the fund's investments

The market value of the Government Pension Fund Global increased by 90 billion kroner in 2022.

The fund returned -14.1 percent, or -1,637 billion kroner, in a year of rising interest rates, high inflation and war in Europe.

The fund's investments spanned 70 countries and 44 currencies at the end of the year. The fund is invested in international securities and unlisted real estate and infrastructure in foreign currency. We measure returns in a basket of international currencies. This basket is defined in the management mandate as a weighted combination of the currencies in the fund's benchmark indices for equities and bonds, and consisted of 35 currencies at the end of 2022. Unless otherwise stated, the results in this report are measured in this currency basket.

TABLE 1 The fund's ten largest holdings in percent as at 31 December 2022, by country.

Country	Total	Equity	Fixed income	Unlisted real estate	Unlisted infrastructure
US	43.1	29.7	12.1	1.3	
Japan	9.1	4.9	4.1	0.1	
UK	6.7	4.8	1.5	0.4	
Germany	5.2	2.6	2.5	0.1	
France	4.9	3.3	1.2	0.4	
Switzerland	3.5	3.0	0.4	0.1	
Canada	3.0	1.4	1.6		
China	2.6	2.6	0.0		
Australia	2.2	1.6	0.6		
Netherlands	2.1	1.5	0.5	0.0	0.1

Chart 1 The fund’s investments as at 31 December 2022. Equities, unlisted real estate and infrastructure distributed by country and bonds by currency. In percent.

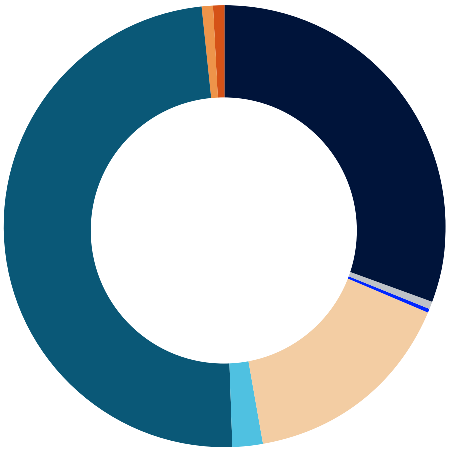


TABLE 2 Return figures in percent.

	2022	2021[1]	2020	2019	2018
Returns measured in the fund's currency basket					
Equity investments	-15.36	20.76	12.14	26.02	-9.49
Fixed-income investments	-12.11	-1.93	7.46	7.56	0.56
Unlisted real estate investments	0.07	13.64	-0.08	6.84	7.53
Unlisted infrastructure investments	5.12	4.15			
Return on fund	-14.11	14.51	10.86	19.95	-6.12
Relative return on fund (percentage points)	0.87	0.75	0.27	0.23	-0.30
Management costs	0.04	0.04	0.05	0.05	0.05
Return on fund after management costs	-14.15	14.47	10.81	19.90	-6.17
Returns in kroner					
Equity investments	-9.27	20.67	12.70	28.20	-6.56
Fixed-income investments	-5.78	-2.01	8.00	9.41	3.82
Unlisted real estate investments	7.27	13.55	0.42	8.68	11.02
Unlisted infrastructure investments	12.69	7.24			
Return on fund	-7.93	14.42	11.41	22.01	-3.07

[1] The relative return on the fund, the return on fixed-income investments and the return on the fund after management costs for 2021 have been adjusted by 0.01 percentage point as a result of an update of the return on the benchmark index.

TABLE 3 Historical key figures as at 31 December 2022. Annualised data, measured in the fund's currency basket.

	Since 01.01.1998	Last 15 years	Last 10 years	Last 5 years	Last 12 months
Fund return (percent)	**5.70**	**5.50**	**6.70**	**4.19**	**-14.11**
Annual price inflation (percent)	2.06	2.17	2.26	3.22	6.83
Annual management costs (percent)	0.08	0.07	0.05	0.05	0.04
Net real return on fund (percent)	3.50	3.19	4.29	0.89	-19.65
The fund's actual standard deviation (percent)	8.36	9.96	9.25	11.70	14.16
Relative return on fund (percentage points)[1]	0.30	0.22	0.33	0.37	0.87
The fund's tracking error (percentage points)[1]	0.65	0.76	0.41	0.44	0.73
The fund's information ratio (IR)[1,2]	0.47	0.32	0.77	0.80	1.28

[1] Based on aggregated equity and fixed-income investments until end of 2016.
[2] The fund's information ratio (IR) is the ratio of the fund's average monthly relative return to the fund's tracking error. The IR indicates how much relative return has been achieved per unit of relative risk.

CHART 2 The fund's annual return and accumulated annualised return in percent.

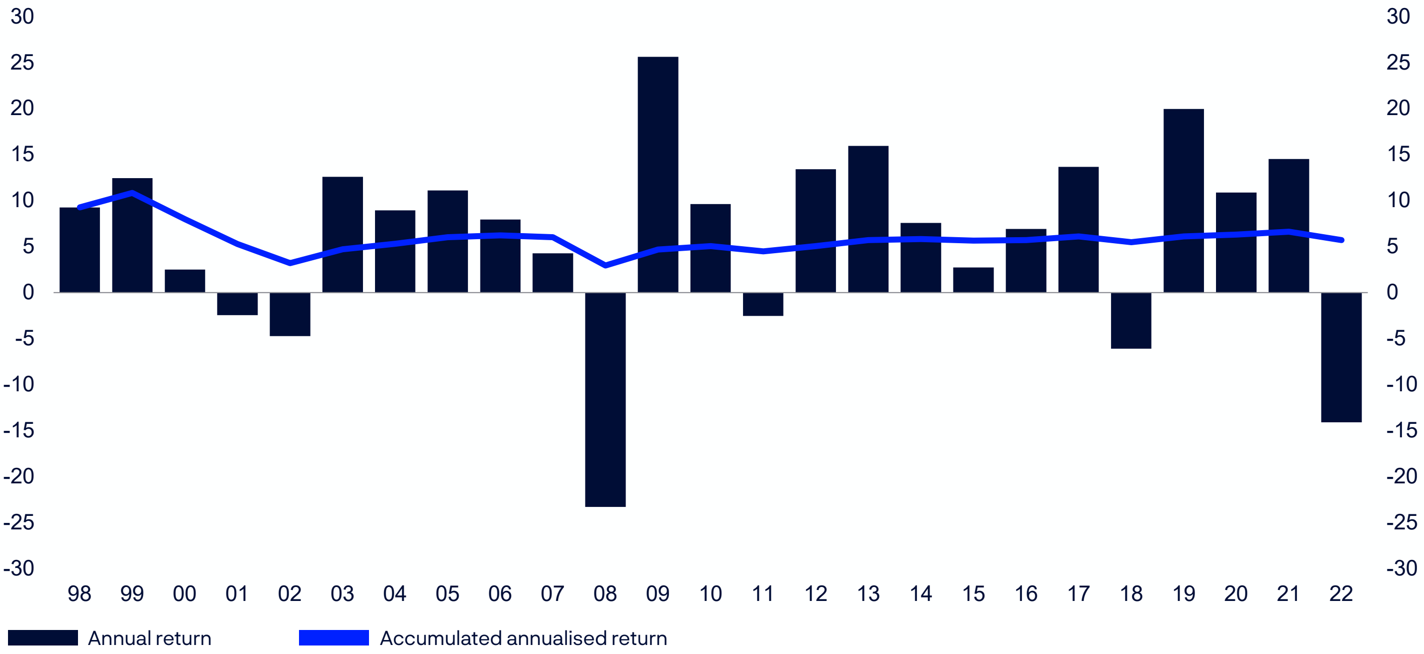


TABLE 4 Return on the fund in percent as at 31 December 2022, measured in various currencies.

	Since 01.01.1998 Annualised figures	2022	2021	2020	2019	2018
US dollar	5.73	-17.58	11.09	14.35	20.24	-8.44
Euro[1]	5.85	-12.18	19.53	4.90	22.45	-3.83
British pound	7.09	-7.19	12.12	10.82	15.59	-2.75
Norwegian krone	6.99	-7.93	14.42	11.41	22.01	-3.07
Currency basket	5.70	-14.11	14.51	10.86	19.95	-6.12

[1] Euro was introduced as currency on 01.01.1999. WM/Reuters' euro rate is used as estimate for 31.12.1997.

TABLE 5 Key figures in billions of kroner.

	2022	2021	2020	2019	2018
Market value					
Equity investments	8,672	8,878	7,945	7,145	5,477
Fixed-income investments	3,412	3,135	2,695	2,670	2,533
Unlisted real estate investments	330	312	273	273	246
Unlisted infrastructure investments[1]	15	14			
Market value of fund[2]	**12,429**	**12,340**	**10,914**	**10,088**	**8,256**
Accrued, not paid, management fees[3]	0	1	-5	-4	-5
Owner's capital[2]	**12,429**	**12,340**	**10,908**	**10,084**	**8,251**
Inflow of capital	1,090	80	4	32	43
Withdrawal of capital	0	-199	-302	-14	-9
Paid management fees[4]	-5	-10	-4	-5	-5
Return on fund	-1,637	1,580	1,070	1,692	-485
Changes due to fluctuations in krone	642	-25	58	127	224
Total change in market value	**90**	**1,426**	**826**	**1,832**	**-233**
Changes in value since first capital inflow in 1996					
Total inflow of capital	4,744	3,654	3,574	3,570	3,538
Total withdrawal of capital[3]	-687	-687	-482	-182	-167
Return on equity investments	5,280	6,485	4,897	4,023	2,545
Return on fixed-income investments	970	1,401	1,446	1,249	1,052
Return on unlisted real estate investments	119	120	84	85	69
Return on unlisted infrastructure investments[1]	2	1			
Management fees[4]	-63	-58	-53	-48	-44
Changes due to fluctuations in krone	2,065	1,423	1,448	1,390	1,263
Market value of fund	**12,429**	**12,340**	**10,914**	**10,088**	**8,256**
Return on fund	**6,370**	**8,007**	**6,427**	**5,358**	**3,666**
Return after management costs	**6,307**	**7,949**	**6,374**	**5,309**	**3,622**

[1] First unlisted infrastructure investment was made in second quarter of 2021.
[2] The fund's market value shown in this table does not take into account the management fee. Owner's capital in the financial statements equals the fund's market value less accrued, not paid, management fees.
[3] Total inflow and withdrawal of capital shown in this table is adjusted for accrued, not paid, management fees.
[4] Management fees are describe in note 12 in the financial statements.

CHART 3 Historical returns on the fund's investments in percent, by asset class.

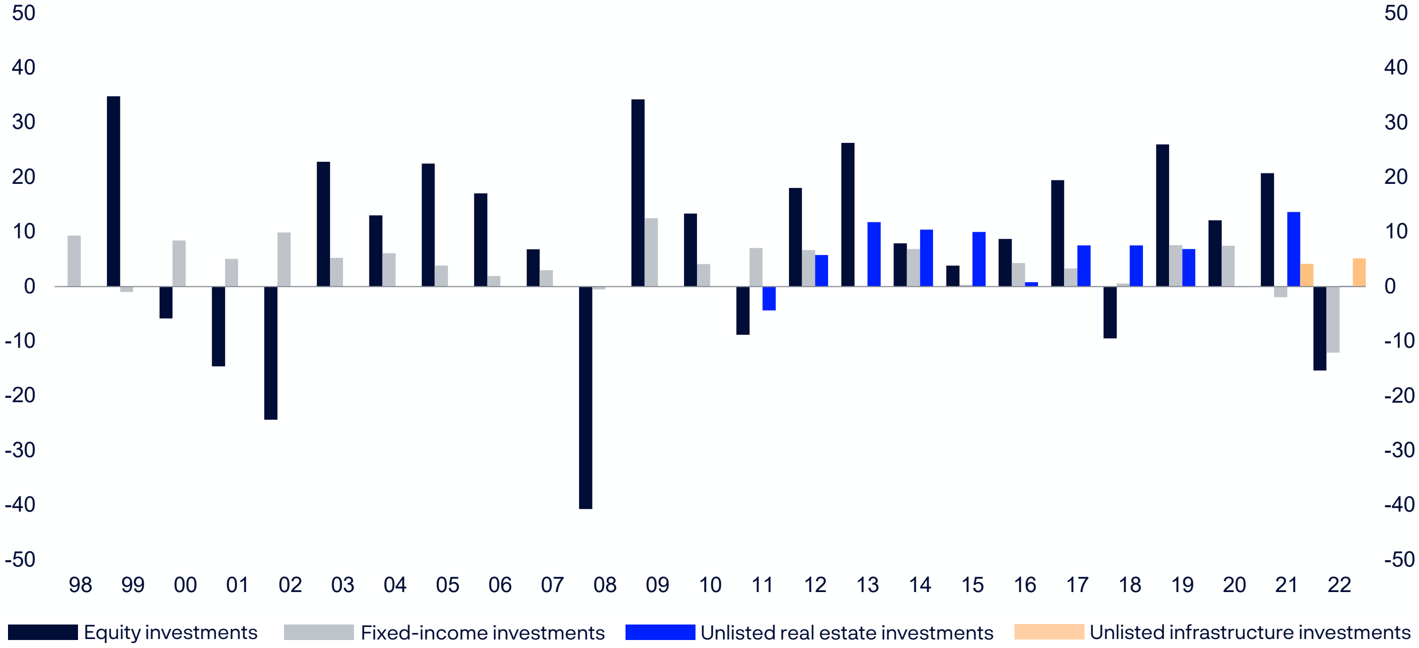


CHART 4 The fund's market value in billions of kroner.

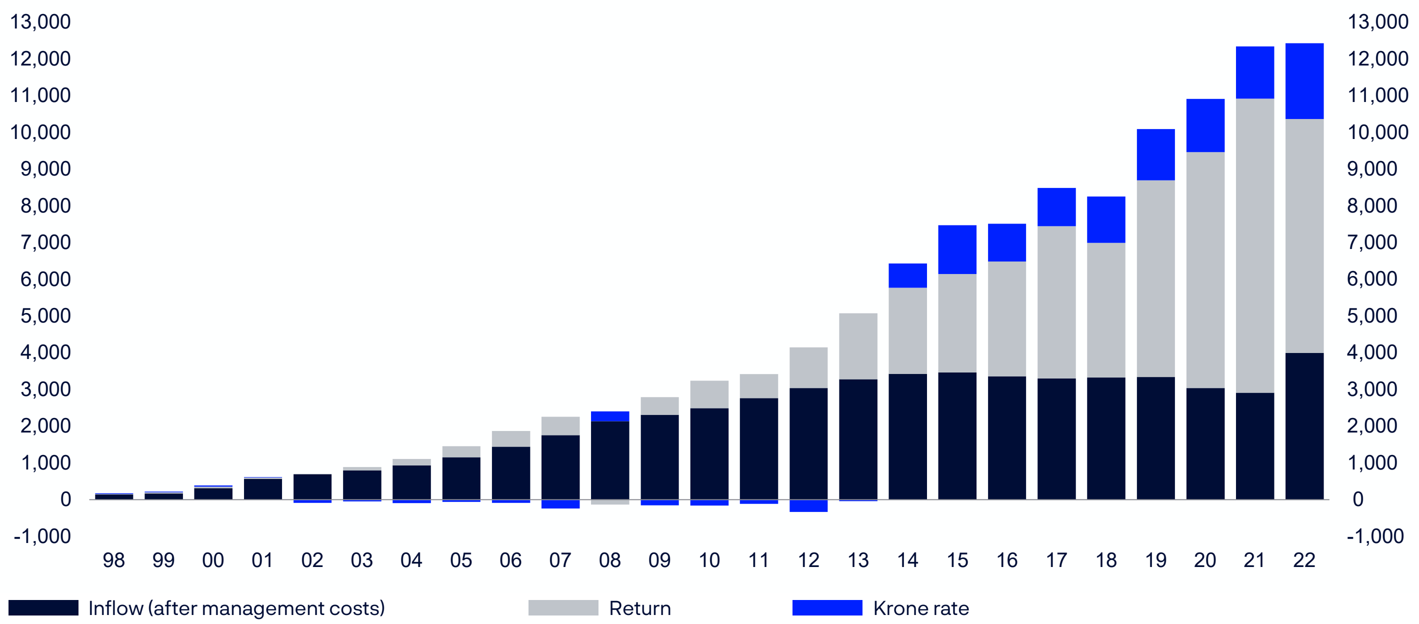


CHART 5 Changes in the fund's market value in billions of kroner.

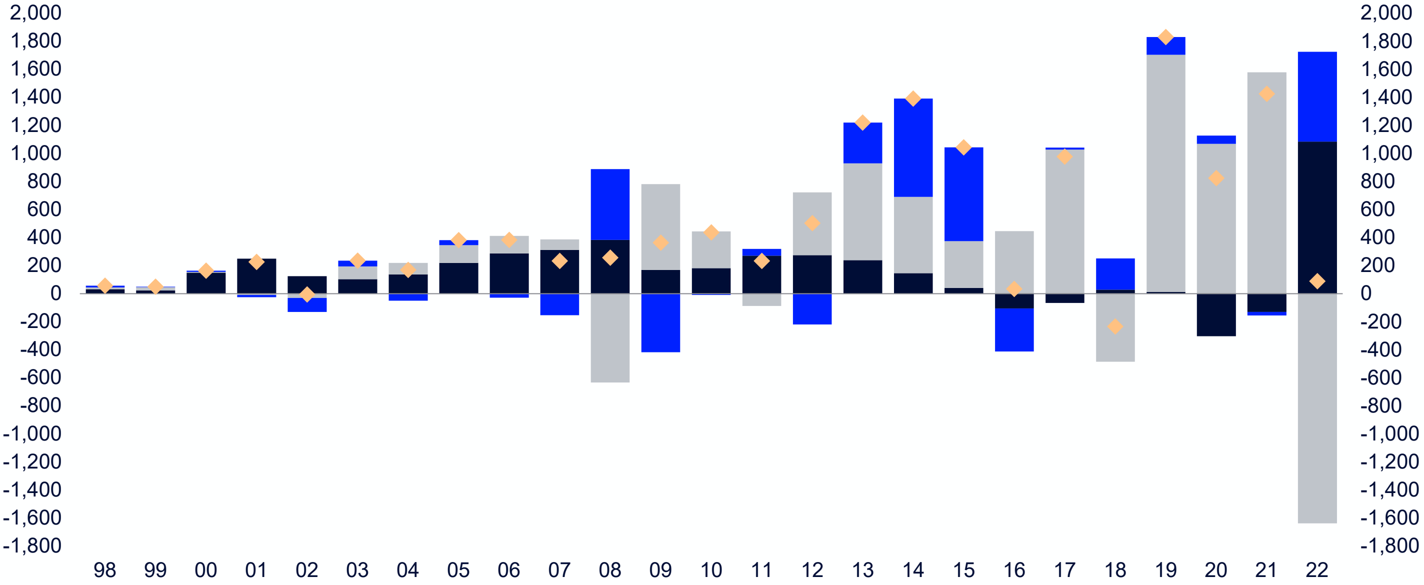
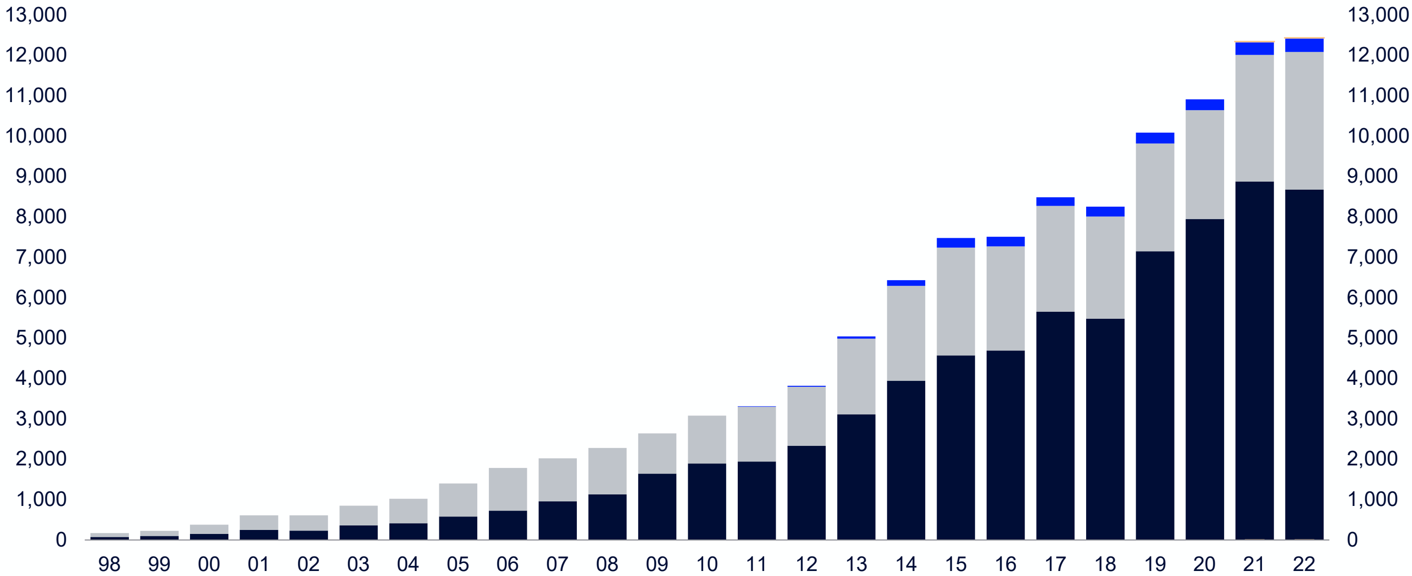


CHART 6 The fund's market value in billions of kroner, by asset class.



2. Investments

Weak year for equity investments

The fund's equity investments returned -15.4 percent in 2022. The year saw markets hit by rising interest rates, high inflation and war in Europe.

The fund's equity investments had a weak year in the face of global turmoil. This followed several years of positive returns on equity investments: 26.0 percent in 2019, 12.1 percent in 2020 and 20.8 percent in 2021. US technology stocks made the greatest contribution to the negative return in 2022.

“

The markets expect a further decline in consumer demand for durable goods in response to the sharp rise in prices for necessities such as energy, housing and food.

Energy companies perform best

Energy stocks were the best performers in 2022 with a return of 30.8 percent. Reduced supply and further strong demand for oil, gas and refined products, partly as a result of Russia’s invasion of Ukraine, led to increased revenue for energy companies.

Technology companies produced the year’s weakest return of -31.4 percent after a strong return in 2021. The increased demand for digital advertising, e-commerce and semiconductors during the pandemic has normalised, and mounting recession fears began to affect demand for software towards the end of the year.

Real estate companies generated the second-weakest return of -26.3 percent. This can be explained partly by the sector’s sensitivity to rising interest rates and higher interest costs due to high levels of debt, and lower property values as a result of higher discount rates. A weaker growth outlook also contributed negatively.

Consumer discretionary stocks had the third-weakest return of -25.2 percent. The markets expect a further decline in consumer demand for durable goods in response to the sharp rise in prices for necessities such as energy, housing and food.

Individual investments

The fund was invested in 9,228 companies at the end of 2022, down from 9,338 a year earlier. Its investments in energy companies Exxon Mobil Corp, Shell PLC and Chevron Corp made the biggest contributions to the return for the year. The worst-performing investments were in US technology companies Amazon.com Inc, Apple Inc and Meta Platforms Inc.

We participated in 32 initial public offerings during the year. The largest of these were at battery producer LG Energy Solution Ltd, Life Insurance Corporation of India and carmaker Porsche AG. The offerings in which the fund invested the most were those at Porsche AG, autonomous driving technology company Mobileye Global Inc and financial services company Corebridge Financial Inc.

1.5%

average holding in the world's listed companies.

The fund had holdings of more than 2 percent in 1,119 companies, and more than 5 percent in 50 companies. Its average holding in the world's listed companies was 1.5 percent.

Excluding listed real estate companies, the largest percentage holding in any one company was in technology company Rogers Corp. The fund's 8.8 percent stake was worth 1.9 billion kroner. With the exception of listed real estate companies, the fund may hold no more than 10 percent of the voting shares in a company.

TABLE 6 Return on the fund's largest equity investments in 2022 by country. In percent.

Country	Return in international currency	Return in local currency	Share of equity investments[1]
US	-17.4	-20.7	43.7
Japan	-12.3	-3.6	7.3
UK	-8.3	-1.0	7.0
France	-9.4	-7.4	4.8
Switzerland	-14.1	-16.3	4.5
China	-20.0	-16.3	3.8
Germany	-25.1	-23.4	3.8
Australia	-6.6	-3.9	2.3
Netherlands	-23.2	-21.4	2.2
Canada	-12.4	-9.8	2.1

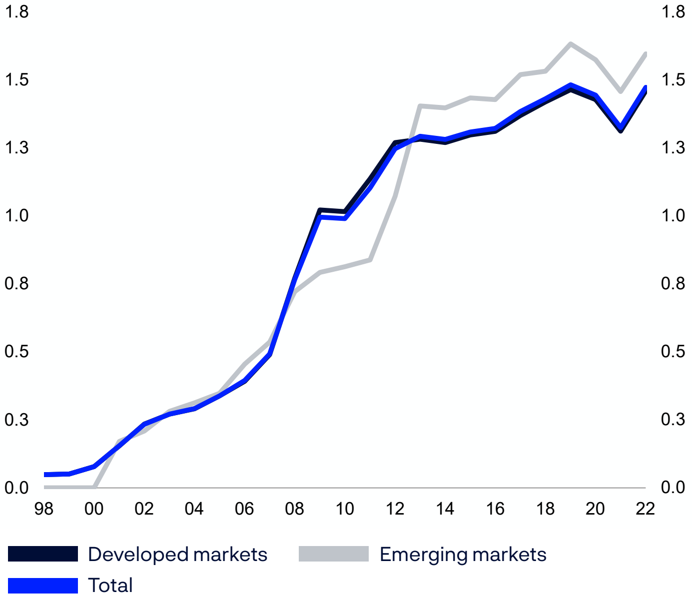
[1] Does not sum up to 100 percent because cash and derivatives are not included.

TABLE 7 Return on the fund's equity investments in 2022. Measured in international currency and sorted by sector. In percent.

Sector	Return	Share of equity investments[1]
Technology	-31.4	17.5
Financials	-3.2	15.8
Consumer discretionary	-25.2	13.3
Industrials	-15.7	13.1
Health care	-6.2	12.7
Consumer staples	-6.5	6.6
Real estate	-26.3	5.5
Basic materials	-7.6	4.4
Energy	30.8	4.4
Telecommunications	-12.0	3.1
Utilities	-3.8	2.7

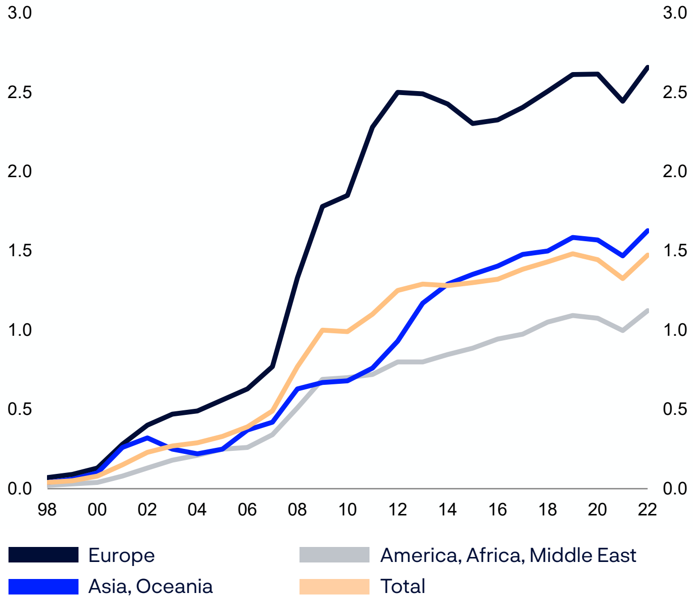
[1] Does not sum up to 100 percent because cash and derivatives are not included.

CHART 7 The fund's holdings in equity markets. Percentage of market value of equities in the benchmark index.



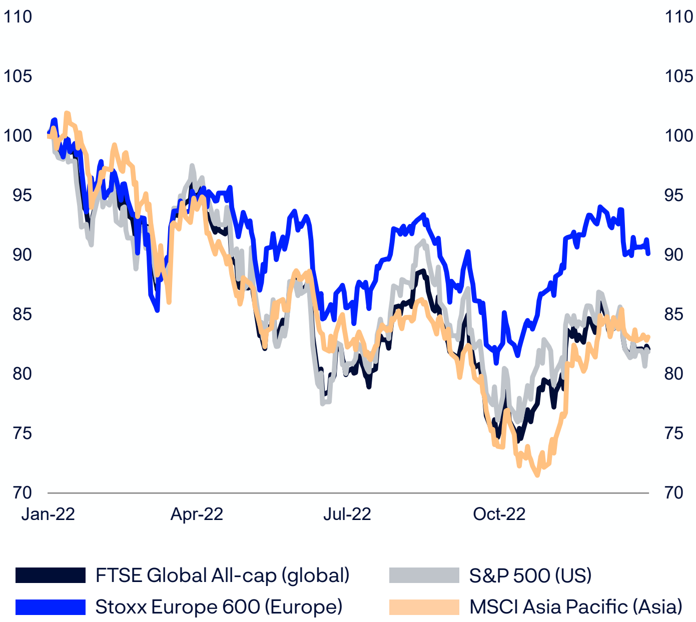
SOURCE: FTSE Russell, Norges Bank Investment Management

CHART 8 The fund's holdings in equity markets. Percentage of market value of equities in the benchmark index.



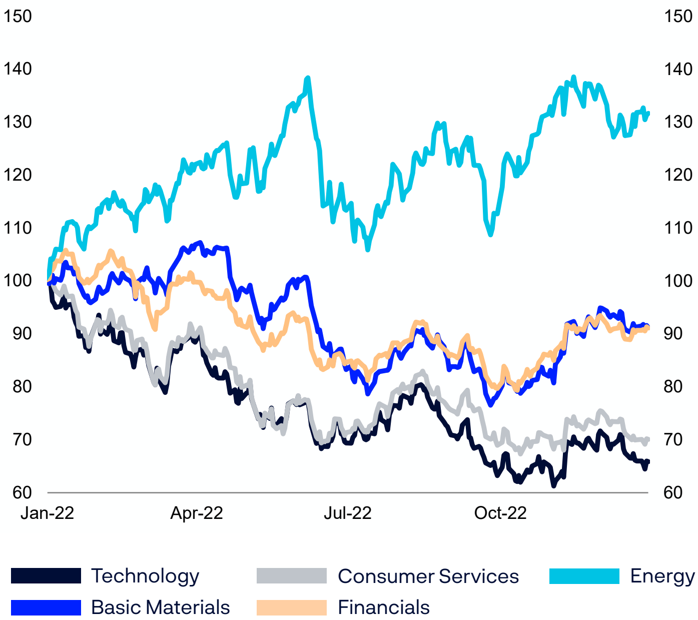
SOURCE: FTSE Russell, Norges Bank Investment Management

CHART 9 Price developments in regional equity markets. Measured in dollars, except for the Stoxx Europe 600, which is measured in euros. Indexed total return 31.12.2021 = 100.



SOURCE: Bloomberg

CHART 10 Price developments in stock sectors in the FTSE Global All Cap Index. Measured in dollars. Indexed total return 31.12.2021 = 100.



SOURCE: FTSE Russell

Negative return on fixed-income investments

The fund's fixed-income investments returned -12.1 percent in 2022. When interest rates rise, bond prices fall. The Federal Reserve raised its policy rate from zero to 4.25 percent in the course of the year, and US ten-year bond yields climbed around 2 percentage points to 3.5 percent. It was one of the weakest years ever for global bond markets.

-11.6%

return on government bonds.

The background to the sharp rise in interest rates was persistent inflationary pressures in the global economy. This came after global rates had been falling for around 40 years. Pent-up consumer demand after the pandemic and the Russian invasion of Ukraine were perhaps the most two most important reasons why energy and food prices in particular surged. Higher interest rates will help put a damper on consumption and bring inflation back down.

Bond portfolio drops in value

The fund's government bond holdings returned -11.6 percent in 2022 and accounted for 63.5 percent of its fixed-income investments at the end of the year. Government bonds in developed markets, which made up 61.0 percent of fixed-income investments, returned -12.0 percent.

US Treasuries returned -9.2 per cent and accounted for 26.8 per cent of fixed-income investments. Japanese government bonds made up 13.6 percent of fixed-income holdings and returned -12.7 percent. Euro-denominated government bonds returned -19.8 percent and amounted to 10.9 percent of fixed-income investments.

TABLE 8 Return on the fund's largest bond holdings by currency in 2022. In percent.

Currency	Return in international currency	Return in local currency	Share of fixed-income investments
US dollar	-9.3	-13.0	49.7
Euro	-17.3	-15.4	27.5
Japanese yen	-12.3	-3.6	14.5
Canadian dollar	-12.8	-10.2	4.6
Singapore dollar	5.5	0.7	4.6
British pounds	-29.9	-24.3	4.5
Australian dollar	-12.8	-10.2	2.4
Swedish krona	-15.4	-6.6	0.8
Swiss franc	-9.5	-11.8	0.7
South Korean won	-5.2	-3.2	0.6

> In the euro area, both higher interest rates and a weak currency contributed to a substantial negative return.

Global inflationary pressures had less of an effect on the Japanese economy, and the Bank of Japan continued its policy of a negative interest rate and yield curve control, with a cautious adjustment of the latter in December. The negative return in Japan was mainly a result of a sharp fall in the yen during the year. In the euro area, both higher interest rates and a weak currency contributed to a substantial negative return.

Corporate bonds returned -12.4 percent and represented 24.3 percent of fixed-income investments at the end of 2022. A higher share of investments in US dollars than in the rest of the bond portfolio made a positive contribution. On the other hand, the return was adversely affected by a rise in the credit premium, which is the compensation that investors demand for holding bonds of this type rather than less risky government bonds.

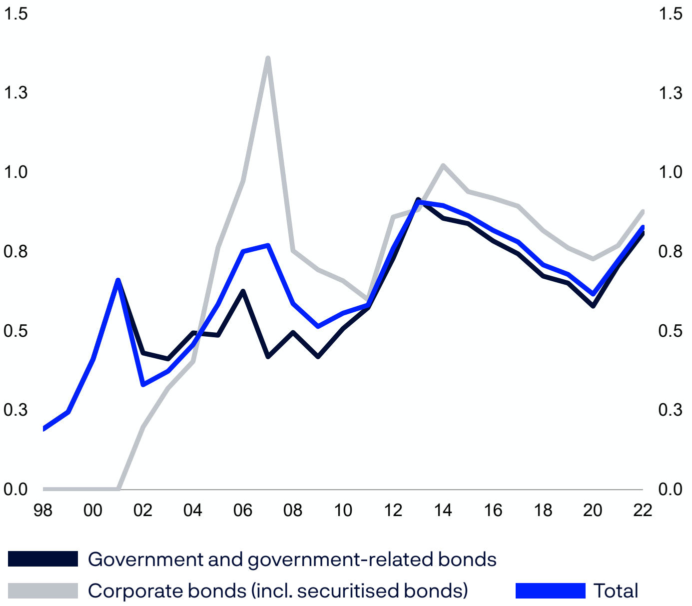
TABLE 9 Return on the fund's fixed-income investments in 2022. Measured in international currency and sorted by sector. In percent.

Sector	Return	Share of fixed-income investments[1]
Government bonds[2]	-11.6	63.5
Government-related bonds[2]	-14.3	11.2
Inflation-linked bonds[2]	-13.3	7.1
Corporate bonds	-12.4	24.3
Securitised bonds	-11.4	6.9

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

[2] Governments may issue different types of bonds, and the fund's investments in these bonds are grouped accordingly. Bonds issued by a country's government in the country's own currency are categorised as government bonds. Bonds issued by a country's government in another country's currency are government-related bonds. Inflation-linked bonds issued by governments are grouped with inflation-linked bonds.

CHART 11 The fund's holdings in fixed-income markets. Percentage of market value of bonds in the benchmark index.

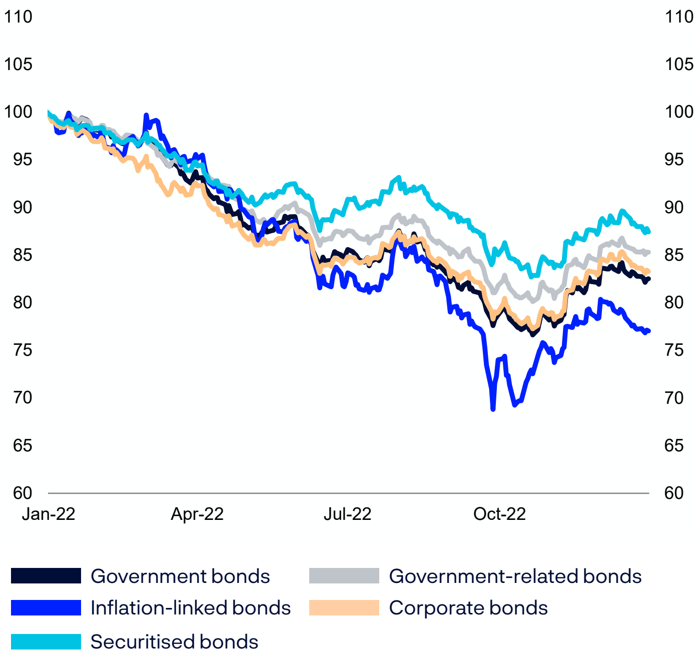


SOURCE: Bloomberg Barclays Indices, Norges Bank Investment Management

CHART 12 Price developments for bonds issued in dollars, euros, pounds and yen. Measured in local currencies. Indexed total return 31.12.2021 = 100.

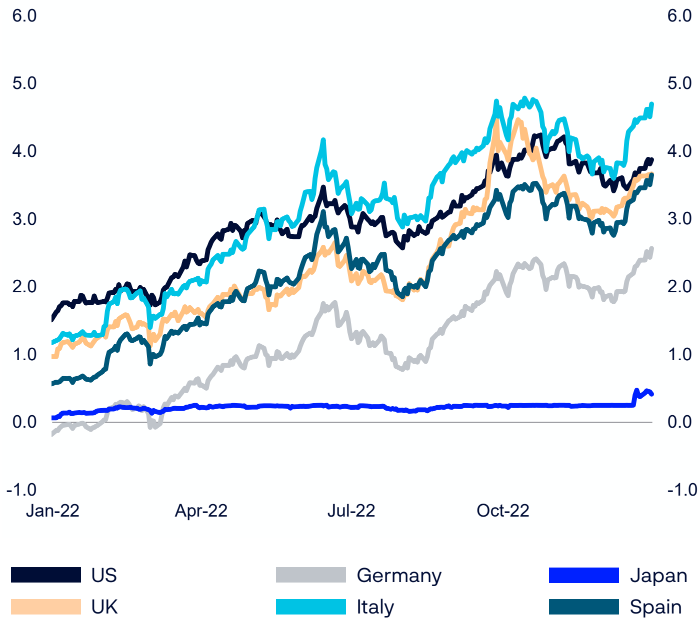
SOURCE: Bloomberg Barclays Indices

CHART 13 Price developments in fixed-income sectors. Measured in dollars. Indexed total return 31.12.2021 = 100.



SOURCE: Bloomberg Barclays Indices

CHART 14 10-year government bond yields in percent.



SOURCE: Bloomberg

In 2022, the fund acquired a 50 percent interest in Sony Center located on Potsdamer Straße 4 in Berlin.

Weak return on real estate investments

The fund's investments in real estate returned -14.1 percent in 2022 and made up 4.4 percent of the fund at the end of the year. Unlisted real estate investments returned 0.1 percent, and listed real estate investments -30.8 percent.

The fund's real estate strategy covers both unlisted and listed real estate investments. Altogether, these investments amounted to 547 billion kroner at the end of the year.

TABLE 10 Value of real estate investments in millions of kroner as at 31 December 2022.

	Value[1]
Unlisted real estate investments	330,300
Listed real estate investments	216,977
Aggregated real estate investments	**547,277**

[1] Including bank deposits and other receivables

"

2022 was a turbulent year for real estate, which was affected both directly and indirectly by economic and geopolitical developments.

In 2022, the fund acquired a 65 percent interest in 86 boulevard Haussmann, an office property in central Paris.

Unlisted real estate

We invest in unlisted real estate through subsidiaries in order to ensure good risk management and protect the fund's assets. The investments had a market value of 330 billion kroner at the end of the year, equivalent to 2.7 percent of the fund and 60.4 percent of our total real estate investments.

2022 was a turbulent year for real estate, which was affected both directly and indirectly by economic and geopolitical developments. Real estate can be valued as a flow of future rental income. When the policy rate rises, the value of this future cash flow falls, and so then does the value of the property. Higher policy rates also led to higher borrowing costs for property investors, so undermining demand for real estate. High inflation affected our tenants' finances, and uncertainty about lease renewals increased, further reducing property values.

Despite this drop in values, rental income continued to provide a solid cash flow for the fund. Rental income contributed 3.1 percent to the return in 2022. Competition between tenants for the most attractive locations and best properties had a positive impact on the office segment. Our retail portfolio centres around the most popular shopping streets, which continue to be attractive to tenants. Our logistics investments are strategically located to benefit from the growth in e-commerce, which continued in 2022.

TABLE 11 Return on the fund's unlisted real estate investments in percentage points.

	Since 01.04.2011	2022	2021	2020	2019	2018
Rental income	3.7	3.1	3.4	3.4	3.6	3.6
Change in value	2.9	-3.0	9.8	-3.5	3.1	4.1
Transaction costs	-0.9	-0.1	-0.1	-0.2	-0.1	-0.2
Currency effect	0.1	0.1	0.2	0.3	0.1	-0.1
Total (percent)	**5.9**	**0.1**	**13.6**	**-0.1**	**6.8**	**7.5**

22.9%

of the real estate investments are in Paris.

4.2%

return in Japan.

Share of portfolio

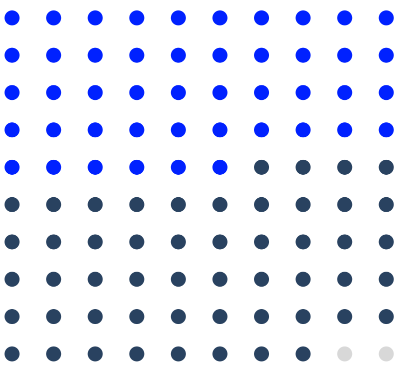


TABLE 12 The fund's largest unlisted real estate investments as at 31 December 2022.

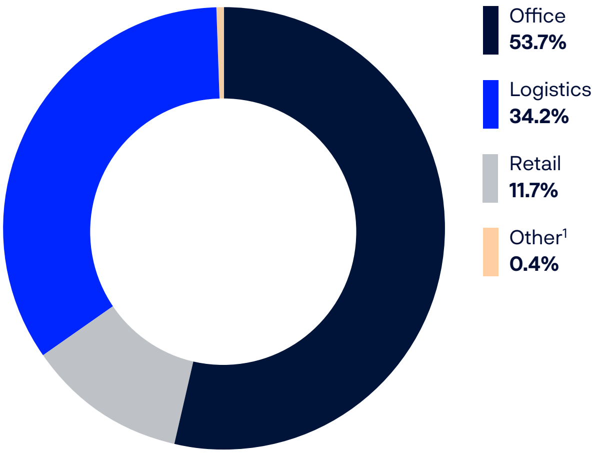
Retail, office and other by city[1]	Percent
Paris	22.9
London	18.1
New York	17.1
Boston	13.8
Berlin	6.5
San Francisco	5.8
Washington, D.C.	5.5
Zürich	5.2
Tokyo	3.7
Sheffield	0.7
Cambridge	0.5
Logistics by country	**Percent**
US	70.0
UK	10.7
France	4.1
Netherlands	2.8
Spain	2.7
Italy	2.3
Czech Republic	2.1
Germany	2.1
Other countries	3.4

[1] Excluding investments in logistics

TABLE 13 Return on the fund's unlisted real estate investment by market as at 31 December 2022. In percent.

Market	Return	Share of portfolio
Europe	-2.5	45.7
US	1.6	51.8
Japan	4.2	2.4

CHART 15 The fund's unlisted real estate investments by sector as at 31 December 2022.



[1]Other sectors, bank deposits and other claims.

CHART 16 The fund's unlisted real estate investments by country as at 31 December 2022.

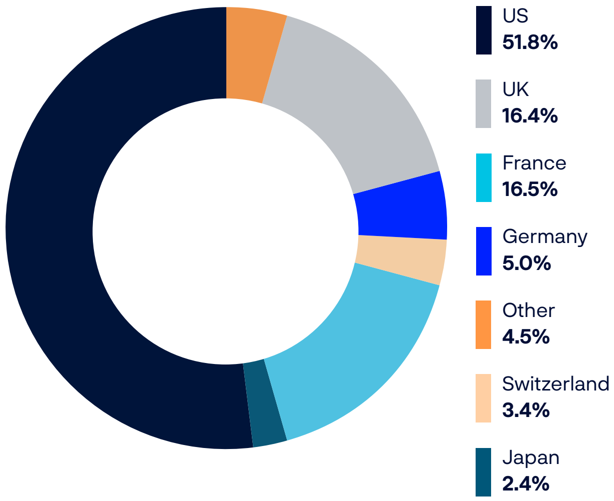
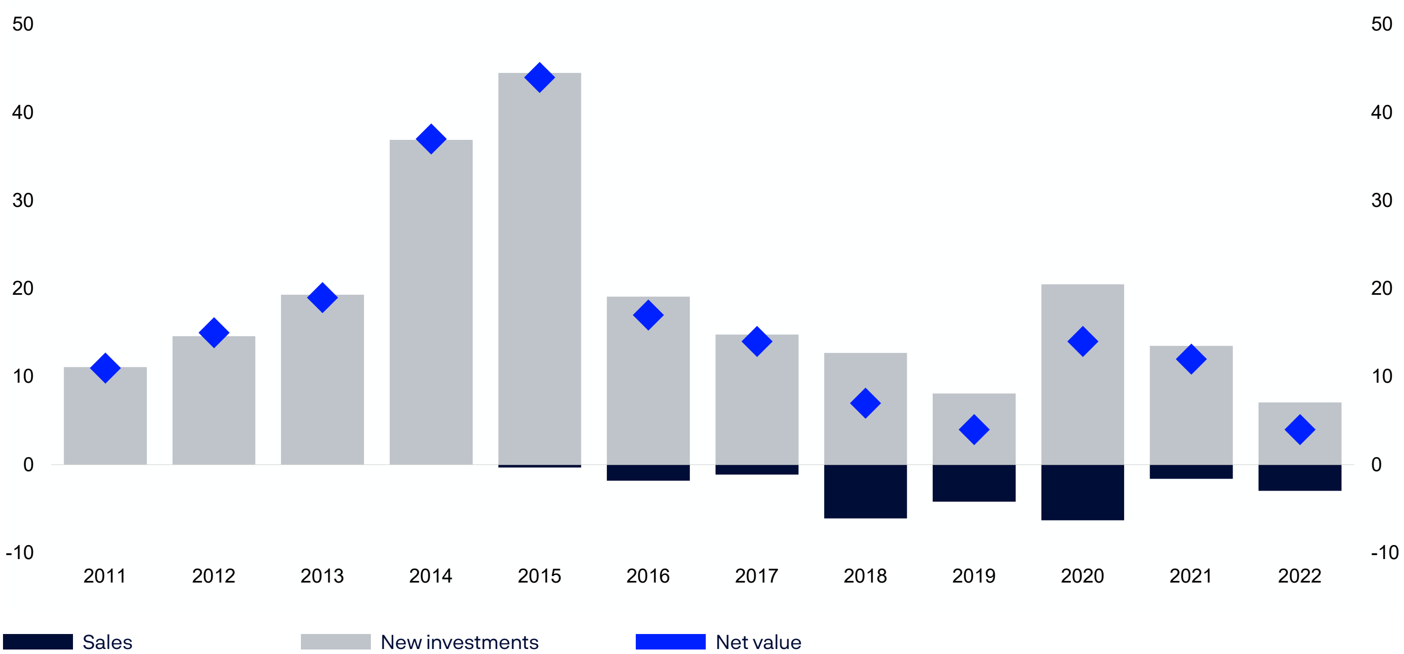


CHART 17 Annual investments in unlisted real estate. Completed transactions in billions of kroner.



-30.8%

return on listed real estate investments.

Listed real estate

The real estate management's listed real estate investments returned -30.8 percent in 2022. The investments made up 1.7 percent of the fund. Listed real estate companies made up 39.6 percent of our total real estate management and consisted of 57 listed companies.

The largest percentage stake in a listed real estate company at the end of the year was 25.7 percent of Shaftesbury PLC. The fund also had holdings above 10 percent in the listed real estate companies Great Portland Estates PLC, Capital & Counties Properties PLC and Vonovia SE. Vonovia SE was the single largest investment with a holding of 26,908 million kroner.

TABLE 14 The fund's ownership shares for the listed real estate investments as at 31 December 2022[1], by size of holding.

Company	Country	Ownership in percent	Holding in million kroner
Vonovia SE	Germany	14.6	26,908
Alexandria Real Estate Equities Inc	US	9.5	22,376
Equity Residential	US	8.1	17,901
Invitation Homes Inc	US	6.2	11,061
Welltower Inc	US	3.5	10,810
Regency Centers Corp	US	9.4	9,936
AvalonBay Communities Inc	US	4.4	9,813
American Tower Corp	US	1.0	9,705
Prologis Inc	US	0.9	9,418
UDR Inc	US	7.2	8,971
Boston Properties Inc	US	8.1	8,427
Simon Property Group Inc	US	2.1	7,869
Federal Realty Investment Trust	US	8.9	7,160
Gecina SA	France	9.3	7,159
Equinix Inc	US	1.2	7,008
Public Storage	US	1.3	6,504
Crown Castle Inc	US	1.1	6,212
American Homes 4 Rent	US	5.8	6,100
Segro PLC	UK	5.5	6,032
Mid-America Apartment Communities Inc	US	3.0	5,307

[1] The figures for ownership share and holdings also include holdings that are a part of the equity management.

Unlisted renewable energy infrastructure

The fund’s investment in unlisted renewable energy infrastructure returned 5.1 percent and made up 0.1 percent of the fund at the end of the year.

The fund has a 50 percent stake in the Borssele 1 & 2 offshore wind farm in the Netherlands. This was the fund’s only investment in unlisted renewable energy infrastructure at the end of the year and had a market value of 15 billion kroner.

The return for 2022 was 5.1 percent. This stemmed mainly from an increase in the value of the asset and cash flows from the power generated during the year. Both components were boosted by high power prices in the market. The value of the wind farm will be written down to zero over the life of the project.

The management mandate from the Ministry of Finance sets an upper limit for investments in unlisted renewable energy infrastructure of 2 percent of the fund’s value.

TABLE 15 Value of unlisted infrastructure investments in billions of kroner as at 31 December 2022.

	Value[1]
Unlisted infrastructure investments	**15**

[1] Including bank deposits and other receivables.

TABLE 16 Return of unlisted infrastructure investments in percent as at 31 December 2022.

	Return
Unlisted infrastructure investments	**5.12**

Global investments

Number of investment by asset class

North America

2,163 companies

2,955 bonds from
769 issuers

448 properties

Latin-America

235 companies

79 bonds from
24 issuers

Africa

117 companies

10 bonds from
1 issuer

Europe

1,743 companies

2,361 bonds from
512 issuers

436 properties

1 unlisted renewable energy infrastructure

Oceania

419 companies

191 bonds from
39 issuers

International organisations

166 bonds from
17 issuers

Middle East

132 companies

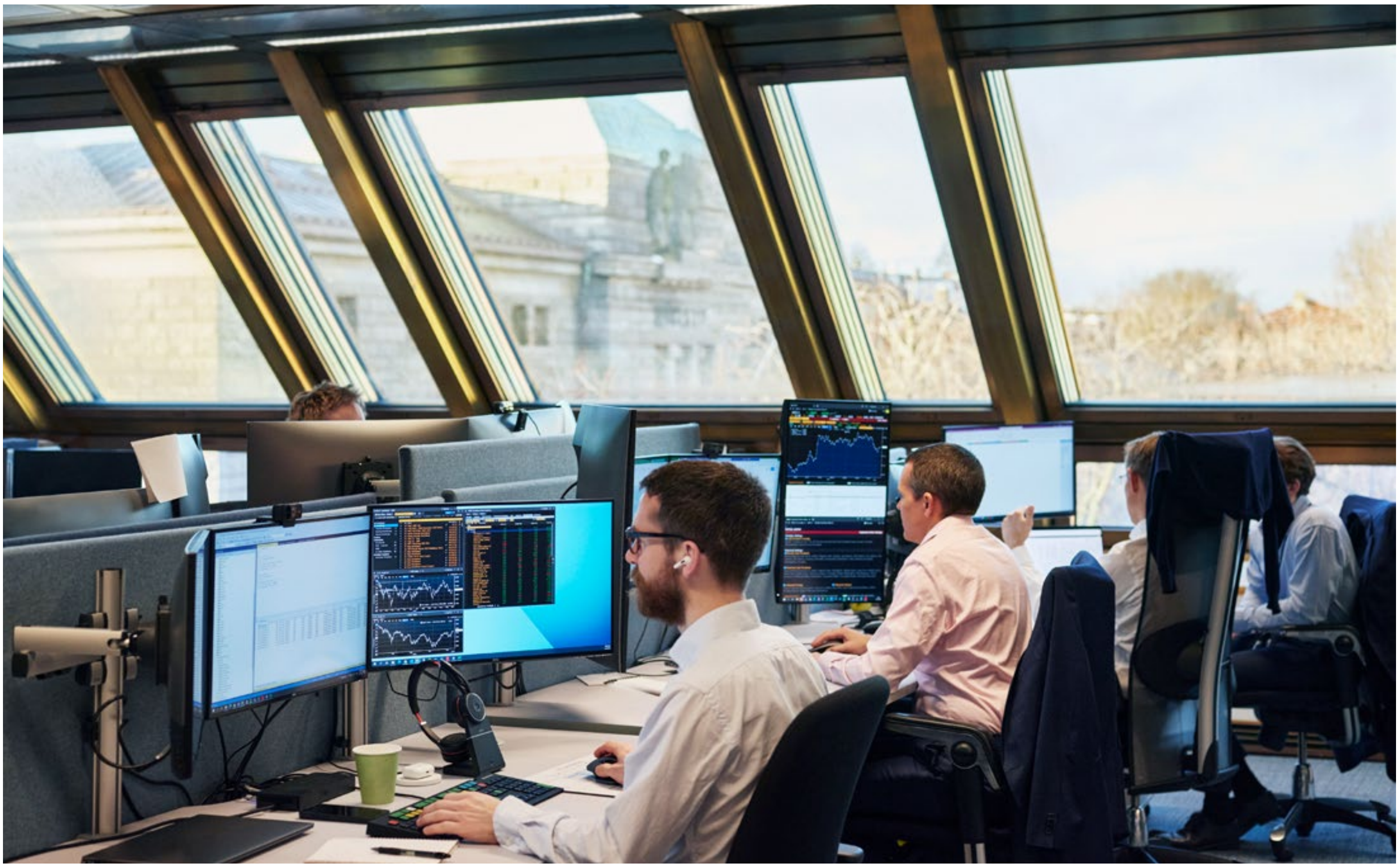
10 bonds from
1 issuer

Asia

4,419 companies

502 bonds from
67 issuers

6 properties



Investment risk

The fund's market risk is determined by the composition of its investments and by movements in share prices, exchange rates, interest rates, credit risk premiums and the value of properties and renewable energy infrastructure assets.

As no single measure or analysis can fully capture the fund's market risk, we use a variety of measures and analyses, including expected volatility, factor exposures, concentration analysis, liquidity risk and stress testing, to obtain the broadest possible picture of the fund's market risk. Some investment strategies expose the fund to elevated tail risks, and we monitor these risks carefully.

The fund's expected absolute volatility, calculated using the statistical measure standard deviation, uses a three-year price history to estimate how much the annual return on the fund's investments can normally be expected to fluctuate. Expected absolute volatility was 10.1 percent, or about 1,250 billion kroner, at the end of 2022, compared with 10.3 percent a year earlier.

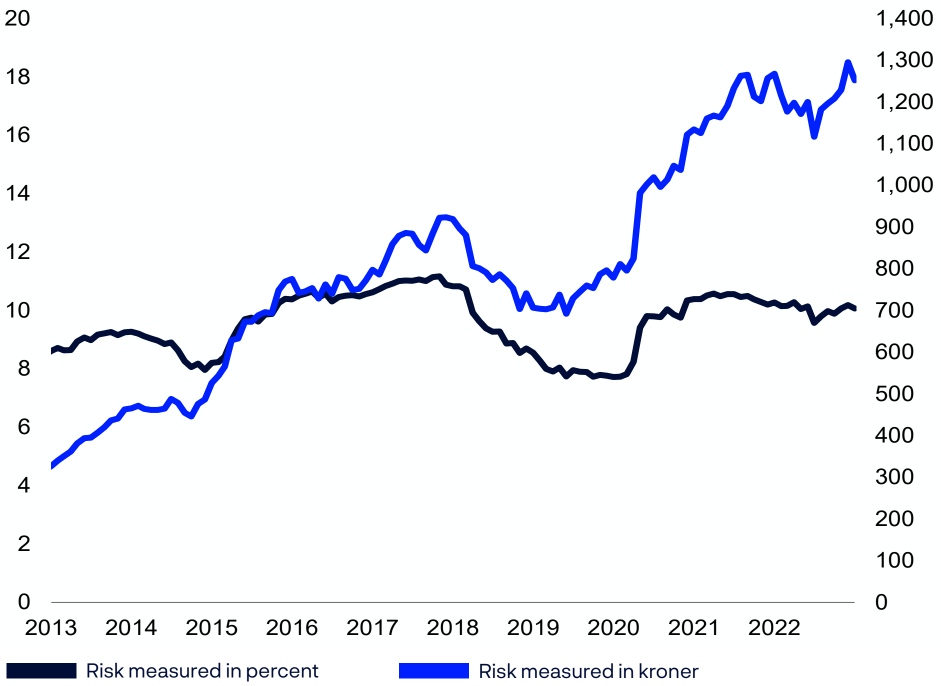
"

As a large fund with an equity share of around 70 percent, we have to be prepared for considerable fluctuations in the fund's return and market value.

As a large fund with an equity share of around 70 percent, we have to be prepared for considerable fluctuations in the fund's return and market value. We perform both historical and hypothetical stress tests to analyse potential losses. For a global portfolio with a 70/30 split between equities and fixed income, a historical analysis back to 1900 shows annual losses in stressed periods as high as 33 percent. Long historical time series can reveal vulnerabilities that have not been observed in recent crises, such as when equity and bond prices fall simultaneously. The fund also stress tests the portfolio in hypothetical scenarios.

Over the course of last year, we saw sharp increases in inflation and central banks responding by tightening monetary policy, against a backdrop of high levels of government debt. An extended report on stress testing based on today's uncertain economic outlook and increased geopolitical tensions is available on our website: www.nbim.no. Three scenarios are presented in the report: a hard landing caused by sharp real rate increases, a de-anchoring of long-term inflation expectations, and a major geopolitical conflict leading to a decoupling of trade and financial links. Scaled to the fund's size at the end of 2022, the major geopolitical conflict scenario could lead to a loss of around 5,000 billion kroner, or 40 percent of the fund's value.

CHART 18 Expected absolute volatility of the fund. Percent (left-hand axis) and billions of kroner (right-hand axis).



Higher return than the benchmark index

We aim to leverage the fund's long-term investment horizon and considerable size to generate a high return with acceptable risk. In 2022, the fund's return was 0.87 percentage point higher than the return on the benchmark index.

The return on the fund's investments is measured against the return on the fund's benchmark index from the Ministry of Finance, which is made up of global equity and bond indices. The equity portion of the benchmark index is based on the FTSE Global All Cap index and comprised 9,037 listed companies at the end of the year. The bond portion of the benchmark index is based on indices from Bloomberg Barclays Indices and comprised 16,773 bonds from 1,721 issuers.

9,228

listed companies in which the fund was invested in at the end of 2022.

At the end of 2022, the fund was invested in 9,228 listed companies (including listed real estate companies) and 6,154 bonds from 1,430 issuers. The fund also had investments in 890 unlisted properties and an offshore wind farm. To make all these investments in a way that contributes to the objective of the highest possible return after costs, we delegate the responsibility for individual investments to our portfolio managers through individual investment mandates. These mandates are awarded within the fund's three main strategies: market exposure, fund allocation and security selection. A delegated mandate structure helps us build deep insight into selected market segments and companies. This insight puts us in a better position to be a responsible investor. At the end of 2022, we had 262 individual equity and bond mandates, of which 107 were assigned to external equity managers. This approach ensures precise management and control of risk, performance measurement, costs and incentives for each investment mandate.

The fund's investments in real estate and unlisted renewable energy infrastructure are not part of the benchmark index from the Ministry. We must therefore sell equities and bonds in the benchmark index to fund investments in real estate and unlisted infrastructure. Which equities and bonds are sold depends on the country and currency in which the investment is made. The relative return for equity management and bond management is measured against the benchmark index adjusted for the equities and bonds sold to fund investments in real estate and unlisted renewable energy infrastructure. The return on real estate and infrastructure investments is measured against the equities and bonds sold to fund them, but also against a broader set of return metrics.

0.87

percentage point higher return than the benchmark index.

The fund's relative return

In 2022, the fund's return was 0.87 percentage point higher than the return on the benchmark index. The fund has outperformed the benchmark index by 0.30 percentage point annually since 1998, 0.33 percentage point over the past decade, and 0.37 percentage point over the past five years.

CHART 19 The fund's annual relative return and accumulated annualised relative return in percentage points. Calculations based on aggregated equity and fixed-income investments until end of 2016.

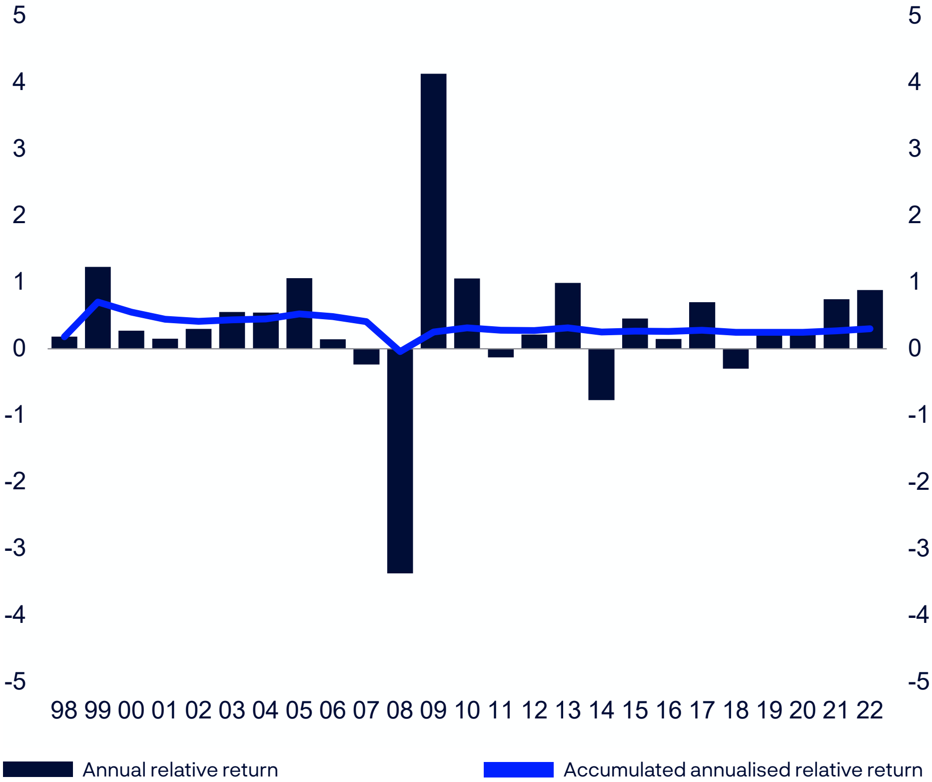


TABLE 17 Relative return in 2022.

	Percentage points
Fund	0.87
Equity investments	-0.04
Fixed-income investments	1.85

> The investments in the energy, financial and telecommunication sectors contributed most to the relative return.

Equity management

Equity management is measured against the equity portion of the benchmark index, adjusted for sales of equities to fund investments in real estate and renewable energy infrastructure. The return on equity management was 0.52 percentage point higher than on this adjusted benchmark in 2022 and made a positive contribution of 0.36 percentage point to the fund's total relative return. Investments in the energy, financial and telecommunication sectors contributed most to the relative return, while investments in technology and consumer goods made negative contributions. Broken down by country, investments in the US, the UK and France contributed most to the relative return, while investments in Singapore and Germany made negative contributions.

Equity management has outperformed the benchmark index by 0.48 percentage point annually since 1999, 0.40 percentage point over the past decade, and 0.38 percentage point over the past five years.

Fixed-income management

Fixed-income management is measured against the bond portion of the benchmark index, adjusted for sales of bonds to fund investments in real estate and renewable energy infrastructure. The return on fixed-income management was 1.68 percentage point higher than on this adjusted benchmark in 2022 and contributed 0.44 percentage point to the fund's relative return. Government bonds issued in emerging markets and corporate bonds both made positive contributions. Fixed-income management also had a lower duration than the benchmark in a year when interest rates rose considerably, resulting in a significant positive contribution to the relative return.

Fixed-income management has outperformed the benchmark index by 0.23 percentage point annually since 1998, 0.26 percentage point over the past decade, and 0.54 percentage point over the past five years.

> We invest in real estate to improve the fund's risk/return profile.

Real estate

We invest in real estate to improve the fund's risk/return profile. The fund's overall strategy for real estate covers both unlisted and listed real estate investments. The relative return for real estate management is the difference between the return on the fund's total real estate investments and the return on the bonds and equities sold to buy them. Real estate management contributed 0.02 percentage point to the fund's relative return in 2022. Unlisted real estate investments made a positive contribution of 0.37 percentage point, most of this coming from the fund's investments in logistics, while listed real estate investments made a negative contribution of 0.35 percentage point. Broken down by country, listed real estate investments in the US and Germany made the most negative contributions.

We report unlisted real estate returns quarterly and annually, but longer time series paint a better picture of the performance of our investments. From the fund's first unlisted real estate investment through to the end of 2016, the annual return on unlisted real estate investments was 5.98 percent. During this period, real estate investments were funded by selling bonds. The annual return on bond investments in the same period was 4.37 percent. Since 2017, unlisted real estate has been funded through sales of equities as well as bonds. The annual return on this funding from 2017 to 2022 was 2.8 percent, compared with 5.8 percent for the unlisted real estate portfolio.

Unlisted renewable energy infrastructure

We also invest in unlisted renewable energy infrastructure to improve the fund's risk/return profile. The fund's strategy is to build up a portfolio of high-quality wind and solar power generation assets. The relative return for renewable energy infrastructure is the difference between the return on the fund's total investments in these assets and the return on the bonds and equities sold to buy them. The fund's first, and only investment in renewable energy infrastructure at the end of 2022, returned 7.48 percent measured in euros.

TABLE 18 Relative return on the fund's asset management in percentage points.

Year	Fund[1]	Equity management[2]	Fixed-income management[2]	Real estate management[2]	Infrastructure management
2022	0.87	0.52	1.68	0.22	25.09
2021[3]	0.75	0.78	-0.04	7.36	8.04
2020	0.27	0.98	0.76	-13.81	-
2019	0.23	0.51	0.11	-3.89	-
2018	-0.30	-0.69	-0.01	5.49	
2017	0.70	0.79	0.39	0.70	
2016	0.15	0.15	0.16		
2015	0.45	0.83	-0.24		
2014	-0.77	-0.82	-0.70		
2013	0.99	1.28	0.25		
2012	0.21	0.52	-0.29		
2011	-0.13	-0.48	0.52		
2010	1.06	0.73	1.53		
2009	4.13	1.86	7.36		
2008	-3.37	-1.15	-6.60		
2007	-0.24	1.15	-1.29		
2006	0.14	-0.09	0.25		
2005	1.06	2.16	0.36		
2004	0.54	0.79	0.37		
2003	0.55	0.51	0.48		
2002	0.30	0.07	0.49		
2001	0.15	0.06	0.08		
2000	0.27	0.49	0.07		
1999	1.23	3.49	0.01		
1998	0.18		0.21		

[1] Includes real estate management from 2017. The fund's relative return prior to 2017 is calculated on equity and fixed-income management only.

[2] Measured against actual funding from 2017. The relative return on equity and fixed-income management before 2017 is measured against the respective Ministry of Finance asset class indices.

[3] The relative return on the fund and fixed-income management for 2021 have been adjusted by 0.01 percentage point as a result of an update of the return on the benchmark index.

Investment strategies

We employ a range of investment strategies in our management of the fund. They are grouped into three main categories: market exposure, security selection and fund allocation. These strategies are pursued across equity, fixed-income and real asset management.

Market exposure strategies consist of positioning and securities lending, and contributed 0.16 percentage point to the fund’s relative return in 2022. Positioning is about implementing market exposures in ways that increase investment returns and reduce transaction costs for the fund. The strategy aims to exploit relative valuations across instruments and issuers, the

> Our investment strategies are grouped into three main categories: market exposure, security selection and fund allocation.

pricing effects of corporate and market events, and positioning in relation to developments in fixed-income markets, including interest rate levels, inflation, exchange rates and interest rate differentials between countries. Equity positioning contributed 0.08 percentage point to the relative return for 2022, the main contributors being Chinese and European stocks. Bond positioning contributed 0.04 percentage point to the fund's relative return. Securities lending contributed 0.03 percentage point to the fund's relative return, most of which came from loans of equities.

Securiy selection strategies use deep insights into the fund's largest investments provided by company analysis to enhance returns and support the fund's work as a responsible and active owner. Positions under these strategies contributed 0.09 percentage point to the fund's relative return in 2022. Internal equity selection contributed 0.03 percentage point, with investments in financials and telecommunications making particularly positive contributions, while investments in technology stocks made a negative contribution. External equity selection contributed 0.01 percentage point to the relative return, with a positive contribution from emerging markets and a negative contribution from developed markets.

When it comes to fixed-income management, security selection focuses on corporate bonds. This strategy contributed 0.04 percentage point to the fund's relative return, with both credit positioning and issuer selection making positive contributions.

Fund allocation consists of a number of strategies that aim to improve the fund's long-term exposure to markets and risks. These strategies contributed 0.64 percentage point to the fund's relative return in 2022.

Real estate is included in real asset management in our strategy reporting and contributed 0.02 percentage point to the relative return.

Throughout 2022, the fund was underweight in equities and overweight in bonds, and overweight in emerging-market bonds. The bond portfolio had a lower duration than the benchmark index throughout the year. The fund was also overweight in energy stocks at the beginning of the year. Taken together, allocation decisions of this kind made a positive contribution of 0.53 percentage point to the relative return in 2022.

In the first half of the year, the fund had a specific allocation with a separate substrategy to systematic risk factors which has now been discontinued. This contributed 0.08 percentage point to the relative return, with a positive contribution from an allocation to value stocks.

The allocation to environment-related investments made a marginal contribution of 0.01 percentage point. This included investments in both equities and renewable energy infrastructure.

TABLE 19 Contributions to the fund's relative return from investment strategies in 2022. In percentage points.

	Equity management	Fixed-income management	Real assets management	Allocation	Total
Market exposure	0.11	0.05		0.01	0.16
Asset positioning	0.08	0.04		0.01	0.13
Securities lending	0.03	0.00			0.03
Security selection	0.05	0.04			0.09
Internal security selection	0.03	0.04			0.07
External security selection	0.01				0.01
Fund allocation	0.20	0.36	0.04	0.03	0.64
Systematic factors	0.08				0.08
Real estate			0.02		0.02
Unlisted real estate			0.37		0.37
Listed real estate			-0.35		-0.35
Enviromental related mandates[1,2]	-0.02		0.02		0.01
Allocation	0.14	0.36		0.03	0.53
Total[3]	**0.36**	**0.44**	**0.04**	**0.04**	**0.87**

[1] Regulations for Environmental related mandates for equities and fixed income were changed by the Ministry of Finance during the year. Reporting of these investments reflects the new mandate

[2] Investments in unlisted renewable energy infrastructure is reported under Real asset management.

[3] Total includes elements that are not allocated to any investment strategy. The contribution from such elements were 0.3 basis point and -0.8 basis point in 2021 and 2022 respectively.

TABLE 20 Contributions to the fund's relative return from investment strategies annualised for 2013-2022. In percentage points.

	Equity management	Fixed-income management	Real assets management	Allocation	Total
Market exposure[1]	0.11	0.07		0.00	0.18
Asset positioning	0.07	0.06		0.00	0.14
Securities lending	0.04	0.01			0.05
Security selection	0.16	0.02			0.17
Internal security selection	0.06	0.02			0.08
External security selection	0.09				0.09
Fund allocation	0.00	-0.02	-0.02	0.01	-0.02
Systematic factors	-0.01				-0.01
Real estate			-0.02		-0.02
Unlisted real estate			0.05		0.05
Listed real estate			-0.07		-0.07
Enviromental related mandates[2,3]	0.03	0.00	0.00		0.03
Allocation	-0.01	-0.02	0.00	0.01	-0.02
Total	**0.26**	**0.07**	**-0.02**	**0.02**	**0.33**

[1] Market exposure includes -0.01 percentage point from the systematic factors strategy which was ended in the second quarter of 2020.

[2] Regulations for Environmental related mandates for equities and fixed income were changed by the ministry of finance during the year. Reporting of these investments reflects the new mandate.

[3] Investments in unlisted real renewable infrastructure is reported under Real asset management.

Risk relative to the benchmark index

The fund is invested differently to its benchmark index along various dimensions, including asset classes, currencies, sectors, countries, regions, individual stocks and individual bond issuers.

At the end of 2022, the equity portfolio was overweight in high-volatility stocks and a number of growth segments, including low-dividend-yield stocks. The fixed-income portfolio had a lower duration and less exposure to corporate bonds than the benchmark index, but greater exposure to bonds from emerging markets and government-related bonds. The fund also had 330 billion kroner invested in unlisted real estate and an allocation to listed real estate investments of 217 billion kroner. Real estate investments were among the fund's largest relative exposures at the end of the year.

The Ministry of Finance and Norges Bank's Executive Board have set limits for how far the fund's investments may deviate from the benchmark index.

> The Ministry of Finance and Norges Bank's Executive Board have set limits for how far the fund's investments may deviate from the benchmark index.

One of these limits is for expected relative volatility, or tracking error, and puts a ceiling on how much the return on the fund's investments can be expected to deviate from the return on the benchmark index. The management mandate requires all of the fund's investments to be included in the calculation of expected relative volatility and measured against the fund's benchmark index, which consists solely of global equity and bond indices. The fund is to aim for expected relative volatility of no more than 1.25 percentage points. The actual level at the end of the year was 0.39 percentage point, down from 0.50 percentage point at the end of 2021. The decrease in expected relative volatility was due mainly to reduced active exposure.

The fund invests in real estate to create a more diversified portfolio. We expect real estate investments to have a different return profile to equities and bonds in both the short and the longer term. The relative risk that this entails will impact on calculations of the fund's expected relative volatility. As daily pricing is not available for our unlisted real estate investments, we use a model from MSCI to calculate the relative risk for these investments.

Norges Bank's Executive Board has also set a limit for expected shortfall for the relative return between the fund and the benchmark index. The fund is to be managed in such a way that the expected negative relative return in extreme situations does not exceed 3.75 percentage points. The actual figure was 1.22 percentage points at the end of the year, down from 1.52 percentage points at the end of 2021.

TABLE 21 Key figures for the fund's risk and exposure.

	Limits set by the Ministry of Finance	31.12.2022
Allocation	Equity portfolio 60–80 percent of fund's market value[1]	69.6
	Unlisted real estate no more than 7 percent of the fund's market value	2.7
	Fixed-income portfolio 20–40 percent of fund's market value[1]	30.3
	Unlisted renewable energy infrastructure no more than 2 percent of the fund's market value	0.1
Market risk	1.25 percentage points expected relative volatility for the fund's investments	0.4
Credit risk	Maximum 5 percent of fixed-income investments may be rated below BBB-	1.0
Emerging markets	Maximum 5 percent of fixed-income investments may be in emerging markets	3.2
Ownership	Maximum 10 percent of voting shares in a listed company in the equity portfolio[2]	9.6

[1] Derivatives are represented with their underlying economic exposure.
[2] Investments in listed and unlisted real estate companies are exempt from this restriction.

CHART 20 Expected relative volatility of the fund in basis points.

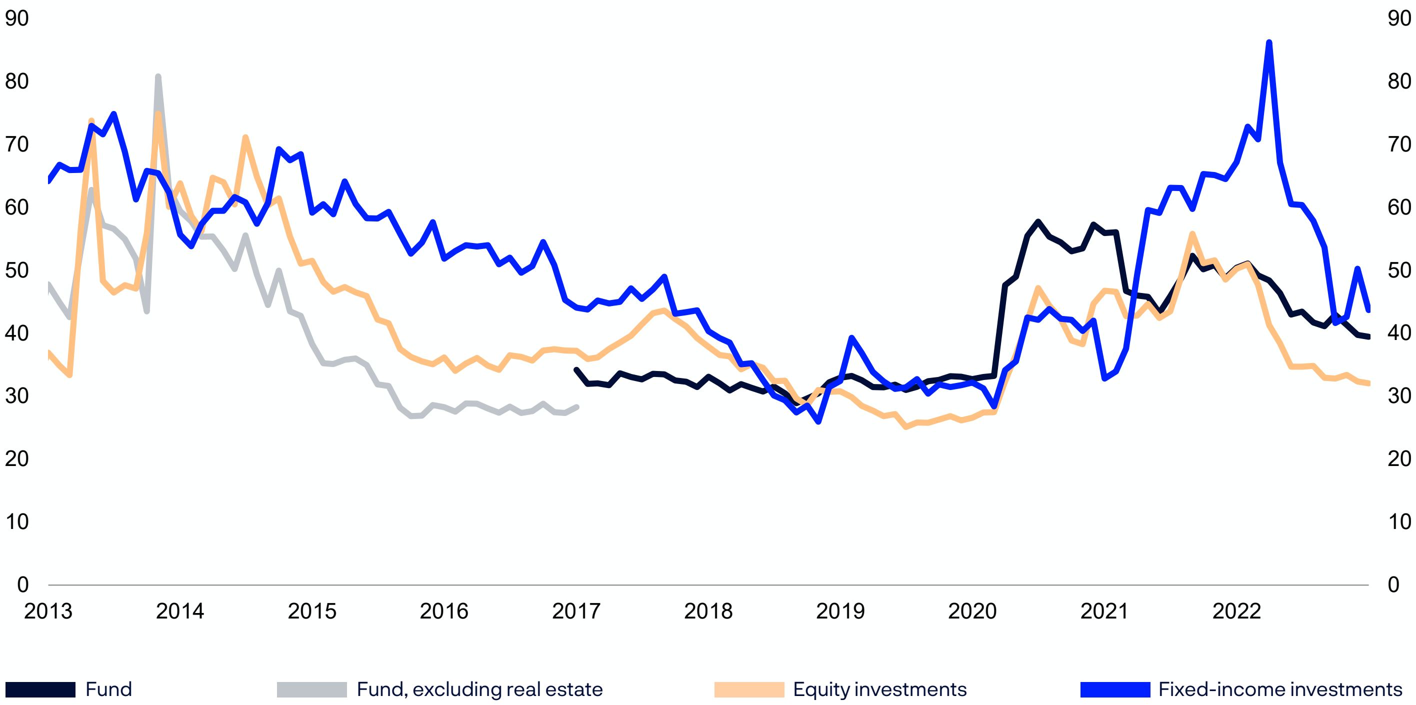


TABLE 22 Expected relative volatility of investment strategies as at 31 December 2022. Each strategy measured stand-alone with the other strategies positioned in line with the benchmarks. All numbers measured at fund level in basis points.

	Equity management	Fixed-income management	Real assets management	Allocation	Total
Market exposure	4	3		1	4
Asset positioning	4	3		1	4
Security selection	15	5			15
Internal security selection	11	5			12
External security selection	8				8
Fund allocation	4	8	43	8	41
Real estate			43		43
Unlisted real estate			26		26
Listed real estate			24		24
Enviromental related mandates[1,2]			2		2
Allocation	4	8		8	12
Total	**17**	**10**	**43**	**9**	**39**

[1] Regulations for Environmental related mandates for equities and fixed income were changed by the Ministry of Finance during the year. Reporting of these investments reflects the new mandate.

[2] Investments in unlisted renewable energy infrastructure is reported under Real asset management.

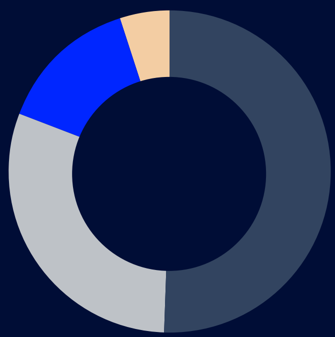
Responsible investment report
The fund's work on responsible investment is presented in a separate report available on our website: www.nbim.no.

3. Organisation

Management organisation

Number of employees and offices

CHART 21 Number of employees by area, including subsidiaries.



5
offices

572
employees

35
nationalities

● We also have real estate offices in Paris, Tokyo and Luxembourg.

Our employees are the heart of our business

Our employees are our most important asset. We aim to attract and retain leading talent and ensure that they can work efficiently, innovatively and fearlessly to achieve our common goals.

We are a global organisation. It is by collaborating closely across locations and by exchanging knowledge and working together that we will achieve the fund's objective of the highest possible return. In 2022, we decided to continue allowing employees to work from home up to two days a week, subject to agreement with their manager. We also expanded opportunities for mobility between offices and departments.

> Investing in our own employees is crucial.

Investing in our own employees is crucial. We work systematically on lifelong learning and give employees opportunities to build relevant skills throughout their careers. In 2022, we invested further in training and developing both managers and other staff, and introduced the learning platform Coursera with more than 7,000 courses available to all employees. We had a particular focus on the core competencies of technology, data analysis, and giving and receiving feedback. Eighty-nine courses with a total of 495 participants were held within our critical competencies. We also launched our own Investment Academy, with the first class starting in the first quarter of 2023. The aim of the academy is to boost investment skills, value chain understanding and collaboration across the organisation by using our own world-leading portfolio managers and performance coaches.

We set great store by good leadership and launched new leadership principles during the year which will provide a platform for many of our activities for managers. We hold events and meetings for managers every year, and we launched a new portal for managers during the autumn.

Norges Bank works systematically on diversity, equality and inclusion, partly by increasing the share of female employees. Norges Bank signed the Women in Finance Charter in 2021 and hosted the charter's first status report in 2022. Our obligations under the charter's four principles can be found on our website: www.nbim.no.

Norges Bank Investment Management had 572 employees at the end of 2022, of whom 29 percent were women, compared with 27 percent a year earlier. The share of women in senior management was 23 percent,

TABLE 23 Gender balance by grade and office.

Grade	Oslo		London		New York		Singapore		Shanghai	
	Share of employees		Share of employees		Share of employees		Share of employees		Share of employees	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Global Head	84%	16%	75%	25%	100%	0%				
Head	68%	32%	81%	19%	91%	9%	100%	0%	0%	100%
Level 5	100%	0%	100%	0%	50%	50%				
Level 4	80%	20%	73%	27%	86%	14%	60%	40%	100%	0%
Level 3	69%	31%	56%	44%	74%	26%	80%	20%	100%	0%
Level 2	69%	31%	46%	54%	67%	33%	67%	33%		
Level 1	65%	35%	0%	100%	100%	0%	100%	0%		

> We are prioritising a diverse and inclusive workplace.

unchanged from 2021. We want to increase the proportion of women working for the fund both in general and at management level. In 2022, 35 percent of new recruits were women, compared with 42 percent the year before.

We are also prioritising a diverse and inclusive workplace more generally. We are looking for diversity of mindset, ethnicity, age, academic background and life experience. We believe that the more diverse we are, the broader our perspectives will be, the more creative we will become, and the better the decisions we will make.

The focus areas for achieving this goal of greater diversity are reputation management, recruitment, skills and career development, flexibility and a safe and inspiring working environment. In 2022, for example, we raised our profile among students by giving a number of talks and presentations. We also offer guest lectures from experts at the fund through the NBIM Teach initiative. The aim is to give students a more practical insight into investment management, increase knowledge about the fund and share our expertise with a younger target group so that more apply to work for us.

We operate in global investment markets. Proximity to the markets is important for safeguarding the fund's long-term return. At the end of 2022, 45 percent of our employees worked from our offices in London, New York, Singapore and Shanghai, compared with 44 percent a year earlier. There were also 23 employees at subsidiaries linked to the management of the real estate portfolio.

Remuneration system

Norges Bank's Executive Board sets limits for Norges Bank Investment Management's remuneration arrangements and monitors their implementation. Pay levels are to be competitive but not market-leading.

Salaries are set individually and reflect the position's responsibilities and the employee's skills, experience and achievements. Total remuneration paid includes fixed salary, performance-based pay and overtime payments.

Pay gaps between women and men are due to men being over-represented in positions working on investment decisions. Positions with investment responsibilities are generally better paid in the market than positions at the same level in other areas. Overtime payments also have an effect on the figures for total pay. Men generally worked relatively more overtime than women in 2022.

For data protection reasons, there must be at least five members of each gender at each grade for pay data to be published. This means that we are not able to publish pay data for staff at our offices outside Norway.

Members of the leader group receive only a fixed salary. The CEO's salary and pay bands for other members of the leader group are set by the Executive Board.

TABLE 24 Fixed salary by grade at the Oslo office as at 31 December 2022. In kroner.

Grade	Median fixed salary		Women's as a percentage of men's	Mean fixed salary		Women's as a percentage of men's
	Men	Women		Men	Women	
Head	1,580,000	1,450,000	92%	1,593,000	1,422,000	89%
Level 4	1,300,000	1,295,000	100%	1,374,000	1,294,000	94%
Level 3	980,000	1,003,000	102%	1,014,000	1,041,000	103%
Level 2	770,000	763,000	99%	807,000	790,000	98%
Level 1	550,000	550,000	100%	565,000	557,000	99%

TABLE 25 Total remuneration paid by grade at the Oslo office as at 31 December 2022. In kroner.

Grade	Median total remuneration paid		Women's as a percentage of men's	Mean total remuneration paid		Women's as a percentage of men's
	Men	Women		Men	Women	
Head	1,670,000	1,537,000	92%	1,885,000	1,579,000	84%
Level 4	1,674,000	1,350,000	81%	1,782,000	1,394,000	78%
Level 3	1,007,000	1,034,000	103%	1,144,000	1,119,000	98%
Level 2	800,000	763,000	95%	841,000	802,000	95%
Level 1	550,000	550,000	100%	564,000	580,000	103%

TABLE 26 Remuneration of senior management in 2022. In kroner.

Position	Name	Paid salary	Performance-based pay	Value of other benefits[7]	Pension benefit earned	Employee loan
Chief Executive Officer	Nicolai Tangen	6,872,066		11,012	411,431	
Chief of Staff/Deputy Chief Executive Officer	Trond Grande	4,930,080		9,610	447,975	
Chief Technology and Operating Officer	Birgitte Bryne[1]	3,700,102		11,451	481,639	
Chief Investment Officer Real Assets	Mie Caroline Holstad[1]	3,204,829		13,720	375,668	
Chief Risk Officer	Dag Huse	4,650,270		8,520	733,944	
Chief Governance and Compliance Officer	Carine Smith Ihenacho[2]	4,863,553		107,774	486,355	
Co-Chief Investment Officer Equities	Pedro Furtado Reis[2,3,4]	5,224,435		74,777	522,444	
Co-Chief Investment Officer Equities	Daniel Balthasar[2,3,4]	5,224,435		76,181	522,444	
Chief Investment Officer Asset Strategies	Geir Øivind Nygård	4,545,620		11,527	348,028	
Former senior executives who resigned in 2022						
Chief Technology Officer	Age Bakker[5]	937,500		2,594	125,429	
Chief Equities Officer	Petter Johnsen[2,6]	4,871,388		112,708	487,139	

[1] Paid salary includes holiday pay. Some of the holiday pay was accrued in a different position in Norges Bank Investment Management.
[2] Receives a salary in GBP. The amount is converted to NOK and includes the currency effect.
[3] Members of the Norges Bank Investment Management leader group only receive a fixed salary. Members of the leader group that previously were entitled to performance-based pay are no longer a part of this arrangement, but over the coming years will receive accrued performance-based pay that has been held back. The amounts reported in the table are performance-based pay disbursed during the financial year, but accrued and expensed in earlier periods.
[4] Started in the position 01.07.2022. Remuneration is shown from the employment date.
[5] Left the position 31.03.2022. Remuneration is shown until resignation date.
[6] Left the position 30.06.2022. Remuneration is shown until resignation date.
[7] Consist mainly of electronic communication tools, personnel insurance and certain travel costs.

TABLE 27 Remuneration of senior management, employees with performance-based pay and other employees paid in 2022. In million kroner[1].

	Number of employees	Fixed Remuneration	Variable Remuneration	Total Remuneration
Senior Management[2]	11	49.0		49.0
Employees with performance pay[3]	237	470.2	283.5	753.7
Other employees[4]	444	419.1		419.1

[1] Remuneration paid in foreign currency is converted to Norwegian kroner.
[2] Senior managers receive only a fixed salary. Senior managers who were previously in receipt of performance-based pay will, expensed in earlier periods.
however, still receive any such pay that has been held back. The amounts reported in the table are performance-based pay disbursed during the financial year, but accrued and expensed in earlier periods.
[3] Of which 12 were employees in subsidiaries.
[4] Of which 11 were employees in subsidiaries.

226

employees were entitled to performance-based pay at the end of 2022.

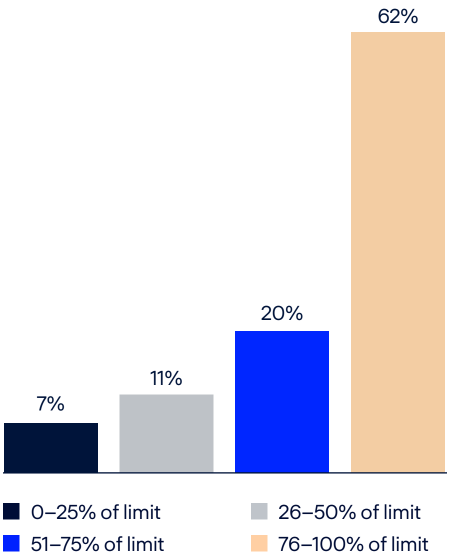
Performance-based pay

In addition to their fixed salary, those who work directly on investment decisions may qualify for performance-based pay. This is calculated on the basis of the performance of the fund, group and individual measured against agreed qualitative and quantitative targets. In this context, performance means return relative to benchmark index. Movements in the benchmark index do not therefore affect the amount of performance-based pay earned. Qualitative targets may include aspects of environmental, social and governance (ESG) performance. Results are measured over a period of at least two years and at most four years.

Performance-based pay is paid over a number of years. Half is paid the year after it is accrued, while half is held back and paid over the following three years. The amount held back is adjusted in line with the return on the fund.

Where employees accrue performance-based pay in excess of 100 percent of fixed salary, 40 percent is paid the year after it is accrued, and the remaining 60 percent is held back and paid over the following three years.

CHART 22 Performance-based pay relative to upper limit in 2022. Percentage of employees entitled to performance-based pay.



Performance-based pay may not normally exceed 100 percent of fixed salary for employees in Norway, but for a limited number of employees at the overseas offices the maximum permitted limit is 200 percent. Employees eligible for performance-based pay accrued 73 percent of the overall limit for 2022 based on multi-year performance.

A total of 226 employees were entitled to performance-based pay at the end of 2022, including 13 at subsidiaries. The overall limit for performance-based pay for these employees was 502 million kroner.

The remuneration system is reviewed annually. Norges Bank's Internal Audit unit also issues an independent statement on compliance with rules and guidelines on remuneration. The review in 2022 confirmed that the remuneration system was operated in line with applicable rules in 2021. As stipulated by the management mandate from the Ministry of Finance, the remuneration system complies with the requirements of the regulations issued under the Norwegian Securities Funds Act with necessary adjustments. There were no significant changes to the remuneration system in 2022.

Introduction days for new employees in Norges Bank Investment Management in August.

Limits for operational risk

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

The Executive Board has decided there must be less than a 20 percent probability that operational risk factors will result in financial consequences of 750 million kroner or more over a 12-month period. This is referred to as the Executive Board's operational risk tolerance.

Our estimated operational risk exposure was within this limit throughout 2022. We work systematically to identify operational risks and improve our processes to prevent unwanted incidents. Reporting and following up on these incidents is an important part of our efforts to improve operations and internal controls.

270

unwanted incidents registered.

Unwanted incidents in 2022

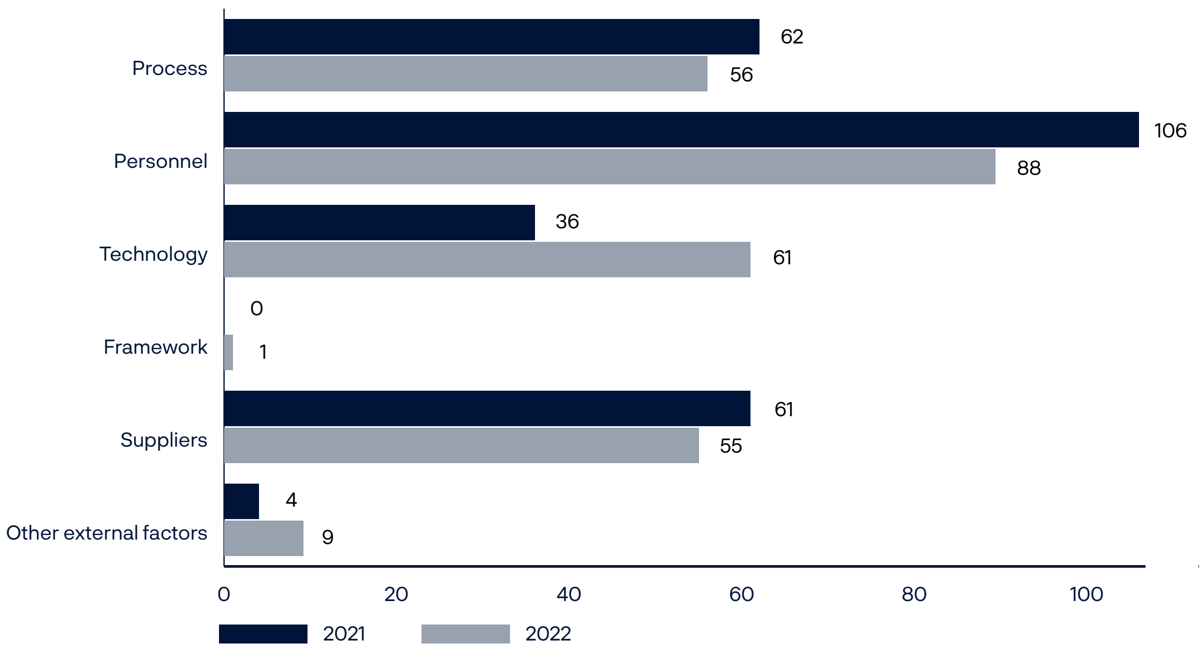
We registered 270 unwanted incidents in 2022, up from 269 in 2021. The majority had no financial consequences. Altogether, these unwanted incidents had an estimated financial impact of 126.5 million kroner. Eight of these events were considered significant.

Five of the eight significant incidents had direct financial consequences. These accounted for around 95 million kroner of the total financial impact and were related to internal portfolio management, trading and order management of securities and currencies. The other three significant incidents were related to availability of systems for order handling and trading of securities. These incidents had no direct financial consequences.

Compliance with guidelines

The Ministry of Finance has issued guidelines for the fund's management. No significant breaches of these guidelines were registered in 2022, and we did not receive any notifications from local supervisory authorities of any significant breaches of market rules or general legislation.

CHART 23 Unwanted events at Norges Bank Investment Management sorted by cause.



Low costs

We maintain a high level of cost awareness in our management of the fund and work continually to automate processes and streamline operations to realise economies of scale.

We place emphasis on high returns, responsible investment and transparency as important priorities for the fund. We will continue to exploit the fund's characteristics as a large and long-term investor to achieve the highest possible return in a responsible way. At the same time, we want to ensure cost efficiency without compromising robust control, good risk management and the opportunity to create value in the fund's management. Internal management costs as a share of assets under management have fallen in recent years. We strive continuously to increase operational efficiency and realise economies of scale, and several large initiatives have been carried out in Norges Bank Investment Management to achieve this. The management of the fund should be cost-efficient, but low costs are not a goal in themselves. The fund's objective as set out in the management mandate from the Ministry of Finance is to seek to generate the highest possible return, net of costs,

“

The fund’s management costs measured as a share of assets under management are low compared to other funds.

measured in the currency basket of the investment portfolio, within the applicable investment management framework.

The fund’s management costs measured as a share of assets under management are low compared to other funds. Management costs in Norges Bank amounted to 0.044 percent of assets under management in 2022. An annual report prepared by CEM Benchmarking Inc for the Ministry of Finance, which compares the fund’s management costs with those of other large investment funds, shows that the fund has had the lowest costs in the peer group over several years, measured as a share of assets under management. Management costs have been between 11 and 18 basis points lower than the peer group since 2012. This comparison takes account of differences in fund size and the composition of different asset classes. The CEM report is considered the best source of information on cost levels at comparable funds.

Management costs

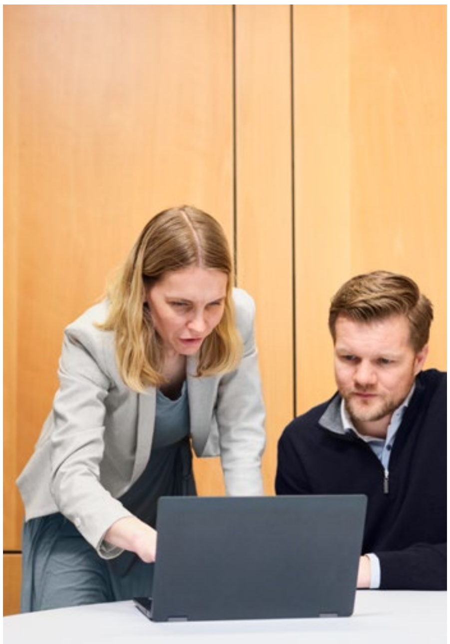
Management costs comprise all costs relating to the management of the fund. These are mainly incurred in Norges Bank, but management costs are also incurred in subsidiaries of Norges Bank that are exclusively established as part of the management of the fund’s investments in unlisted real estate and unlisted renewable energy infrastructure – see note 12, table 6.4, and table 7.4 in the financial statements for more information related to costs in Norges Bank and subsidiaries.

Total management costs in Norges Bank were 5.2 billion kroner in 2022, up from 4.6 billion kroner in 2021. The increase was mainly due to currency effects and higher personnel costs following a strengthening of the organisation, offset by lower fees to external managers. Personnel costs for 2021 were reduced by 265 million kroner due to a one-off accounting adjustment following a change in the method for accruing performance-based pay. Performance-based fees to external managers decreased compared to 2021, due to lower excess returns from external management. Base fees to external managers increased compared to 2021, due to a larger share of the fund being managed externally in 2022.

Each year, the Ministry of Finance sets an upper limit for the reimbursement of management costs. Norges Bank is only reimbursed

5.2 bn

kroner in total management costs.



for costs incurred up to this limit. Management costs in subsidiaries are measured against the upper limit but are not reimbursed since they are expensed directly in the portfolio result. Norges Bank is also reimbursed for performance-based fees to external managers, which are not included in the limit. Total management costs incurred in Norges Bank and subsidiaries, excluding performance-based fees to external managers, were limited to 5.6 billion kroner for 2022. Total management costs measured against the upper limit amounted to 4.6 billion kroner in 2022. These comprised management costs in Norges Bank, excluding performance-based fees to external managers, of 4.5 billion kroner and management costs in subsidiaries of 0.1 billion kroner. This corresponds to 0.039 percent of assets under management, up from 0.034 percent in 2021.

Fixed and variable fees to external managers accounted for 32 percent of management costs in 2022. External managers are used in segments and markets where we believe they will enhance returns. Our strategy is to use external managers primarily for equity investments in emerging markets and for investments in small- and mid-cap companies. The use of external managers has played an important role in achieving the fund's goal of highest possible return after costs with moderate risk. Up to and including 2022, the cumulative excess return after costs for the external equity mandates was 75 billion kroner.

A share of the fees to external managers varies with the excess return achieved in relation to a benchmark index. Agreements with external managers for performance-based fees are structured so that the bulk of the positive excess return is retained by the fund, and the agreements include caps on the fees that can be paid. Performance-based fees to external managers are therefore expected to be more than offset by excess returns for the fund and will increase when excess returns increase.

Over 70%

of costs are invoiced and paid in foreign currency.

The fund's investments in equities and bonds must be registered with local securities depositories around the world. We use a global custodian institution to assist us with this process. Custody costs as a share of assets under management have fallen in recent years and accounted for 9 percent of management costs in 2022.

The fund's reporting currency is Norwegian kroner. Exchange rate fluctuations can have a significant accounting impact even if actual costs in foreign currency are unchanged. Over 70 percent of costs are invoiced and paid in foreign currency. This means, for example, that a 25 percent change in the krone exchange rate against other currencies will increase or decrease management costs by around 1,300 million kroner. The weakening of the Norwegian krone against other currencies in recent years has resulted in a substantial increase in costs measured in kroner.

CHART 24 Management costs as a share of assets under management in basis points.

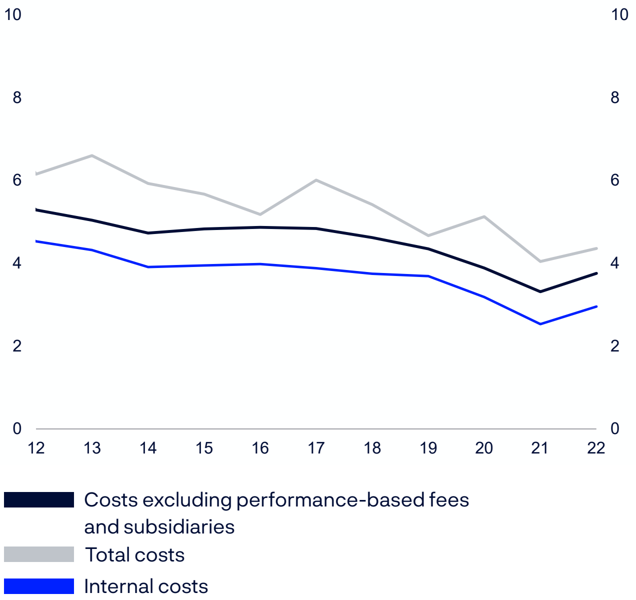
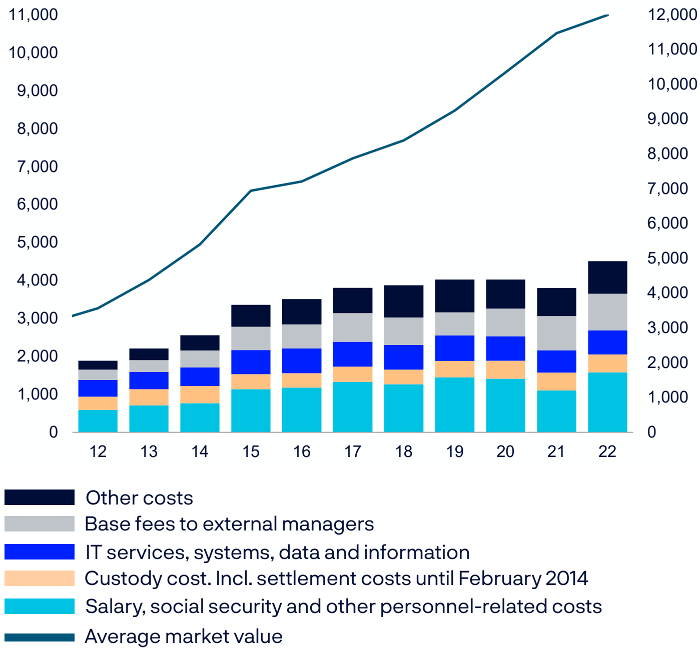


CHART 25 Development of individual cost components. Costs[1] (millions of kroner, left-hand axis) and average market value (billions of kroner, right-hand axis)



[1] Excluding performance-based fees and subsidiaries.

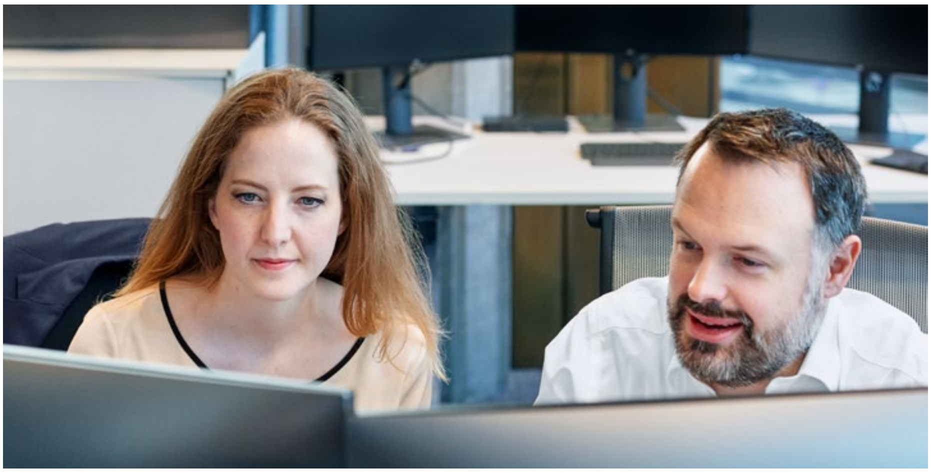
> We work continuously to keep transaction costs low.

Transaction costs

Transaction costs are defined as all costs directly attributable to completed transactions. For equities and bonds, these normally consist of commission fees and transaction taxes, including stamp duty. For unlisted real estate and unlisted infrastructure for renewable energy, they include one-off costs for the purchase and sale of investments, including stamp duty, registration fees, due diligence costs and insurance.

We work continuously to keep transaction costs low. We do this by taking these costs into account in our investment strategies and minimising the number of transactions. There may therefore be less activity in markets with high commissions or taxes than in markets with lower fixed transaction costs. We also choose counterparties that can execute our investment decisions most cost-effectively. Transaction costs are expensed directly in the portfolio result and are not included in management costs. Transaction costs amounted to 4.0 billion kroner in 2022, compared to 3.5 billion kroner in 2021. This includes 3.6 billion kroner related to equity investments and 0.3 billion kroner related to investments in unlisted real estate.

In addition to the direct costs described above, indirect costs are incurred because prices change from the time investment decisions are made to the time they are implemented in the market, or because prices reflect the liquidity the counterparty provides. Indirect costs are included in the portfolio result and amounted to 13.5 billion kroner for internal equity investments in 2022. The corresponding figure for 2021 was 8.8 billion kroner.



Management costs broken down by investment strategy

We pursue a variety of investment strategies in our management of the fund. These strategies complement and influence one another, and there are cost synergies between the strategies. We allocate costs to the different strategies in line with actual costs or using allocation keys based on factors such as number of employees or volumes.

Management costs for unlisted real estate were equivalent to 0.08 percent of assets under management in 2022. Management costs for external security selection in the same period amounted to 0.33 percent of assets under management, compared to 0.05 percent for internal security selection. Management costs for market exposure amounted to 0.02 percent of assets under management.

TABLE 28 Management costs in basis points per investment strategy in 2022. Costs as reimbursed by the Ministry of Finance.

2022	Contribution to the fund's management costs	Management costs based on assets under management
Market exposure	1.8	2.4
Security selection	2.2	11.1
Internal security selection	0.7	4.6
External security selection[1]	1.5	33.0
Fund allocation	0.4	
of which unlisted real estate	0.2	7.9
Total	**4.4**	

[1] Includes all externally managed capital.

TABLE 29 Management cost in basis points per investment strategy 2013-2022. Costs as reimbursed by the Ministry of Finance.

2013–2022	Contribution to the fund's management costs	Management costs based on assets under management
Market exposure	2.1	2.7
Security selection	2.5	14.6
Internal security selection	0.7	5.3
External security selection[1]	1.8	42.8
Fund allocation	0.3	
Unlisted real estate[2]	0.4	18.8
Total	**5.3**	

[1] Includes all externally managed capital.

[2] Unlisted real estate is part of the Fund allocation strategy from 2017, but is presented on a separate line for 2013–2022.

4. Financial reporting

Contents

Financial reporting

Income statement

Amounts in NOK million	Note	2022	2021
Profit/loss on the portfolio before foreign exchange gain/loss			
Income/expense from:			
- Equities	4	-1 201 835	1 593 618
- Bonds	4	-453 128	-40 905
- Unlisted real estate	6	-2 213	35 811
- Unlisted infrastructure	7	897	1 198
- Financial derivatives	4	23 926	-4 839
- Secured lending	13	4 845	3 842
- Secured borrowing	13	-4 792	21
Tax expense	10	-4 850	-8 887
Interest income/expense		-22	-13
Other income/expense		-4	11
Profit/loss on the portfolio before foreign exchange gain/loss		**-1 637 176**	**1 579 857**
Foreign exchange gain/loss	11	641 850	-24 589
Profit/loss on the portfolio		**-995 326**	**1 555 269**
Management fee	12	-5 226	-4 640
Profit/loss and total comprehensive income		**-1 000 551**	**1 550 628**

Balance sheet

Amounts in NOK million	Note	31.12.2022	31.12.2021
Assets			
Deposits in banks		12 061	18 450
Secured lending	13,14	462 982	297 405
Cash collateral posted	14	21 601	3 725
Unsettled trades		11 428	15 767
Equities	5	8 138 602	8 383 302
Equities lent	5,13	451 799	505 117
Bonds	5	2 968 272	2 795 536
Bonds lent	5,13	886 555	623 367
Financial derivatives	5,14	20 498	7 879
Unlisted real estate	6	329 732	310 134
Unlisted infrastructure	7	14 489	14 287
Withholding tax receivable	10	8 937	3 427
Other assets	17	2 017	1 860
Management fee receivable		274	536
Total assets		**13 329 248**	**12 980 791**
Liabilities and owner's capital			
Secured borrowing	13,14	796 082	591 960
Cash collateral received	14	14 801	11 848
Unsettled trades		44 329	22 607
Financial derivatives	5,14	40 159	9 055
Deferred tax	10	4 488	5 180
Other liabilities	17	56	56
Total liabilities		**899 915**	**640 706**
Owner's capital		12 429 334	12 340 085
Total liabilities and owner's capital		**13 329 248**	**12 980 791**

Statement of cash flows

Accounting policy

The statement of cash flows is prepared in accordance with the direct method. Major classes of gross cash receipts and payments are presented separately, with the exception of specific transactions that are presented on a net basis, primarily relating to the purchase and sale of financial instruments. Cash flows related to the fund's investment activities are presented as operating activities, since they represent the income-generating activities of the fund. Inflows and withdrawals between the GPFG and the Norwegian government are financing activities. These transfers have been settled in the period. Accrued inflows/withdrawals are shown in the statement of changes in owner's capital.

Amounts in NOK million, receipt (+) / payment (-)	Note	2022	2021
Operating activities			
Receipts of dividend from equities		190 235	166 040
Receipts of interest from bonds		55 724	46 449
Receipts of interest and dividend from unlisted real estate	6	6 156	6 088
Receipts of interest from unlisted infrastructure	7	162	80
Net receipts of interest and fee from secured lending and borrowing		1 521	3 883
Receipts of dividend, interest and fee from holdings of equities, bonds, unlisted real estate and unlisted infrastructure		253 797	222 540
Net cash flow from purchase and sale of equities		-719 766	495 674
Net cash flow from purchase and sale of bonds		-702 877	-646 867
Net cash flow to/from investments in unlisted real estate	6	-3 930	-7 056
Net cash flow to/from investments in unlisted infrastructure	7	1 143	-13 375
Net cash flow financial derivatives		52 485	-542
Net cash flow cash collateral related to derivative transactions		-16 013	8 502
Net cash flow secured lending and borrowing		52 860	74 976
Net payment of taxes	10	-11 058	-7 202
Net cash flow related to interest on deposits in banks and bank overdraft		30	-42
Net cash flow related to other income/expense, other assets and other liabilities		478	878
Management fee paid to Norges Bank[1]		-4 964	-10 481
Net cash inflow/outflow from operating activities		**-1 097 816**	**117 005**
Financing activities			
Inflow from the Norwegian government		1 089 712	78 846
Withdrawal by the Norwegian government		-	-199 000
Net cash inflow/outflow from financing activities		**1 089 712**	**-120 154**
Net change deposits in banks			
Deposits in banks at 1 January		18 450	18 258
Net increase/decrease of cash in the period		-8 104	-3 149
Net foreign exchange gain/loss on cash		1 715	3 341
Deposits in banks at end of period		**12 061**	**18 450**

[1] Management fee in the statement of cash flows consists of transfers to/from the krone account in connection with the settlement of management costs incurred in Norges Bank.

Statement of changes in owner's capital

Accounting policy

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

Amounts in NOK million	Inflows from owner	Retained earnings	Total owner's capital
1 January 2021	3 086 570	7 821 887	10 908 457
Profit/loss and total comprehensive income	-	1 550 628	1 550 628
Inflow during the period	80 000	-	80 000
Withdrawal during the period	-199 000	-	-199 000
31 December 2021	**2 967 570**	**9 372 515**	**12 340 085**
1 January 2022	2 967 570	9 372 515	12 340 085
Profit/loss and total comprehensive income		-1 000 551	-1 000 551
Inflow during the period	1 089 800	-	1 089 800
Withdrawal during the period	-	-	-
31 December 2022	**4 057 370**	**8 371 964**	**12 429 334**

Note 1 General information

1. Introduction
Norges Bank is Norway's central bank. The bank is a separate legal entity and is owned by the state. Norges bank manages the Government Pension Fund Global (GPFG) on behalf of the Ministry of Finance, in accordance with section 3, second paragraph of the Government Pension Fund Act and the management mandate for the GPFG, issued by the Ministry of Finance.

The GPFG shall support government saving to finance future expenditure and underpin long-term considerations relating to the use of Norway's petroleum revenues. The Norwegian Parliament has established the legal framework in the Government Pension Fund Act, and the Ministry of Finance has formal responsibility for the fund's management. The Executive Board of Norges Bank has delegated day-to-day management of the GPFG to Norges Bank Investment Management (NBIM).

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

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

For further information on the management mandate for the GPFG, Norges Bank's governance structure and risk management, see note 9 Investment risk.

2. Approval of the financial statements
The annual financial reporting for the GPFG is an excerpt from Norges Bank's financial reporting and is included in Norges Bank's annual financial statements as note 20. The annual financial statements of Norges Bank for 2022 were approved by the Executive Board on 8 February 2023 and approved by the Supervisory Council on 23 February 2023.

Note 2 Accounting policies

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

Significant estimates and accounting judgements

The preparation of the financial statements involves the use of uncertain estimates and assumptions relating to future events that affect the reported amounts for assets, liabilities, income and expenses. Estimates are based on historical experience and reflect management's expectations about future events. Actual outcomes may deviate from estimates. The preparation of the financial statements also involves the use of judgement when applying accounting policies, which may have a significant impact on the financial statements.

In cases where there are particularly uncertain estimates or accounting judgements, this is described in the respective notes.

1. Basis of preparation

In accordance with the Regulation on the financial reporting of Norges Bank (the Regulation), which has been laid down by the Ministry of Finance, the financial reporting for the GPFG is prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU. The annual financial statements are prepared with a closing date of 31 December, and are presented in Norwegian kroner (NOK), rounded to the nearest million. Rounding differences may occur.

2. Changes in accounting policies, including new and amended standards and interpretations, in the period

Accounting policies are applied consistently with those of the previous financial year. There are no new or amended IFRS standards and interpretations that have become effective for the financial year starting 1 January 2022, that have had a material impact on the financial statements.

3. New and amended standards and interpretations effective from 2023 or later

Issued IFRS standards, changes in existing standards and interpretations with effective dates from 2023 or later, are expected to be immaterial or not applicable for the financial reporting for the GPFG at the time of implementation.

4. Accounting policies for the financial statements as a whole

4.1 Financial assets and liabilities

Recognition and derecognition

Financial assets and liabilities are recognised in the balance sheet upon becoming a party to the instrument's contractual provisions.

Financial assets are derecognised when the contractual rights to the cash flows expire, or when the financial assets and substantially all the risks and rewards of ownership are transferred. See note 13 Secured lending and borrowing for details of transferred assets that are not derecognised.

Financial liabilities are derecognised when the obligation is extinguished, i.e. when the obligation specified in the contract is discharged, cancelled or expires.

Purchase or sale of a financial asset where the contractual terms require settlement in accordance with normal market conditions, is recognised on the trade date.

Classification and measurement

Financial assets are classified based on the business model used for managing the assets and their contractual cash flow characteristics. The investment portfolio of the GPFG is managed in accordance with the management mandate issued by the Ministry of Finance, the investment mandate issued by the Executive Board of Norges Bank and investment strategies issued by the management of Norges Bank Investment Management. These mandates and strategies, including the risk management strategies, entail that financial assets are managed and evaluated on a fair value basis. The GPFG's financial assets are therefore measured at fair value through profit or loss, except for Management fee receivable which is not part of the investment portfolio. Management fee receivable is measured at amortised cost.

Financial liabilities, except for Management fee payable, are integrated in the investment portfolio which is managed and evaluated on a fair value basis. These are therefore designated at fair value through profit or loss. Management fee payable is measured at amortised cost.

Financial derivatives are measured at fair value through profit or loss.

4.2 Subsidiaries

Investments in real estate and renewable energy infrastructure are made through subsidiaries of Norges Bank, which are exclusively established as part of the management of the fund. Subsidiaries are controlled by the GPFG and are included in the financial reporting for the GPFG in accordance with section 3-4 of the Regulation. Control over an entity exists when the GPFG is exposed to, or has rights to, variable returns from its involvement in the entity and is able to influence those returns through its power over the entity. For further information, see note 16 Interests in other entities.

The GPFG is an investment entity in accordance with IFRS 10 Consolidated financial statements. IFRS 10 defines an investment entity and introduces a mandatory exemption from consolidation for investment entities.

Subsidiaries measured at fair value through profit or loss

Subsidiaries that invest in real estate or renewable energy infrastructure through ownership interests in other entities, are investment entities. These subsidiaries are measured at fair value through profit or loss in accordance with the principles for financial assets, as described in section 4.1 above. Subsidiaries that invest in real estate are presented in the balance sheet as Unlisted real estate. Subsidiaries that invest in renewable energy infrastructure are presented in the balance sheet as Unlisted infrastructure. See note 6 Unlisted real estate and note 7 Unlisted renewable energy infrastructure for supplementary policies.

Consolidated subsidiaries

Subsidiaries that perform investment-related services, and which are not investment entities themselves, are consolidated. Consolidated subsidiaries do not own, neither directly nor indirectly, investments in real estate or infrastructure for renewable energy.

Accounting judgement

The GPFG is an investment entity based on the following:

a) The GPFG receives funds from the Norwegian government, a related party and its sole owner, and delivers professional investment services in the form of management of the fund, to the Norwegian government,

b) The GPFG commits to the Norwegian government that it will invest solely for capital appreciation and investment income,

c) The GPFG measures and evaluates returns for all investments exclusively on a fair value basis.

The GPFG does not have an explicit strategy that defines a specified timeframe for the realisation of each individual investment, but the investments are assessed continuously and purchase and sale assessments are made. Following an overall assessment, it has been concluded that the GPFG meets the criteria in the definition of an investment entity.

Note 3 Returns

Table 3.1 shows return for the fund and for each asset class.

Table 3.1 Returns

	2022	2021
Returns measured in the fund's currency basket (percent)		
Return on equity investments	-15.36	20.76
Return on fixed-income investments[1]	-12.11	-1.93
Return on unlisted real estate investments	0.07	13.64
Return on unlisted infrastructure investments[2]	5.12	4.15
Return on fund	-14.11	14.51
Relative return on fund (percentage points)[1]	0.87	0.75
Returns measured in Norwegian kroner (percent)		
Return on equity investments	-9.27	20.67
Return on fixed-income investments	-5.78	-2.01
Return on unlisted real estate investments	7.27	13.55
Return on unlisted infrastructure investments[2]	12.69	7.24
Return on fund	-7.93	14.42

[1] The fund's relative return and return on fixed-income investments for 2021 have been adjusted up by 0.01 percent due to an update of the return on the benchmark index.

[2] The first investment in unlisted renewable energy infrastructure was completed on 31 May 2021. Therefore, return figures for the asset class apply from June 2021.

A time-weighted rate of return methodology is applied. The fair value of holdings is determined at the time of cash flows into and out of the asset classes and the fund as a whole. Geometric linking of periodic returns is used for longer return periods.

Returns are calculated net of transaction costs, non-reclaimable withholding taxes on dividends and interest, and taxes on capital gains.

Returns are measured both in Norwegian kroner and in the fund's currency basket. The currency basket is weighted according to the currency composition of the benchmark index for equities and bonds. Returns measured in the fund's currency basket are calculated as the geometric difference between the fund's returns measured in Norwegian kroner and the return of the currency basket.

The fund's relative return is calculated as the arithmetic difference between the fund's return and the return of the fund's benchmark index. The fund's benchmark index consists of global equity and bond indices determined by the Ministry of Finance and is calculated by weighting the monthly returns of the benchmark indices for each of the two asset classes, using the weight in the actual benchmark at the beginning of the month for the respective asset class.

Note 4 Income/expense from equities, bonds and financial derivatives

Accounting policy

Dividends are recognised when the dividend is formally approved by the general meeting or equivalent decision-making body.

Interest income and expense is recognised in accordance with the effective interest method.

Realised gain/loss mainly represents amounts realised when assets or liabilities are derecognised. Average acquisition cost is assigned upon derecognition. Realised gain/loss includes transaction costs, which are expensed as incurred. Transaction costs are defined as all costs directly attributable to the completed transaction. For investments in equities and bonds, these normally comprise commission fees and stamp duty.

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

Tables 4.1 to 4.3 specify the income and expense elements for equities, bonds and financial derivatives respectively, where the line Income/expense shows the amount recognised in profit or loss for the relevant income statement line.

Table 4.1 Specification Income/expense from equities

Amounts in NOK million	2022	2021
Dividends	197 631	170 556
Realised gain/loss	191 774	652 455
Unrealised gain/loss	-1 591 241	770 608
Income/expense from equities before foreign exchange gain/loss	**-1 201 835**	**1 593 618**

Table 4.2 Specification Income/expense from bonds

Amounts in NOK million	2022	2021
Interest	66 093	47 885
Realised gain/loss	-130 749	6
Unrealised gain/loss	-388 472	-88 796
Income/expense from bonds before foreign exchange gain/loss	**-453 128**	**-40 905**

Table 4.3 Specification Income/expense from financial derivatives

Amounts in NOK million	2022	2021
Interest	7 449	-877
Realised gain/loss	12 616	-2 223
Unrealised gain/loss	3 862	-1 738
Income/expense from financial derivatives before foreign exchange gain/loss	**23 926**	**-4 839**

Note 5 Holdings of equities, bonds and financial derivatives

Accounting policy

Investments in equities and bonds are measured at fair value through profit or loss. Earned dividends and interest are presented in the balance sheet on the same line as the underlying financial instruments. The balance sheet line Equities includes investments in depository certificates (GDR/ADR) and units in listed funds, such as REITs. Lent equities and bonds are presented separately. For more information on lent securities, see note 13 Secured lending and borrowing.

Financial derivatives are measured at fair value through profit or loss. Variation margin for exchange traded futures is considered to be settlement, and amounts are presented in the balance sheet as Deposits in banks. Norges Bank does not engage in hedge accounting, therefore no financial instruments are designated as hedging instruments.

For further information on fair value measurement, see note 8 Fair value measurement. Changes in fair value are recognised in the income statement and specified in note 4 Income/expense from equities, bonds and financial derivatives.

Table 5.1 Equities

	31.12.2022		31.12.2021	
Amounts in NOK million	**Fair value incl. earned dividends**	**Earned dividends**	**Fair value incl. earned dividends**	**Earned dividends**
Equities	8 590 402	10 306	8 888 419	7 353
Total equities	**8 590 402**	**10 306**	**8 888 419**	**7 353**
Of which equities lent	451 799		505 117	

Table 5.2 specifies investments in bonds per category. Notional value represents the amount that shall be returned at maturity, also referred to as the par value of the bond.

Table 5.2 Bonds

	31.12.2022			31.12.2021		
Amounts in NOK million	**Notional value**	**Fair value incl. earned interest**	**Earned interest**	**Notional value**	**Fair value incl. earned interest**	**Earned interest**
Government bonds						
Government bonds issued in the government's local currency	2 366 163	2 165 605	10 509	1 855 432	1 914 848	5 585
Total government bonds	**2 366 163**	**2 165 605**	**10 509**	**1 855 432**	**1 914 848**	**5 585**
Government-related bonds						
Sovereign bonds	11 053	9 460	63	10 034	10 016	42
Bonds issued by local authorities	149 232	132 412	784	125 037	131 218	600
Bonds issued by supranational bodies	104 967	90 526	436	69 365	70 640	167
Bonds issued by federal agencies	162 295	149 450	750	154 055	155 965	394
Total government-related bonds	**427 547**	**381 848**	**2 034**	**358 941**	**367 840**	**1 204**
Inflation-linked bonds						
Inflation-linked bonds issued by government authorities	250 560	243 441	485	160 158	195 879	371
Total inflation-linked bonds	**250 560**	**243 441**	**485**	**160 158**	**195 879**	**371**
Corporate bonds						
Bonds issued by utilities	83 977	74 812	898	61 423	66 264	622
Bonds issued by financial institutions	427 297	382 224	3 506	321 224	327 240	2 149
Bonds issued by industrial companies	419 297	372 278	3 740	331 394	354 885	2 771
Total corporate bonds	**930 570**	**829 314**	**8 145**	**714 041**	**748 389**	**5 542**
Securitised bonds						
Covered bonds	269 778	234 618	1 045	200 604	191 948	544
Total securitised bonds	**269 778**	**234 618**	**1 045**	**200 604**	**191 948**	**544**
Total bonds	**4 244 619**	**3 854 827**	**22 218**	**3 288 727**	**3 418 903**	**13 246**
Of which bonds lent		886 555			623 367	

Financial derivatives

Financial derivatives such as foreign exchange derivatives, interest rate derivatives, credit derivatives and futures, are used to adjust the exposure in various portfolios as a cost-efficient alternative to trading in the underlying securities. Foreign exchange derivatives are also used in connection with liquidity management. Equity derivatives with an option component are often a result of corporate actions, and can be converted into equities or sold. The GPFG also uses equity swaps in combination with purchase and sale of equities.

Table 5.3 specifies financial derivatives recognised in the balance sheet. Notional amounts are the basis for calculating any cash flows and gains/losses for derivative contracts. This provides information on the extent to which different types of financial derivatives are used.

Table 5.3 Financial derivatives

	31.12.2022			31.12.2021		
		Fair value			Fair value	
Amounts in NOK million	**Notional amount**	**Asset**	**Liability**	**Notional amount**	**Asset**	**Liability**
Foreign exchange derivatives	1 028 213	6 955	28 135	791 724	5 920	5 278
Interest rate derivatives	390 528	13 049	11 615	199 485	1 330	2 870
Credit derivatives	53 290	-	375	29 563	164	902
Equity derivatives[1]	-	274	-	-	349	-
Exchange-traded futures contracts[2]	91 638	221	34	57 062	116	5
Total financial derivatives	**1 563 669**	**20 498**	**40 159**	**1 077 834**	**7 879**	**9 055**

1 Notional amounts are not considered relevant for equity derivatives and are therefore not included in the table.

2 Exchange-traded futures contracts are settled daily with margin payments and fair value is normally zero at the balance sheet date, with the exception of futures contracts in certain markets where there is different timing for setting the market value for recognition in the balance sheet and daily margining.

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

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

Credit derivatives
This comprises credit default swaps indices (CDS Indices) for corporate bonds, where one party (the seller) assumes the credit risk and the other party (the buyer) reduces the credit risk on the underlying index of corporate bonds. Under a CDS Index contract, the seller receives a periodic coupon from the buyer as compensation for assuming the credit risk. The buyer only receives payment if the credit protection is triggered by for instance default on the underlying credit in the index (credit event).

Equity derivatives
Equity derivatives are derivatives with exposure to an underlying equity. Equity derivatives recognised in the balance sheet include instruments with an option component, such as rights and warrants. These instruments grant the owner the right to purchase an equity at an agreed price within a certain time frame.

Futures contracts
Futures contracts are listed contracts to buy or sell a specified asset (security, index, interest rate, power or similar assets) at an agreed price at a future point in time.

Equity swaps in combination with purchase or sale of equities
Equity swaps are not recognised in the balance sheet. See the accounting policy in note 13 Secured lending and borrowing for further information. At the end of 2022, equities purchased in combination with offsetting equity swaps amounted to NOK 104 billion (NOK 80 billion at the end of 2021). Equity sales in combination with offsetting equity swaps amounted to NOK 105 billion (NOK 64 billion at the end of 2020). See also table 14.1 in note 14 Collateral and offsetting. The GPFG has virtually no net exposure from equity swaps in combination with purchase or sale of equities.

Note 6 Unlisted real estate

Accounting policy

Investments in unlisted real estate are made through subsidiaries of Norges Bank, exclusively established as part of the management of the GPFG. Subsidiaries presented as Unlisted real estate in the balance sheet are measured at fair value through profit or loss. See note 2 Accounting policies for further information.

The fair value of unlisted real estate is equivalent to the sum of the GPFG's share of assets and liabilities in the underlying subsidiaries, measured at fair value. For further information, see note 8 Fair value measurement.

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

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

Interest is recognised when it is earned.

Dividends are recognised when the dividend is formally approved by the general meeting or equivalent decision-making body, or is paid out in accordance with the company's articles of association.

Table 6.1 Income/expense from unlisted real estate

Amounts in NOK million	2022	2021
Payments of interest and dividend	6 156	6 088
Unrealised gain/loss[1]	-8 369	29 723
Income/expense from unlisted real estate before foreign exchange gain/loss	**-2 213**	**35 811**

[1] Earned interest and dividends which are not cash-settled are included in Unrealised gain/loss.

Table 6.2 Changes in carrying amounts unlisted real estate

Amounts in NOK million	31.12.2022	31.12.2021
Unlisted real estate at 1 January	**310 134**	**272 507**
Net cash flow to/from investments	3 930	7 056
Unrealised gain/loss	-8 369	29 723
Foreign exchange gain/loss	24 036	849
Unlisted real estate, closing balance for the period	**329 732**	**310 134**

Cash flows between the GPFG and subsidiaries presented as unlisted real estate

The GPFG makes cash contributions to subsidiaries in the form of equity and long- term loan financing, to fund investments in real estate assets, primarily properties. Net income in the underlying real estate companies can be distributed back to the GPFG in the form of interest and dividend as well as repayment of equity and long-term loan financing. Net income generated in the underlying real estate companies that is not distributed back to the GPFG, is reinvested in the underlying entities to finance for instance property development and repayment of external debt. There are no significant restrictions on the distribution of interest and dividend from subsidiaries to the GPFG.

Tables 6.3 specifies cash flows between the GPFG and subsidiaries presented as Unlisted real estate, related to ongoing operations and other activities.

Table 6.3 Cash flow unlisted real estate

Amounts in NOK million	2022	2021
Interest from ongoing operations	1 568	1 599
Dividend from ongoing operations	4 200	4 438
Repayments of intercompany loans and paid-in capital from ongoing operations	1 694	1 692
Cash flow from ongoing operations unlisted real estate	**7 463**	**7 729**
Payments for new investments	-7 074	-13 486
Payments for property development	-1 186	-866
Net payments external debt	72	4 039
Repayments of intercompany loans from sales	2 564	1 565
Interest from sales	219	51
Dividend from sales	168	-
Cash flow to/from other activities unlisted real estate	**-5 237**	**-8 697**
Net cash flow unlisted real estate[1]	**2 225**	**-968**

[1] Shown in the statement of cash flows as Receipts of interest and dividend from unlisted real estate and Net cash flow to/from investments in unlisted real estate.

Net income in the underlying real estate companies which is distributed back to the GPFG in the form of interest and dividends is presented in the statement of cash flows as Receipts of interest and dividend from unlisted real estate. In 2022 this amounted to NOK 6 156 million (NOK 6 088 million in 2021).

Cash flows between the GPFG and real estate subsidiaries in the form of equity and loan financing, as well as repayment of these, are presented in the statement of cash flows as Net cash flows to/from investments in unlisted real estate. In 2022 this amounted to NOK -3 930 million (NOK -7 056 million in 2021).

A net cash flow from the GPFG to subsidiaries will result in an increase in the value of Unlisted real estate in the balance sheet, while a net cash flow from subsidiaries to the GPFG will result in a decrease.

Underlying real estate companies

Real estate subsidiaries have investments in other non-consolidated, unlisted companies. For further information, see note 16 Interests in other entities.

Principles for measurement and presentation

The following principles apply for the respective income and expense elements presented in table 6.4:

Rental income is recognised on a straight-line basis over the lease term. Net rental income mainly comprises accrued rental income, less costs relating to the operation and maintenance of properties.

Asset management fees are directly related to the underlying properties and are primarily linked to the operation and development of properties and leases. Fixed fees are expensed as incurred. Variable fees to external asset managers are based on achieved performance over time. The provision for variable fees is based on the best estimate of the incurred fees to be paid. The change in best estimate in the period is recognised in profit or loss.

Transaction costs and fees from purchases and sales of properties are incurred as one-off costs and expensed as incurred.

Table 6.4 specifies the GPFG's share of net income generated in the underlying real estate companies, which is the basis for Income/expense from unlisted real estate presented in table 6.1.

Table 6.4 Income from underlying real estate companies

Amounts in NOK million	2022	2021
Net rental income	12 807	11 173
External asset management - fixed fees	-1 071	-819
External asset management - variable fees	-33	-30
Internal asset management - fixed fees[1]	-99	-84
Operating costs in wholly-owned subsidiaries[2]	-65	-63
Operating costs in joint ventures	-166	-109
Interest expense external debt	-644	-673
Tax expense	-303	-253
Net income from ongoing operations	**10 427**	**9 141**
Realised gain/loss	769	424
Unrealised gain/loss[3]	-13 085	26 387
Realised and unrealised gain/loss	**-12 316**	**26 811**
Transaction costs and fees from purchases and sales	**-324**	**-141**
Net income underlying real estate companies	**-2 213**	**35 811**

1 Internal asset management is carried out on 100 percent owned properties by employees in a wholly-owned, consolidated subsidiary.

2 Operating costs in wholly-owned subsidiaries are measured against the upper limit from the Ministry of Finance, see note 12 Management costs for more information.

3 Unrealised gain/loss presented in table 6.1 includes net income in the underlying real estate companies which is not distributed back to the GPFG, and will therefore not correspond to Unrealised gains/loss presented in table 6.4.

Table 6.5 specifies the GPFG's share of assets and liabilities in the underlying real estate companies, which comprises the closing balance for Unlisted real estate as presented in table 6.2.

Table 6.5 Assets and liabilities underlying real estate companies

Amounts in NOK million	31.12.2022	31.12.2021
Properties	356 518	336 332
External debt	-24 751	-22 780
Net other assets and liabilities[1]	-2 036	-3 417
Total assets and liabilities underlying real estate companies	**329 732**	**310 134**

1 Net other assets and liabilities comprise cash, tax and operational receivables and liabilities.

Agreements for purchases and sales of properties

When purchasing and selling property, there will normally be a time period between entering into the agreement and completion of the transaction. Properties are recognised or derecognised in the underlying real estate companies upon transfer of control. This will normally be the date the consideration is transferred and the transaction is completed. Transactions are normally announced when the agreement is entered into. Previously announced agreements for purchases and sales of properties which were not completed at the end of 2022, are described below.

Table 6.6 Announced agreements for purchases and sales of properties[1]

Type	Property address	City	Ownership percent	Currency	Price in stated currency (million)[2]	Quarter announced	Expected completion
Purchase	Voltairstrasse 8-10	Berlin	65.0	EUR	297	3Q 2022	1Q 2023

1 Purchases and sales above USD 100 million are announced.
2 The stated price is for the GPFG's share.

Norges Bank also entered into agreements in 2019 to acquire a 48 percent interest in two to-be-constructed properties in New York at 555 Greenwich Street and 92 Avenue of the Americas. The properties will be acquired upon completed construction. 555 Greenwich Street is expected to be completed in early 2023. Construction has not yet commenced for 92 Avenue of the Americas.

Note 7 Unlisted renewable energy infrastructure

Accounting policy

Investments in unlisted renewable energy infrastructure (Unlisted infrastructure) are made through subsidiaries of Norges Bank, exclusively established as part of the management of the GPFG. Subsidiaries presented as Unlisted infrastructure in the balance sheet are measured at fair value through profit or loss. See note 2 Accounting policies for further information.

The fair value of unlisted infrastructure is equivalent to the sum of the GPFG's share of assets and liabilities in the underlying subsidiaries, measured at fair value. For further information, see note 8 Fair value measurement.

Changes in fair value are recognised in the income statement and presented as Income/expense from unlisted infrastructure.

The following accounting policies apply to the respective income and expense elements presented in table 7.1:

Interest is recognised when it is earned.

Dividends are recognised when the dividend is formally approved by the general meeting or equivalent decision-making body, or is paid out in accordance with the company's articles of association.

Table 7.1 Income/expense from unlisted infrastructure

Amounts in NOK million	2022	2021
Payments of interest	162	80
Unrealised gain/loss[1]	735	1 118
Income/expense from unlisted infrastructure before foreign exchange gain/loss	**897**	**1 198**

[1] Earned interest which is not cash-settled is included in Unrealised gain/loss.

Table 7.2 Changes in carrying amounts unlisted infrastructure

Amounts in NOK million	31.12.2022	31.12.2021
Unlisted infrastructure at 1 January	**14 287**	**-**
Net cash flow to/from investments	-1 143	13 375
Unrealised gain/loss	735	1 118
Foreign exchange gain/loss	609	-207
Unlisted infrastructure, closing balance for the period	**14 489**	**14 287**

Cash flows between the GPFG and subsidiaries presented as Unlisted infrastructure

The GPFG makes cash contributions to subsidiaries in the form of equity and long- term loan financing, to fund investments in renewable energy infrastructure. Net income in the underlying infrastructure companies can be distributed back to the GPFG in the form of interest and dividend as well as repayment of equity and long-term loan financing. There are no significant restrictions on the distribution of interest and dividend from subsidiaries to the GPFG.

Tables 7.3 specifies cash flows between the GPFG and subsidiaries presented as Unlisted infrastructure, related to ongoing operations and other activities.

Table 7.3 Cash flow unlisted infrastructure

Amounts in NOK million	2022	2021
Interest from ongoing operations	162	80
Repayments of intercompany loans and paid-in capital from ongoing operations	1 143	648
Cash flow from ongoing operations unlisted infrastructure	**1 305**	**728**
Payments for new investments	-	-14 023
Cash flow to/from other activities unlisted infrastructure	**-**	**-14 023**
Net cash flow unlisted infrastructure[1]	**1 305**	**-13 295**

[1] Shown in the statement of cash flows as Receipts of interest from unlisted infrastructure and Net cash flow to/from investments in unlisted infrastructure.

Net income in the underlying infrastructure companies which is distributed back to the GPFG in the form of interest is presented in the statement of cash flows as Receipts of interest from unlisted infrastructure. In 2022 this amounted to NOK 162 million (NOK 80 million in 2021).

Cash flows between the GPFG and infrastructure subsidiaries in the form of equity and loan financing, as well as repayment of these, are presented in the statement of cash flows as Net cash flows to/from investments in unlisted infrastructure. In 2022 this amounted to NOK 1 143 million (NOK -13 375 million in 2021).

A net cash flow from the GPFG to subsidiaries will result in an increase in the value of Unlisted infrastructure in the balance sheet, while a net cash flow from subsidiaries to the GPFG will result in a decrease.

Underlying infrastructure companies

Infrastructure subsidiaries have investments in other non-consolidated, unlisted companies. For further information, see note 16 Interests in other entities.

Principles for measurement and presentation

The following principles apply for the respective income and expense elements presented in table 7.4:

Income from the sale of renewable energy is recognised at time of delivery. Net income from the sale of renewable energy mainly comprises accrued income from power sales, less costs relating to the operation and maintenance of infrastructure assets.

Transaction costs and fees from purchases and sales of infrastructure for renewable energy are incurred as one-off costs and expensed as incurred.

Table 7.4 specifies the GPFG's share of net income generated in the underlying infrastructure companies, which is the basis for Income/expense from unlisted infrastructure presented in table 7.1.

Table 7.4 Income from underlying infrastructure companies

Amounts in NOK million	2022	2021
Net income from sale of renewable energy	2 175	747
Operating costs in wholly-owned subsidiaries[1]	-6	-7
Operating costs in joint ventures	-16	9
Tax expense	-353	-160
Net income from ongoing operations	**1 799**	**589**
Unrealised gain/loss[2]	**-898**	**639**
Transaction costs and fees from purchases and sales	**-4**	**-31**
Net income underlying infrastructure companies	**897**	**1 198**

1 Operating costs in wholly-owned subsidiaries are measured against the upper limit from the Ministry of Finance, see note 12 Management costs for more information.

2 Unrealised gain/loss presented in table 7.1 includes net income in the underlying infrastructure companies which is not distributed back to the GPFG, and will therefore not correspond to Unrealised gains/loss presented in table 7.4.

Table 7.5 specifies the GPFG's share of assets and liabilities in the underlying infrastructure companies, which comprises the closing balance for Unlisted infrastructure as presented in table 7.2.

Table 7.5 Assets and liabilities underlying infrastructure companies

Amounts in NOK million	31.12.2022	31.12.2021
Wind farm	13 983	14 290
Net other assets and liabilities[1]	506	-3
Total assets and liabilities underlying infrastructure companies	**14 489**	**14 287**

1 Net other assets and liabilities comprise cash, tax and operational receivables and liabilities.

Note 8 Fair value measurement

Accounting policy

All assets and liabilities presented as Equities, Bonds, Unlisted real estate, Unlisted infrastructure, Financial derivatives, Secured lending and borrowing, Deposits in banks and Cash collateral posted and received are measured at fair value through profit or loss.

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

1. Introduction
Fair value for the majority of assets and liabilities is based on quoted market prices or observable market inputs. If the market is not active, fair value is established using standard valuation techniques. Estimating fair value can be complex and requires the use of judgement, in particular when observable inputs are not available. This valuation risk is addressed by the control environment in Norges Bank Investment Management, which is described in section 6 of this note.

2. The fair value hierarchy
All assets and liabilities that are part of the investment portfolio are classified in the three categories in the fair value hierarchy presented in table 8.1. The classification is determined by the observability of the market inputs used in the fair value measurement:

- Level 1 comprises assets that are valued based on unadjusted quoted prices in active markets. An active market is defined as a market in which transactions take place with sufficient frequency and volume to provide pricing information on an ongoing basis.

- Assets and liabilities classified as Level 2 are valued using models with market inputs that are either directly or indirectly observable. Inputs are considered observable when they are developed based on market data reflecting actual events and transactions.

- Assets classified as Level 3 are valued using models with significant use of unobservable inputs. Inputs are considered to be unobservable when market data is not available, and the input is developed using the best available information on the assumptions that market participants would use when pricing the asset.

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

Significant estimates

Classification in the fair value hierarchy is based on set criteria, some of which may require the use of judgement.

Level 3 investments consist of instruments held at fair value that are not traded or quoted in active markets. Fair value is determined using valuation techniques that use models with significant use of unobservable inputs. A considerable degree of judgement is applied in determining the assumptions that market participants would use when pricing the asset or liability, when observable market data is not available.

Table 8.1 Categorisation of the investment portfolio by level in the fair value hierarchy

	Level 1		Level 2		Level 3		Total	
Amounts in NOK million	**31.12.2022**	**31.12.2021**	**31.12.2022**	**31.12.2021**	**31.12.2022**	**31.12.2021**	**31.12.2022**	**31.12.2021**
Equities	**8 556 594**	**8 849 354**	**30 602**	**37 716**	**3 206**	**1 349**	**8 590 402**	**8 888 419**
Government bonds	1 929 618	1 494 936	235 987	419 912	-	-	2 165 605	1 914 848
Government-related bonds	303 108	278 345	78 406	89 495	334	-	381 848	367 840
Inflation-linked bonds	204 037	177 457	39 404	18 422	-	-	243 441	195 879
Corporate bonds	740 645	674 632	88 663	73 750	6	7	829 314	748 389
Securitised bonds	202 781	162 737	31 837	29 211	-	-	234 618	191 948
Total bonds	**3 380 189**	**2 788 107**	**474 297**	**630 790**	**340**	**7**	**3 854 827**	**3 418 903**
Financial derivatives (assets)	429	246	20 024	7 633	45	-	20 498	7 879
Financial derivatives (liabilities)	-409	-	-39 750	-9 055	-	-	-40 159	-9 055
Total financial derivatives	**20**	**246**	**-19 726**	**-1 422**	**45**	**-**	**-19 661**	**-1 176**
Unlisted real estate	**-**	**-**	**-**	**-**	**329 732**	**310 134**	**329 732**	**310 134**
Unlisted infrastructure	**-**	**-**	**-**	**-**	**14 489**	**14 287**	**14 489**	**14 287**
Other (assets)[1]	-	-	519 026	340 634	-	-	519 026	340 634
Other (liabilities)[2]	-	-	-859 756	-631 651	-	-	-859 756	-631 651
Total	**11 936 803**	**11 637 707**	**144 443**	**376 067**	**347 812**	**325 777**	**12 429 059**	**12 339 549**
Total (percent)	**96.0**	**94.3**	**1.2**	**3.1**	**2.8**	**2.6**	**100.0**	**100.0**

1 Other (assets) consists of the balance sheet lines Deposits in banks, Secured lending, Cash collateral posted, Unsettled trades (assets), Withholding tax receivable and Other assets.

2 Other (liabilities) consists of the balance sheet lines Secured borrowing, Cash collateral received, Unsettled trades (liabilities), Deferred tax and Other liabilities.

The majority of the total portfolio is priced based on observable market prices. At the end of 2022, 97.2 percent of the portfolio was classified as Level 1 or 2, which is a marginal decrease compared to year-end 2021. Movements between levels in the fair value hierarchy are described in section 3 of this note.

Equities

Measured as a share of total value, virtually all equities (99.61 percent) were valued based on official closing prices from stock exchanges at the end of 2022 and classified as Level 1. A small share of equities (0.36 percent) were classified as Level 2 at year-end. These are mainly equities for which trading has recently been suspended, or illiquid securities that are not traded daily. The share of equities valued with significant use of unobservable inputs and classified as Level 3 at year-end was 0.04 percent. These are equities that are not listed, or where trading has been suspended and an adjustment applied to the last traded price based on company- or country-specific factors.

Bonds

The majority of bonds have observable, executable market quotes in active markets and 87.69 percent of bond holdings were classified as Level 1 at the end of 2022. Bond holdings that do not have a sufficient number of observable quotes or that are priced based on comparable liquid bonds are classified as Level 2. These amounted to 12.30 percent of bond holdings at year-end. An insignificant share of bond holdings (0.01 percent) that did not have observable quotes were classified as Level 3 at year-end, since the valuation was based on significant use of unobservable inputs.

Unlisted real estate and unlisted renewable energy infrastructure

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

Financial derivatives

Some equity derivatives (rights and warrants) and credit derivatives (CDS indices) that are actively traded are classified as Level 1. The majority of derivatives are classified as Level 2, since the valuation of these is based on standard models using observable market inputs. Certain derivatives are valued based on models with significant use of unobservable inputs and are classified as Level 3.

Other assets and liabilities that are part of the investment portfolio are classified as Level 2.

3. Movements between the levels in the fair value hierarchy

Accounting policy

Transfers between levels in the fair value hierarchy are deemed to have occurred at the beginning of the reporting period.

Reclassifications between Level 1 and Level 2

The share of equities classified as Level 1 was virtually unchanged compared to year-end 2021. There were no significant reclassifications of equities between Level 1 and Level 2.

The share of bonds classified as Level 1 increased by 6.1 percentage points compared to year-end 2021, with a corresponding decrease in the share of Level 2 holdings. The primary drivers of this change were purchases of government bonds classified as Level 1 during the year and the maturity of several bonds that were classified as Level 2 at year-end 2021. There was a net reclassification during the year from Level 1 to Level 2 of NOK 29 billion, primarily relating to corporate bonds and government bonds.

Reclassification between Level 1 and Level 3

Extensive sanctions were introduced on trading in Russian securities in 2022. As a consequence, price observability was limited and equity securities were either suspended from trading or trading with restrictions. In order to estimate the price that would be received for the sale of the shares under the current market conditions, a downward adjustment was applied to the last traded price of these securities at year-end. The adjustment reflects the estimated discount that market participants would demand to reflect the risk associated with the inherent uncertainty in the cash flows of the shareholdings, as well as the inability to access a public market to trade the shares. The adjustment to the last traded price is based on unobservable inputs and is considered to be significant to the fair value measurement. All equity holdings where an adjustment has been applied to the last traded price were therefore reclassified to Level 3. At the end of the year, these equity securities had a value of NOK 3 billion, compared to NOK 28 billion at year-end 2021.

Table 8.2 Changes in Level 3 holdings

Amounts in NOK million	01.01.2022	Purchases	Sales	Settlements	Net gain/loss	Transferred into Level 3	Transferred out of Level 3	Foreign exchange gain/loss	31.12.2022
Equities	1 349	83	-1 014	310	-28 634	27 678	-152	3 585	3 206
Bonds	7	237	-	-	-20	103	-	13	340
Financial derivatives (assets)	-	-	-	-	-20	60	-	5	45
Unlisted real estate[1]	310 134	3 930	-	-	-8 369	-	-	24 036	329 732
Unlisted infrastructure[1]	14 287	-1 143	-	-	735	-	-	609	14 489
Total	**325 777**	**3 108**	**-1 014**	**310**	**-36 308**	**27 841**	**-152**	**28 248**	**347 812**

Amounts in NOK million	01.01.2021	Purchases	Sales	Settlements	Net gain/loss	Transferred into Level 3	Transferred out of Level 3	Foreign exchange gain/loss	31.12.2021
Equities	597	908	-16	-	-327	242	-68	13	1 349
Bonds	28	-	-	-	-22	-	-	1	7
Financial derivatives (assets)	4	-	-	-	-	-	-4	-	-
Unlisted real estate[1]	272 507	7 056	-	-	29 723	-	-	849	310 134
Unlisted infrastructure[1]	-	13 375	-	-	1 118	-	-	-207	14 287
Total	**273 136**	**21 339**	**-16**	**-**	**30 492**	**242**	**-72**	**656**	**325 777**

[1] Purchases represent the net cash flow to investments in unlisted real estate and unlisted infrastructure, as presented in the Statement of cash flows.

The share of the portfolio classified as Level 3 was 2.8 percent at the end of 2022, an increase from 2.6 percent at year-end 2021. The GPFG's aggregate holdings in Level 3 amounted to NOK 347 812 million at year-end 2022, an increase of NOK 22 035 million compared to year-end 2021. The increase is mainly due to investments in unlisted real estate which are all classified as Level 3.

Investments in unlisted real estate amounted to NOK 329 732 million at year-end, an increase of NOK 19 598 million compared to year-end 2021. The increase is mainly due to foreign exchange gains and new investments, partly offset by unrealised losses.

The relative share of both equities and bonds classified as Level 3 increased slightly compared to year-end 2021. For equities, the increase in absolute value of Level 3 holdings was due to the reclassification of Russian equities from Level 1. The absolute value of bonds classified as Level 3 increased due to the purchase of two bond holdings classified as Level 3 and reclassification of three bond holdings from Level 2 during the year.

4. Valuation techniques

Norges Bank Investment Management has defined hierarchies for which price sources are to be used in the valuation. Holdings that are included in the benchmark indices are normally valued in accordance with prices from the index providers, while the remaining holdings of equities and bonds are valued almost exclusively using prices from other external price providers. For equities and derivatives traded in active markets (Level 1), the close price is used. For bonds traded in active markets, the bid price is generally used. Market activity and volumes are monitored using several price sources that provide access to market prices, quotes and transactions at the measurement date.

The next section sets out the valuation techniques used for instruments classified as Level 2 and Level 3 in the fair value hierarchy. Furthermore, the most significant observable and unobservable inputs used in the valuation models are described.

Unlisted real estate (Level 3)

Unlisted real estate investments constitute the vast majority of holdings classified as Level 3. The fair value of unlisted real estate is determined as the sum of the underlying assets and liabilities as presented in note 6 Unlisted real estate. Assets and liabilities consist mainly of properties and external debt. Properties are valued at each reporting date by external certified and independent valuation specialists using valuation models. Valuation of properties is inherently dependent on significant forward-looking judgements. These include key assumptions and estimates with respect to each individual property type, location, future estimated net cash flows and relevant yields. These assumptions represent primarily unobservable inputs and unlisted real estate is therefore classified as Level 3 in the fair value hierarchy. Estimates used reflect recent comparable market transactions of properties with a similar location, condition and quality.

Valuation of commercial real estate is based on variations of discounted cash flow models.

Yields and assumptions regarding expected future cash flows are the most important inputs in the valuation models. Expected future cash flows are affected by changes in assumptions related to, but not limited to:

- Estimated market rental values and market rental value growth
- Changes in tenancy situation
- Expected inflation (market, consumer price index, costs, etc.)
- Renewal and tenant default probabilities, void periods, operating costs and capital costs

Future cash flows are valued with a combination of capitalisation and discount rates. These take into account a range of factors reflecting the specific investment, including asset level characteristics, market outlook, comparable market transactions and the local and global economic environment.

Table 8.3 provides information on the significant unobservable inputs used in the measurement of fair value for investments in unlisted real estate.

Table 8.3 Unobservable inputs - Unlisted real estate

	Fair value in NOK million			Average equivalent yield/ discount rate in percent		Average annual market rent per square meter (in NOK)	
Property type	**31.12.2022**	**31.12.2021**	**Valuation methodology**	**31.12.2022**	**31.12.2021**	**31.12.2022**	**31.12.2021**
Office							
Europe	81 048	76 135	Income capitalisation	3.6	3.4	7 183	6 793
US	89 789	87 507	Discounted cash flow	6.3	5.9	8 018	7 185
Retail							
Europe	35 104	35 011	Income capitalisation	3.8	3.6	16 791	15 111
Logistics							
US	79 108	66 143	Discounted cash flow	6.4	5.4	1 651	1 119
Europe	33 963	34 783	Income capitalisation	5.0	4.1	902	782
Tokyo							
Office/Retail	8 016	8 043	Discounted cash flow	2.4	2.4	17 134	16 816
Other	2 703	2 514					
Total	**329 732**	**310 134**					

Unlisted renewable energy infrastructure (Level 3)

The fair value of unlisted infrastructure is determined as the sum of the underlying assets and liabilities as presented in note 7 Unlisted renewable energy infrastructure, which mainly consist of wind farm assets. At year-end, the fund had only one investment in this asset class, with no collateralised debt. This investment is valued by an external, independent valuation specialist using a bespoke valuation model. Valuation of unlisted infrastructure is inherently predisposed to significant forward-looking judgements. These include key assumptions and estimates with respect to each individual asset type, location, future revenue streams and relevant discount rates. These assumptions represent primarily unobservable inputs and Unlisted infrastructure is therefore classified as Level 3 in the fair value hierarchy.

Discount rates and assumptions regarding expected future revenue streams (power prices) are the most important inputs in the valuation models. Power prices are forecasted by independent, energy market forecasters.

Forecasted future cash flows are discounted with a discount rate using a valuation model. The model takes into account estimates of risk premiums both for the market in general and for the specific infrastructure assets. In addition, the external valuer also compares this value with value estimates calculated using market multiples (trading factors from similar companies) and transaction multiples (metrics from recent comparable transactions), before determining the final estimate of fair value.

Equities (Level 2 and Level 3)

Equities that are valued based on models with observable inputs are classified as Level 2 in the fair value hierarchy. These holdings are not traded in active markets and include listed shares in companies where trading has been suspended. The valuation models take into account various observable market inputs such as comparable equity quotes, last traded price and volume.

Holdings in Level 3 consist of equities that are not listed or have been suspended from trading, where the valuation models use unobservable inputs to a significant extent. For equities that are suspended from trading, the value is adjusted down compared to last-traded price, based on an assessment of company and country-specific factors. For equities that are not listed, an adjustment for liquidity risk is applied. Valuation models for these holdings take into account unobservable inputs such as historical volatility, company performance and analysis of comparable companies and securities.

Bonds (Level 2 and Level 3)

Bonds classified as Level 2 are valued using observable inputs from comparable issues, as well as direct indicative or executable quotes. These holdings usually consist of less liquid bonds than those classified as Level 1, i.e. where there is no trading volume of binding offers and a low volume of indicative quotes at the measurement date.

Bonds classified as Level 3 are valued based on models using unobservable inputs such as probability for future cash flows and spreads to reference curves. These holdings include defaulted and highly illiquid bonds.

Financial derivatives (Level 2 and Level 3)

Foreign exchange derivatives consist mainly of foreign exchange forward contracts, and are valued using industry standard models which predominantly use observable market data inputs such as forward rates.

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

Equity derivatives and credit derivatives, are mainly valued using observable prices provided by vendors according to the price hierarchy. In some cases where an equity derivative is not traded, inputs such as conversion factors, subscription price and strike price are utilised to value the instruments.

5. Sensitivity analysis for Level 3 holdings

The valuation of holdings in Level 3 involves the use of judgement when determining the assumptions that market participants would use when observable market data is not available. In the sensitivity analysis for Level 3 holdings, the effect of using reasonable alternative assumptions is shown.

Table 8.4 Additional specification Level 3 and sensitivities

Amounts in NOK million	Key assumptions	Change in key assumptions	Specification of Level 3 holdings 31.12.2022	Sensitivities 31.12.2022		Specification of Level 3 holdings 31.12.2021	Sensitivities 31.12.2021	
				Unfavourable changes	Favourable changes		Unfavourable changes	Favourable changes
	Adjustment for country-specific factors Russia		2 997	-2 997	-	-	-	-
	Suspension adjustment	20.0 percent	209	-42	42	1 349	-270	270
Equities			**3 206**	**-3 039**	**42**	**1 349**	**-270**	**270**
Bonds	Probability of future cash flows	10.0 percent	**340**	**-34**	**34**	**7**	**-1**	**1**
Financial derivatives (assets)	Other		**45**	**-9**	**9**	**-**	**-**	**-**
	Yield	0.2 percentage point		-15 944	17 896		-15 219	17 050
	Market rent	2.0 percent		-5 362	5 370		-5 253	5 253
Unlisted real estate			**329 732**	**-21 306**	**23 266**	**310 134**	**-20 472**	**22 302**
	Discount rate	0.25 percentage point		-312	287		-385	404
	Power price forecast	5.0 percent		-804	780		-435	438
Unlisted infrastructure			**14 489**	**-1 116**	**1 066**	**14 287**	**-820**	**843**
Total			**347 812**	**-25 504**	**24 417**	**325 777**	**-21 563**	**23 416**

Unlisted real estate

Changes in key assumptions can have a material effect on the valuation of unlisted real estate investments. A number of key assumptions are used, of which yields and growth forecasts for future market rents are the assumptions that have the largest impact when estimating property values. This is illustrated in the sensitivity analysis by using other reasonable alternative assumptions for yield and market rents. The sensitivity analysis is based on a statistically relevant sample that is representative for the unlisted real estate portfolio, and reflects both favourable and unfavourable changes.

In an unfavourable outcome, an increase in the yield of 0.2 percentage point, and a reduction in market rents of 2 percent would result in a decrease in value of the unlisted real estate portfolio of approximately NOK 21 306 million or 6.5 percent (6.6 percent at year-end 2021). In a favourable outcome, a reduction in the yield of 0.2 percentage point and an increase in market rents of 2 percent would result in an increase in value of the unlisted real estate portfolio of approximately NOK 23 266 million or 7.1 percent (7.2 percent at year-end 2021). The isolated effects of changes in yields and future market rents are presented in table 8.4. Changes outside of the ranges specified above are considered to be less reasonable alternative assumptions, however if the range of alternative assumptions were to be expanded, the value changes would be linear.

Unlisted renewable energy infrastructure

The sensitivity analysis for unlisted infrastructure investments is adapted to each individual investment. A number of key assumptions are used, of which discount rates and future power prices are the assumptions that have the largest impact when estimating values. This is illustrated in the sensitivity analysis by using other reasonable alternative assumptions for discount rates and future power prices.

In an unfavourable outcome, an increase in the discount rate of 0.25 percentage point, and a reduction in power prices of 5 percent would result in a decrease in value of unlisted infrastructure of approximately NOK 1 116 million or 7.7 percent (5.7 percent at year-end 2021). In a favourable outcome, a reduction in the discount rate of 0.25 percentage point and an increase in power prices of 5 percent would result in an increase in value of unlisted infrastructure of approximately NOK 1 066 million or 7.4 percent (5.9 percent at year-end 2021). The isolated effects of changes in discount rates and power prices are presented in table 8.4.

Equities

Fair value of equities classified as Level 3 is sensitive to assumptions regarding whether trading will be resumed and how markets have moved from the time the trading was suspended, as well as specific factors related to the country and the individual company such as trading restrictions and the company's financial situation. Sensitivity in absolute values has increased significantly for the equity portfolio, and is almost entirely driven by Russian holdings, where it has been assumed in an unfavourable outcome that the Russian equity holdings were worthless at year-end.

6. Control environment

The control environment for fair value measurement of financial instruments and investments in unlisted real estate and unlisted infrastructure is organised around a formalised and documented valuation policy and guidelines, supported by work and control procedures.

The valuation environment has been adapted in accordance with market standards and established valuation practices. This is implemented in practice through daily valuation of all holdings, except for investments in unlisted real estate and unlisted infrastructure, where valuations are performed quarterly. For unlisted real estate, the quarterly valuations are performed by external valuers. For unlisted infrastructure, external valuers perform the valuations at the end of the second and fourth quarters, while the internal valuation department performs the valuations at the end of the first and third quarters. These processes are scalable to market changes and are based on internal and external data solutions.

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

Price providers are monitored on an ongoing basis through regular discussions, controls and price challenges for individual securities. For a large portion of holdings, prices from independent price providers are based on quoted market prices. For holdings that are not sufficiently liquid for valuation to be based on quoted prices, widely recognised models are used. Observable inputs are used where possible, but unobservable inputs are used in some cases, due to illiquid markets.

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

Valuation memos and reports are prepared each quarter-end, documenting the results of the controls performed and the most important sources of uncertainty in the valuations. Prior to the publication of the financial reporting, the valuation documentation is reviewed, significant pricing issues are discussed, and the valuation is approved in the NBIM Leader Group Investment meeting.

Note 9 Investment risk

Management mandate for the GPFG
The GPFG is managed by Norges Bank on behalf of the Ministry of Finance, in accordance with section 3, second paragraph of the Government Pension Fund Act and the management mandate for the GPFG issued by the Ministry of Finance.

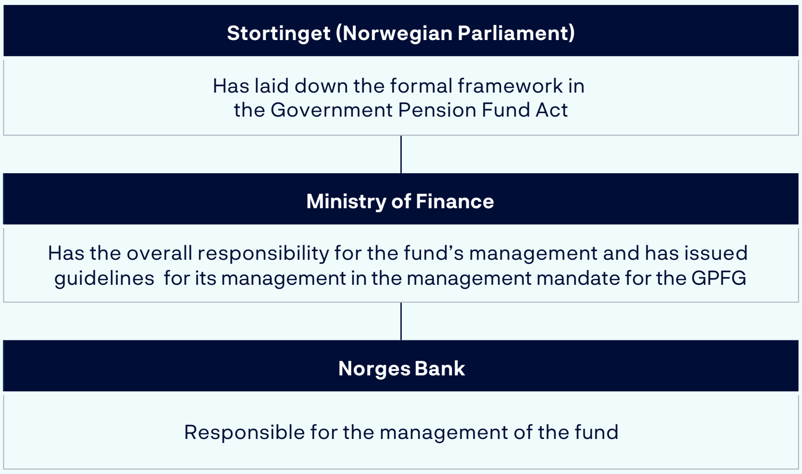
The GPFG shall seek to generate the highest possible return, net of costs, measured in the currency basket of the investment portfolio, within the applicable investment management framework. The strategic benchmark index set by the Ministry of Finance is divided into two asset classes, equities and bonds, with an allocation of 70 percent to equities and 30 percent to bonds.

The benchmark index for equities is constructed based on the market capitalisation for equities in the countries included in the benchmark. The benchmark index for bonds specifies a defined allocation between government bonds and corporate bonds, with a weight of 70 percent to government bonds and 30 percent to corporate bonds. The currency distribution is a result of these weighting principles.

Investments in unlisted real estate and unlisted renewable energy infrastructure are not defined by the fund's benchmark index. The management mandate sets a maximum allocation to unlisted real estate of 7 percent of the investment portfolio. Investments in unlisted infrastructure can amount to up to 2 percent of the investment portfolio. The fund's allocation to unlisted real estate and unlisted infrastructure is further regulated in the investment mandate issued by the Executive Board of Norges Bank. It is up to Norges Bank to determine the allocation to unlisted real estate and unlisted infrastructure within the limits set in the management mandate, and how this shall be financed.

The fund may not invest in securities issued by Norwegian entities, securities issued in Norwegian kroner, or real estate and infrastructure located in Norway. The fund can also not invest in companies which are excluded following the guidelines for observation and exclusion from the GPFG.

Chart 9.1 Management mandate for the GPFG



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

The CEO of Norges Bank Investment Management is authorised through a job description and an investment mandate. The Executive Board has issued principles for, among other things, risk management, responsible investment and compensation to employees in Norges Bank Investment Management. Internationally recognised standards are applied in the areas of valuation and performance measurement as well as management, measurement and control of risk. Reporting to the Executive Board is carried out monthly, and more extensively on a quarterly basis. The Governor of Norges Bank and the Executive Board are notified immediately in the event of special events or significant matters.

Investment responsibilities within Norges Bank Investment Management are further delegated through investment mandates. Responsibility for processes and personnel is delegated through job descriptions, while process requirements are described in policies and guidelines. The composition of the leader group and the delegation of authority shall ensure segregation of duties between the investment areas, trading, operations, risk management and compliance and control.

Chart 9.2 Norges Bank's governance structure

The NBIM Leader Group Investment Meeting complements the delegation of responsibility by advising on investment risk management and the portfolio's investment universe.

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

Framework for investment risk

In the management mandate for the GPFG, there are a number of limits and restrictions within the combined equity and bond asset class, as well as within the individual asset classes. Investments in unlisted real estate and unlisted renewable energy infrastructure are regulated by a separate management framework in the investment mandate. The framework underpins how a diversified exposure to unlisted real estate and unlisted infrastructure shall be established and managed.

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

The Executive Board's principles for risk management are further described in policies and guidelines. Responsibility for effective processes related to risk management is delegated to the CRO and the Chief Corporate Governance & Compliance Officer.

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

Table 9.1 Investment risk

Type	Market risk	Credit risk	Counterparty risk
Definition	Risk of loss or a change in the market value of the portfolio, or parts of the portfolio, due to changes in financial market variables, real estate and infrastructure values	Risk of loss due to a bond issuer not meeting its payment obligations	Risk of loss due to counterparty bankruptcy or other events leading to counterparties defaulting
Main dimensions	Measured both absolute and relative to the benchmark - Concentration risk - Volatility and correlation risk - Systematic factor risk - Liquidity risk	Measured at single issuer and portfolio levels - Probability of default - Loss given default - Correlation between instruments and issuers at portfolio level	Measured risk exposure by type of position - Securities lending - Unsecured bank deposits and securities - Derivatives including FX contracts - Repurchase and reverse repurchase agreements - Settlement risk towards brokers and long settlement transactions

Investment risk - market risk

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

Investment risk – credit risk

Norges Bank Investment Management defines credit risk as the risk of loss resulting from a bond issuer defaulting on their payment obligations. Credit risk is measured both in relation to single issuers, where the probability of default and loss given default are taken into account, and at portfolio level, where the correlation of credit losses between instruments and issuers is taken into account. Credit risk is actively taken to generate investment returns in line with the objectives of the investment mandates.

Investment risk – counterparty risk

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

Risk management process

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

Market risk

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

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

Concentration risk

Concentration analysis complements statistical risk estimation by describing the concentration of a single exposure or a group of exposures. More concentrated portfolios tend to contribute to less diversification. Concentration is measured across different dimensions depending on the asset class, including country, currency, sector, issuer and company exposure.

The portfolio is invested across several asset classes, countries and currencies as shown in table 9.2.

Table 9.2 Allocation by asset class, country and currency

	Market value in percent by country and currency[1]				Market value in percent by asset class		Assets minus liabilities excluding management fee	
Asset class	**Market**	**31.12.2022**	**Market**	**31.12.2021**	**31.12.2022**	**31.12.2021**	**31.12.2022**	**31.12.2021**
Equities	**Developed**	**89.1**	**Developed**	**89.5**				
	US	44.7	US	44.9				
	Japan	7.3	Japan	7.0				
	UK	7.0	UK	7.0				
	France	4.8	France	4.9				
	Switzerland	4.5	Switzerland	4.7				
	Total other	20.8	Total other	20.9				
	Emerging	**10.9**	**Emerging**	**10.5**				
	China	3.8	China	3.8				
	India	2.0	Taiwan	2.3				
	Taiwan	2.0	India	1.6				
	Brazil	0.5	Brazil	0.5				
	South Africa	0.4	South Africa	0.4				
	Total other	2.2	Total other	2.0				
Total equities					**69.77**	**71.95**	**8 672 186**	**8 878 464**
Fixed income	**Developed**	**99.7**	**Developed**	**99.6**				
	US dollar	50.2	US dollar	50.3				
	Euro	28.1	Euro	27.6				
	Japanese yen	8.0	Japanese yen	7.9				
	British pound	4.5	British pound	4.9				
	Canadian dollar	3.8	Canadian dollar	3.8				
	Total other	5.1	Total other	5.0				
	Emerging[2]	**0.3**	**Emerging**	**0.4**				
Total fixed income					**27.45**	**25.41**	**3 412 044**	**3 135 259**
Unlisted real estate	US	51.8	US	50.1				
	France	16.5	UK	17.8				
	UK	16.4	France	17.1				
	Germany	5.0	Germany	3.9				
	Switzerland	3.4	Switzerland	3.6				
	Total other	7.0	Total other	7.4				
Total unlisted real estate					**2.66**	**2.52**	**330 300**	**311 538**
Total unlisted infrastructure					**0.12**	**0.12**	**14 530**	**14 288**

[1] Market value in percent per country and currency includes derivatives and cash.
[2] The share of individual emerging market currencies in the fixed income portfolio is insignificant.

At the end of 2022, the equity portfolio's share of the fund was 69.8 percent, down from 72.0 percent at year-end 2021. The bond portfolio's share of the fund was 27.5 percent, up from 25.4 percent at year-end 2021. Unlisted real estate amounted to 2.7 percent of the fund at year-end, compared to 2.5 percent at year-end 2021. Unlisted infrastructure amounted to 0.1 percent of the fund at year-end, which was the same as year-end 2021.

For equity investments, concentration in the portfolio is further measured by sector. Table 9.3 shows the composition of the equity asset class by sector.

Table 9.3 Allocation of equity investments by sector[1], percent

Sector	31.12.2022	31.12.2021
Technology	17.5	20.5
Financials	15.8	14.4
Consumer discretionary	13.3	14.6
Industrials	13.1	13.4
Health care	12.7	11.4
Consumer staples	6.6	6.0
Real estate	5.5	6.3
Basic materials	4.4	4.4
Energy	4.4	3.7
Telecommunications	3.1	3.2
Utilities	2.7	2.4

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

The GPFG has substantial investments in government-issued bonds. Table 9.4 shows the largest holdings in bonds issued by governments. These include government bonds issued in local and foreign currency and inflation-linked bonds issued in local currency.

Table 9.4 Largest holdings within the segment government bonds

Amounts in NOK million	Market value 31.12.2022
US	1 022 086
Japan	475 342
Germany	171 336
Singapore	155 332
UK	106 701
France	73 898
Canada	64 837
Italy	63 415
Australia	44 187
Spain	31 959

Amounts in NOK million	Market value 31.12.2021
US	877 936
Japan	370 519
Singapore	145 217
Germany	121 399
UK	93 596
France	74 825
Italy	63 741
Canada	55 754
Australia	45 988
Spain	45 547

The portfolio is also invested in companies which issue both equities and bonds. Table 9.5 shows the portfolio's largest holdings of non-government issuers, including both bond and equity holdings. Covered bonds issued by financial institutions and debt issued by other underlying companies are included in the bonds column.

Table 9.5 Largest holdings excluding sovereigns, both bonds and equities

Amounts in NOK million, 31.12.2022	Sector	Equities	Bonds	Total
Apple Inc	Technology	209 674	9 662	219 336
Microsoft Corp	Technology	199 878	1 581	201 459
Alphabet Inc	Technology	110 219	1 717	111 936
Nestlé SA	Consumer staples	88 149	1 994	90 143
Amazon.com Inc	Consumer discretionary	80 207	9 260	89 466
Roche Holding AG	Health care	62 055	1 498	63 554
Shell PLC	Energy	60 710	272	60 982
Taiwan Semiconductor Manufacturing Co Ltd	Technology	60 040	-	60 040
Bank of America Corp	Finance	33 303	25 468	58 771
Berkshire Hathaway Inc	Finance	51 834	6 169	58 003

Amounts in NOK million, 31.12.2021	Sector	Equities	Bonds	Total
Apple Inc	Technology	216 952	7 094	224 046
Microsoft Corp	Technology	210 468	1 368	211 836
Alphabet Inc	Technology	144 417	1 809	146 226
Amazon.com Inc	Consumer discretionary	121 160	6 639	127 799
Nestlé SA	Consumer staples	89 082	1 775	90 857
Meta Platforms Inc	Technology	83 016	-	83 016
Taiwan Semiconductor Manufacturing Co Ltd	Technology	72 171	1 176	73 347
Tesla Inc	Consumer discretionary	68 097	-	68 097
Roche Holding AG	Health care	65 283	1 453	66 736
ASML Holding NV	Technology	64 496	252	64 748

Table 9.6 shows the composition of the unlisted real estate asset class by sector.

Table 9.6 Distribution of unlisted real estate investments by sector, percent

Sector	31.12.2022	31.12.2021
Office	53.7	54.6
Retail	11.7	12.3
Logistics	34.2	32.4
Other	0.4	0.7
Total	**100.0**	**100.0**

Volatility and correlation risk

Norges Bank Investment Management uses models to quantify the risk of fluctuations in value for all or parts of the portfolio. Volatility is a standard risk measure based on the statistical concept of standard deviation, which takes into account the correlation between different investments in the portfolio. This risk measure gives an estimate of how much one can expect the portfolio's value to change or fluctuate during the course of a year, based on market conditions over the past three years. In two of three years, the portfolio return is expected to be within the negative and positive value of the estimated volatility. Expected volatility can be expressed in terms of the portfolio's absolute or relative risk. Norges Bank Investment Management uses the same model both for portfolio risk and for relative volatility.

All the fund's investments are included in the calculation of expected relative volatility and are measured against the fund's benchmark index consisting of global equity and bond indices.

The modelling of unlisted investments is challenging due to few or no historical prices. For investments in unlisted real estate, the exposure to a group of relevant risk factors is mapped to the model framework in MSCI's Barra Private Real Estate 2 (PRE2) model. These are decided by key attributes such as location and property type. The model uses time series of valuations and actual transactions as a starting point, but also includes listed real estate share prices to establish representative, daily time series. For investments in unlisted infrastructure, the starting point is a combination of time series available in the existing framework for listed markets. The exposure to generic, listed risk factors is mapped for each project based on attributes such as share of contractually agreed prices, project lifetime, project phase, sector, country, and the quality of counterparties.

The risk model from MSCI then uses these factors for unlisted investments in the same way as ordinary equity and fixed-income risk factors, to calculate expected absolute and relative volatility, as well as expected shortfall for the fund's investments.

Calculation of expected volatility

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

Tables 9.7 and 9.8 present risk both in terms of the portfolio's absolute risk and relative risk.

Table 9.7 Portfolio risk, expected volatility, percent

	Expected volatility, actual portfolio							
	31.12.2022	Min 2022	Max 2022	Average 2022	31.12.2021	Min 2021	Max 2021	Average 2021
Portfolio	10.1	9.6	10.4	10.1	10.3	10.1	10.7	10.5
Equities	14.2	13.8	14.4	14.2	14.1	14.0	14.7	14.4
Fixed income	11.1	10.0	11.1	10.7	10.1	9.7	10.1	9.8
Unlisted real estate	12.1	11.7	12.4	12.0	11.7	10.5	11.7	10.8
Unlisted infrastructure	14.9	8.9	14.9	11.7	13.1	9.7	13.1	11.2

Table 9.8 Relative risk measured against the fund's reference index, expected relative volatility, basis points

	Expected relative volatility							
	31.12.2022	Min 2022	Max 2022	Average 2022	31.12.2021	Min 2021	Max 2021	Average 2021
Portfolio	39	39	53	45	50	42	56	47

Risk measured as expected volatility indicates an expected annual value fluctuation in the fund of 10.1 percent, or approximately NOK 1 250 billion at the end of 2022, compared to 10.3 percent at year-end 2021. Expected volatility for the equity portfolio was 14.2 percent at year-end, up from 14.1 percent at year-end 2021, while expected volatility for the fixed-income portfolio was 11.1 percent, up from 10.1 percent at year-end 2021.

The management mandate for the GPFG specifies that expected relative volatility for the fund shall not exceed 1.25 percentage points. The measurement of risk and follow-up of the limit is performed based on the risk model described above. The fund's expected relative volatility was 39 basis points at the end of the year, down from 50 basis points at year-end 2021. The decrease in the fund's expected relative volatility in 2022 is mainly due to lower active exposure.

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

Expected shortfall is a tail risk measure that quantifies the expected loss of a portfolio in extreme market situations. Expected shortfall measured on relative returns provides an estimate of the annual expected relative underperformance versus the benchmark index for a given confidence level. Using historical simulations, relative returns of the current portfolio compared to the benchmark index are calculated on a weekly basis over a sampling period from January 2007 until the end of the last accounting period. The expected shortfall at a 97.5 percent confidence level is then given by the annualised average relative return, measured in the currency basket for the 2.5 percent worst weeks.

The Executive Board has determined that the fund shall be managed in such a way that the annual expected shortfall measured against the benchmark index does not exceed 3.75 percentage points. Expected shortfall is measured and monitored based on the risk model described above. At the end of the year, expected shortfall was 1.22 percentage points, compared to 1.52 percentage points at year-end 2021.

Calculation of expected shortfall

Expected shortfall for the portfolio, measured against its benchmark index, is estimated using historical simulations based on current investments. The model weights weekly returns equally over a sampling period from January 2007 until the end of the last accounting period, so that the measure can capture extreme market movements. A confidence level of 97.5 percent is used for the calculations.

Strengths and weaknesses

The strength of these types of risk model is that one can estimate the risk associated with a portfolio across different asset classes, markets, currencies, securities and derivatives, and express this risk as a single numerical value, which takes into account the correlation between different asset classes, securities and risk factors, as well as capturing deviations from a normal distribution.

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

Verification of models

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

Credit risk

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

Table 9.9 Bond portfolio specified by credit rating

Amounts in NOK million, 31.12.2022	AAA	AA	A	BBB	Lower rating	Total
Government bonds	1 365 320	192 142	509 240	75 988	22 914	2 165 605
Government-related bonds	173 893	136 251	51 670	18 168	1 867	381 848
Inflation-linked bonds	154 708	58 278	14 368	16 087	-	243 441
Corporate bonds	7 761	61 407	366 585	383 325	10 236	829 314
Securitised bonds	198 124	34 817	1 677	-	-	234 618
Total bonds	**1 899 805**	**482 896**	**943 540**	**493 569**	**35 018**	**3 854 827**

Amounts in NOK million, 31.12.2021	AAA	AA	A	BBB	Lower rating	Total
Government bonds	1 186 701	183 432	443 812	78 790	22 113	1 914 848
Government-related bonds	163 648	131 307	57 669	13 485	1 731	367 840
Inflation-linked bonds	132 701	45 525	6 321	11 027	305	195 879
Corporate bonds	6 433	52 623	303 970	372 433	12 930	748 389
Securitised bonds	162 060	27 641	1 585	661	-	191 948
Total bonds	**1 651 543**	**440 528**	**813 357**	**476 397**	**37 078**	**3 418 903**

The market value of the bond portfolio increased to NOK 3 855 billion at year-end 2022, from NOK 3 419 billion at year-end 2021. The share of holdings in corporate bonds was reduced by 0.4 percentage point during the year, to 21.5 percent of the bond portfolio at year-end 2022. Government bonds, including inflation-linked bonds, comprised 62.5 percent of the bond portfolio at year-end, an increase of 0.8 percentage point compared to year-end 2021.

The share of bonds with credit rating AAA increased by 1.0 percentage point during the year to 49.3 percent of the total bond portfolio at year-end 2022. This increase was mainly due to an increase in the holdings of securitised bonds in the category AAA. The share of bonds with credit rating BBB decreased by 1.1 percentage points compared to year-end 2021, to 12.8 percent at year-end 2022. This was mainly due to an increase in the value of the total bond portfolio, as the value of bonds with credit rating BBB also increased during the year.

The share of bonds in the Lower rating category was reduced to 0.9 percent at year-end 2022, from 1.1 percent at year-end 2021. This was mainly due to a combination of a higher market value of the bond portfolio, at the same time as holdings of government bonds in the Lower rating category also increased. Defaulted bonds had a market value of NOK 27 million at year-end 2022, compared to NOK 38 million at year-end 2021. Defaulted bonds are grouped under Lower rating.

Table 9.10 Bond portfolio by credit rating and currency, percent

31.12.2022	AAA	AA	A	BBB	Lower rating	Total
US dollar	27.5	2.1	7.1	7.1	0.2	44.0
Euro	10.9	5.6	3.5	4.2	0.1	24.4
Japanese yen	-	-	12.8	-	-	12.8
Canadian dollar	2.9	0.7	0.3	0.2	-	4.1
Singapore dollar	4.0	-	-	-	-	4.0
Other currencies	3.9	4.0	0.7	1.4	0.6	10.7
Total	**49.3**	**12.5**	**24.5**	**12.8**	**0.9**	**100.0**

31.12.2021	AAA	AA	A	BBB	Lower rating	Total
US dollar	26.8	2.0	6.5	7.4	0.3	43.0
Euro	10.0	6.0	4.3	4.9	0.2	25.3
Japanese yen	-	-	11.7	-	-	11.7
British pound	0.3	2.9	0.5	0.7	-	4.3
Singapore dollar	4.3	-	-	-	-	4.3
Other currencies	7.0	1.9	0.8	1.0	0.6	11.4
Total	**48.3**	**12.9**	**23.8**	**13.9**	**1.1**	**100.0**

At year-end 2022, investments had been made in purchased credit default swaps with a nominal value of NOK 53.3 billion, an increase from NOK 29.1 billion at year-end 2021. These were mainly in the category where the underlying issuers have a high credit rating. There were no investments in sold credit default swaps at year-end 2022, whilst there were investments in sold credit default swaps with a nominal value of NOK 0.4 billion at year-end 2021. See table 5.3 in note 5 Holdings of equities, bonds and financial derivatives for further information. When investing in purchased credit default swaps, the credit risk in the bond portfolio is reduced when the portfolio has investments in the same underlying bonds as in the credit default swaps. At year-end 2022, the credit risk exposure was reduced by NOK 28.5 billion as a result of purchased credit default swaps, compared to a reduction of NOK 15.7 billion at year-end 2021.

In addition to credit ratings from credit rating agencies, measurement of credit risk is complemented by two credit risk models, of which one is based on credit ratings and the other is based on observable credit premiums. Both of these methods also take into account the correlation and expected value of bonds in a bankruptcy situation. The models also take into account credit default swaps, and these reduce or increase the credit risk depending on whether credit risk is bought or sold. The models are used for risk measurement and monitoring of credit risk in the fixed-income portfolio. The overall credit quality of the bond portfolio improved slightly during the year.

Counterparty risk

Counterparties are necessary to trade in the markets and to ensure effective management of liquidity, market and credit risk. Exposure to counterparty risk is related to trading in derivatives and foreign exchange contracts, securities lending, and repurchase and reverse repurchase agreements. Counterparty risk also arises from unsecured bank deposits and in connection with the daily liquidity management of the fund, as well as purchases and sales of unlisted real estate and unlisted infrastructure. Furthermore, there is exposure to counterparty risk related to counterparties in the international settlement and custody systems where transactions settle. This can occur both for currency trades and for the purchase and sale of securities. Settlement risk and exposure from trades with a long settlement period are also defined as counterparty risk.

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

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

There are also requirements governing the way real estate and infrastructure transactions are conducted in order to ensure acceptable counterparty risk. Counterparty risk that arises during the acquisition process is analysed in advance of the transaction and requires approval by the CRO. In 2022, 13 real estate transactions were analysed and approved by the CRO through this process, compared to 22 transactions in 2021. No investments were made in unlisted infrastructure in 2022, while in 2021 one transaction was analysed and approved through this process.

Counterparty risk is also limited by setting exposure limits for individual counterparties. In most instances, the exposure limit is determined by the credit rating of the counterparty, where counterparties with strong credit ratings have a higher limit than counterparties with weaker credit rating. Exposure per counterparty is measured daily against limits set by the Executive Board and the CEO of Norges Bank Investment Management.

The methodologies used to calculate counterparty risk are in accordance with internationally recognised standards. As a rule, the Basel regulations for banks are used for measuring counterparty risk, with certain adjustments based on internal analyses. The risk model calculates the expected counterparty exposure in the event of a counterparty default. The Standardised Approach in the Basel regulations (SA-CCR) is used for derivatives and foreign exchange contracts. The Standardised Approach takes into account collateral received and netting arrangements when calculating counterparty risk.

For repurchase agreements, securities lending transactions executed through an external agent and securities posted as collateral in derivative trades, a method is used that adds a premium to the market value to reflect the position's volatility. When determining counterparty risk exposure for these positions, an adjustment is also made for netting and actual collateral received and posted.

Exposure to counterparty risk is related to counterparties in the settlement and custody systems, both for currency trades and for the purchase and sale of securities. Settlement risk is reduced using the currency settlement system CLS (Continuous Linked Settlement), or by trading directly with the settlement bank. For some currencies, Norges Bank is exposed to settlement risk when the sold currency is delivered to the counterparty before the receipt of currency is confirmed. This type of exposure is included on the line Settlement risk towards brokers and long settlement transactions in table 9.11.

In table 9.11, exposure is broken down by type of activity/instrument associated with counterparty risk.

Total counterparty risk increased to NOK 172.0 billion at year-end 2022, from NOK 155.3 billion at year-end 2021, an increase of 10.8 percent. The largest increase in counterparty risk exposure came from derivatives, including foreign exchange contracts, due to an increase in activity in these instruments. This increase amounted to NOK 11.2 billion in 2022, and was largest for futures and foreign exchange contracts. There was also an increase in risk exposure from repurchase and reverse repurchase agreements at year-end 2022 compared to year-end 2021. This is mainly due to increased lending activity at year-end 2022.

There was a decrease in counterparty risk exposure from the securities lending programme to NOK 62.3 billion at year-end 2022, from NOK 68.5 billion at year-end 2021. The decrease was mainly due to lower equity lending. Both equities and bonds are lent through the securities lending programme. Counterparty risk exposure from securities lending accounted for 36 percent of the fund's total counterparty risk exposure at the end of 2022, compared to 44 percent at the end of 2021.

Table 9.11 Counterparty risk by type of position

Amounts in NOK million	Risk exposure 31.12.2022	Risk exposure 31.12.2021
Derivatives including foreign exchange contracts	72 319	61 144
Securities lending	62 291	68 494
Unsecured bank deposits[1] and securities	21 662	18 072
Repurchase and reverse repurchase agreements	13 986	7 459
Settlement risk towards brokers and long settlement transactions	1 699	93
Total	**171 956**	**155 262**

[1] Includes bank deposits in non-consolidated subsidiaries.

Norges Bank's counterparties have a credit rating from independent credit rating agencies or a documented internal credit rating. Credit ratings for counterparties are monitored and complemented by alternative credit risk indicators.

Table 9.12 shows approved counterparties classified by credit rating category. The table also includes brokers that are used when purchasing and selling securities.

Table 9.12 Counterparties by credit rating[1]

	Norges Bank's counterparties (excluding brokers)		Brokers	
	31.12.2022	31.12.2021	31.12.2022	31.12.2021
AAA	3	3	1	1
AA	38	33	34	33
A	62	61	87	86
BBB	11	9	31	33
BB	2	2	22	21
B	0	0	4	4
Total	**116**	**108**	**179**	**178**

[1] The table shows the number of legal entities. The same legal entity can be included as both broker and counterparty.

The number of counterparties and brokers increased slightly during the year. There were 116 counterparties at year-end 2022, compared to 108 at year-end 2021. The number of brokers increased to 179 at year-end 2022, from 178 at year-end 2021. The overall credit quality of brokers and counterparties remained unchanged from year-end 2021.

Leverage

Leverage may be used to ensure effective management of the investments within the equity and bond portfolios, but not with the aim of increasing the economic exposure to risky assets. The use of leverage is regulated in both the management mandate and the investment mandate. Leverage is the difference between total net exposure and market value of the portfolio. Net exposure is determined by including securities at market value, cash at face value and positions in derivatives by converting them to the underlying exposure. When the exposure is greater than market value, the portfolio is leveraged.

The GPFG's leverage was 2.8 percent for the aggregated equity and bond portfolio at the end of 2022, compared to 1.6 percent at the end of 2021. For investments in unlisted real estate, requirements are set in the investment mandate, limiting the maximum leverage of the portfolio to 35 percent. The unlisted real estate investments had a debt ratio of 7.6 percent at the end of 2022, compared to 6.6 percent at the end of 2021. At year-end 2022, the unlisted infrastructure investments did not have external debt.

Sale of securities Norges Bank does not own

Sale of securities not owned by Norges Bank (short sales) can only be carried out if there are established borrowing agreements to cover a negative position. Such transactions are rarely undertaken, and no securities had been sold in this manner at year-end 2022.

Note 10 Tax

Accounting policy

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

Withholding taxes, net of deductions for refundable amounts, are recognised at the same time as the related dividend or interest income. See the accounting policy in note 4 Income/expense from equities, bonds and financial derivatives.

Other income tax, which is not collected at source, is recognised in the income statement in the same period as the related income or gain and presented in the balance sheet as a liability within Other liabilities, until it has been settled. Deferred tax in the balance sheet mainly consists of capital gains tax. Capital gains tax is recognised as a liability based on the expected future payment when the GPFG is in a gain position in the applicable market. No deferred tax asset is presented in the balance sheet when the GPFG is in a loss position, since the recognition criteria are not considered to be met.

Tax incurred in subsidiaries presented in the balance sheet lines Unlisted real estate and Unlisted infrastructure is recognised in the income statement as Income/expense from unlisted real estate and Income/expense from unlisted infrastructure, respectively. Only the tax expense in consolidated subsidiaries is included in the income statement line Tax expense. This is specified in table 10.1 in the line Other.

All uncertain tax positions, such as disputed withholding tax refunds, are assessed each reporting period. The best estimate of the probable reimbursement or payment is recognised in the balance sheet.

Table 10.1 shows tax expense by type of investment and type of tax.

Table 10.1 Specification tax expense

Amounts in NOK million, 2022	Gross income before taxes	Income tax on dividends, interest and fees	Capital gains tax	Other	Tax expense	Net income after taxes
Income/expense from:						
Equities	-1 201 835	-4 347	-266	-	-4 613	-1 206 448
Bonds	-453 128	-25	-	-	-25	-453 153
Secured lending	4 845	-202	-	-	-202	4 643
Other	-	-	-	-9	-9	-
Tax expense		**-4 574**	**-266**	**-9**	**-4 850**	

Amounts in NOK million, 2021	Gross income before taxes	Income tax on dividends, interest and fees	Capital gains tax	Other	Tax expense	Net income after taxes
Income/expense from:						
Equities	1 593 618	-5 221	-3 474	-	-8 695	1 584 923
Bonds	-40 905	-10	13	-	3	-40 902
Secured lending	3 842	-186	-	-	-186	3 656
Other	-	-	-	-10	-10	-
Tax expense		**-5 417**	**-3 460**	**-10**	**-8 887**	

Table 10.2 shows receivables and liabilities recognised in the balance sheet related to tax.

Table 10.2 Specification balance sheet items related to tax

Amounts in NOK million	31.12.2022	31.12.2021
Withholding tax receivable	8 937	3 427
Tax payable[1]	12	18
Deferred tax	4 488	5 180

[1] Included within the balance sheet line item Other liabilities.

Table 10.3 specifies the line Net payment of taxes in the statement of cash flows.

Table 10.3 Specification net payment of taxes

Amounts in NOK million	2022	2021
Receipt of refunded withholding tax	6 617	8 252
Payment of taxes	-17 676	-15 453
Net payment of taxes	**-11 058**	**-7 202**

Note 11 Foreign exchange gains and losses

In accordance with the management mandate, the fund is not invested in securities issued by Norwegian companies, securities denominated in Norwegian kroner nor real estate or infrastructure located in Norway. The fund's returns are measured primarily in the fund's currency basket, which is a weighted combination of the currencies in the fund's benchmark index for equities and bonds. The fund's market value in Norwegian kroner is affected by changes in exchange rates, but this has no bearing on the fund's international purchasing power.

Accounting judgement

The management of Norges Bank has concluded that the Norwegian krone is the bank's functional currency, since this currency is dominant for the bank's underlying activities. Owner's equity, in the form of the GPFG krone account, is denominated in Norwegian kroner and a share of the costs related to management of the GPFG is incurred in Norwegian kroner. Returns on the investment portfolio are reported both internally and to the owner in Norwegian kroner, while the percentage return is measured both in Norwegian kroner and in the currency basket defined by the Ministry of Finance. Furthermore, there is no single investment currency that stands out as dominant within the investment management.

Accounting policy

Foreign currency transactions are recognised in the financial statements using the exchange rate prevailing on the transaction date. Assets and liabilities in foreign currencies are translated into Norwegian kroner using the exchange rate at the balance sheet date. The foreign exchange element linked to realised and unrealised gains and losses on assets and liabilities is disaggregated in the income statement and presented on a separate line, Foreign exchange gain/loss.

Accounting policy

Gains and losses on financial instruments are due to changes in the price of the instrument (security element) and changes in foreign exchange rates (foreign exchange element). These are presented separately in the income statement. The method used to allocate the total gain/loss in Norwegian kroner to a security element and a foreign exchange element is described below.

Foreign exchange element
Unrealised gain/loss due to changes in foreign exchange rates is calculated based on the cost of the holding in foreign currency and the change in the exchange rate from the time of purchase until the balance sheet date. If the holding has been purchased in a prior period, previously recognised gain/loss is deducted to arrive at the gain/loss in the current period. Upon realisation, the exchange rate on the date of sale is used when calculating the realised gain/loss.

Security element
Unrealised gain/loss due to changes in the security price is calculated based on the change in the security price from the purchase date to the balance sheet date, and the exchange rate at the balance sheet date. If the holding has been purchased in a prior period, previously recognised gain/loss is deducted to arrive at the gain/loss in the current period. Upon realisation, the selling price is used when calculating the realised gain/loss.

The change in the fund's market value due to changes in foreign exchange rates is presented in table 11.1.

Table 11.1 Specification foreign exchange gain/loss

Amounts in NOK million	2022	2021
Foreign exchange gain/loss - USD/NOK	445 752	104 202
Foreign exchange gain/loss - EUR/NOK	100 638	-77 636
Foreign exchange gain/loss - GBP/NOK	-6 685	13 272
Foreign exchange gain/loss - JPY/NOK	-11 871	-55 115
Foreign exchange gain/loss - CHF/NOK	28 912	-643
Foreign exchange gain/loss - other	85 104	-8 668
Foreign exchange gain/loss	**641 850**	**-24 589**

Table 11.2 gives an overview of the distribution of the market value of the investment portfolio for the main currencies the GPFG is exposed to. This supplements the overview of the allocation by asset class, country and currency shown in table 9.2 in note 9 Investment risk.

Table 11.2 Specification of the investment portfolio by currency

Amounts in NOK million	31.12.2022	31.12.2021
US dollar	5 706 838	5 506 906
Euro	2 301 709	2 225 143
British pound	936 868	925 209
Japanese yen	804 707	855 724
Swiss franc	502 895	532 796
Other currencies	2 176 043	2 293 771
Market value investment portfolio	**12 429 059**	**12 339 549**

Table 11.3 gives an overview of exchange rates at the balance sheet date for the main currencies the GPFG is exposed to.

Table 11.3 Exchange rates

	31.12.2022	31.12.2021	Percent change
US dollar	9.85	8.82	11.7
Euro	10.51	10.03	4.8
British pound	11.85	11.94	-0.8
Japanese yen	0.07	0.08	-2.5
Swiss franc	10.65	9.68	10.0

Note 12 Management costs

Accounting policy

Management fee is recognised in the GPFG's income statement as an expense when incurred.

Performance-based fees to external managers are based on achieved excess returns relative to the applicable benchmark index over time. The provision for performance-based fees is based on the best estimate of the incurred fee to be paid. The effect of changes in estimates is recognised in profit or loss in the current period.

Management costs comprise all costs relating to the management of the fund. These are mainly incurred in Norges Bank, but management costs are also incurred in subsidiaries of Norges Bank that are exclusively established as part of the management of the GPFG's investments in unlisted real estate and unlisted renewable energy infrastructure.

Management costs in Norges Bank
The Ministry of Finance reimburses Norges Bank for costs incurred in connection with the management of the GPFG, in the form of a management fee. The management fee is equivalent to the actual costs incurred by Norges Bank, including performance-based fees to external managers, and is expensed in the income statement line Management fee. Costs included in the management fee are specified in table 12.1.

Table 12.1 Management fee

	2022		2021	
Amounts in NOK million		**Basis points**		**Basis points**
Salary, social security and other personnel-related costs[1]	1 579		1 102	
Custody costs	473		468	
IT services, systems, data and information	632		591	
Research, consulting and legal fees	247		210	
Other costs	274		232	
Allocated costs Norges Bank	339		301	
Base fees to external managers	963		896	
Management fee excluding performance-based fees	**4 508**	**3.8**	**3 801**	**3.3**
Performance-based fees to external managers	718		840	
Management fee	**5 226**	**4.4**	**4 640**	**4.0**

[1] Costs were reduced by NOK 265 million in 2021, due to a one-off accounting adjustment following a change in the method for accruing performance-based pay.

Management costs in subsidiaries
Management costs incurred in wholly-owned subsidiaries consist of costs related to the management of the investments in unlisted real estate and unlisted renewable energy infrastructure. These costs are expensed directly in the portfolio result and are not part of the management fee.

Management costs incurred in non-consolidated subsidiaries are presented in the income statement lines Income/expense from unlisted real estate and Income/expense from unlisted infrastructure. Management costs incurred in consolidated subsidiaries are presented in the income statement line Other income/expense. These costs are specified in table 12.2.

Table 12.2 Management costs subsidiaries

Amounts in NOK million	2022	2022 Basis points	2021	2021 Basis points
Salary, social security and other personnel-related costs	30		29	
IT services, systems, data and information	4		5	
Research, consulting and legal fees	38		38	
Other costs	42		41	
Total management costs, subsidiaries[1]	**114**	**0.1**	**113**	**0.1**
Of which management costs non-consolidated subsidiaries	71		69	
Of which management costs consolidated subsidiaries	43		43	

[1] For 2022, the amount consists of NOK 108 million related to investments in unlisted real estate and NOK 6 million related to investments in unlisted renewable energy infrastructure. For 2021, NOK 106 million was related to investments in unlisted real estate and NOK 7 million was related to investments in unlisted renewable energy infrastructure.

Upper limit for reimbursement of management costs

Every year the Ministry of Finance establishes an upper limit for the reimbursement of management costs. Norges Bank is only reimbursed for costs incurred within this limit. Norges Bank is also reimbursed for performance-based fees to external managers. These fees are not measured against the upper limit.

For 2022, total management costs incurred in Norges Bank and its subsidiaries, excluding performance-based fees to external managers, were limited to NOK 5 600 million. In 2021, the limit was NOK 5 400 million.

Total management costs measured against the upper limit amounted to NOK 4 622 million in 2022. This consisted of management costs in Norges Bank, excluding performance-based fees to external managers, of NOK 4 508 million and management costs in subsidiaries of NOK 114 million. Total management costs including performance-based fees to external managers amounted to NOK 5 340 million in 2022.

Costs measured as a share of assets under management

Costs are also measured in basis points, as a share of average assets under management. Average assets under management are calculated based on the market value of the portfolio in Norwegian kroner at the start of each month in the calendar year.

In 2022, management costs incurred in Norges Bank and its subsidiaries, excluding performance-based fees to external managers, corresponded to 3.9 basis points of assets under management. Management costs including performance-based fees to external managers corresponded to 4.5 basis points of assets under management.

Other operating costs in subsidiaries

In addition to the management costs presented in table 12.2, other operating costs are also incurred in subsidiaries related to the ongoing maintenance, operation and development of the investments. These are not costs related to investing in real estate or renewable energy infrastructure but are costs for operating the underlying investments once they are acquired. Therefore, they are not defined as management costs. Other operating costs are expensed directly in the portfolio result and are not part of the management fee. They are also not included in the costs measured against the upper limit.

Other operating costs incurred in non-consolidated subsidiaries are presented in the income statement lines Income/expense from unlisted real estate and Income/expense from unlisted infrastructure. For further information, see table 6.4 in note 6 Unlisted real estate and table 7.4 in note 7 Unlisted renewable energy infrastructure. Other operating costs incurred in consolidated subsidiaries are presented in the income statement line Other income/expense.

Note 13 Secured lending and borrowing

Secured lending and borrowing consists of collateralised (secured) transactions, where the GPFG posts or receives securities or cash to or from a counterparty, with collateral in the form of other securities or cash. These transactions take place under various agreements such as securities lending agreements, repurchase and reverse repurchase agreements and equity swaps in combination with purchases or sales of equities.

The objective of secured lending and borrowing is to provide an incremental return on the GPFG's holdings of securities and cash. These transactions are also used in connection with liquidity management.

Accounting policy

Income and expense from secured lending and borrowing
Income and expense mainly consist of interest and net fees. Interest income and expense is recognised in accordance with the effective interest method, whilst net fees are recognised on a straight-line basis over the term of the agreement. These are presented in the income statement as Income/expense from secured lending and Income/expense from secured borrowing.

Table 13.1 Income/expense from secured lending and borrowing

Amounts in NOK million	2022	2021
Income/expense from secured lending	4 845	3 842
Income/expense from secured borrowing	-4 792	21
Net income/expense from secured lending and borrowing	**53**	**3 863**

Accounting policy

Transferred financial assets
Securities transferred to counterparties in connection with secured lending and borrowing transactions are not derecognised when the agreement is entered into, as the derecognition criteria are not met. Since the counterparty has the right to sell or pledge the security, the security is considered to be transferred. Transferred securities are therefore presented separately in the balance sheet lines Equities lent and Bonds lent. During the lending period, the underlying securities are accounted for in accordance with accounting policies for the relevant securities.

When an equity is sold in combination with the purchase of an equivalent equity swap, the sold equity is presented in the balance sheet as Equities lent, since the GPFG's exposure to the equity is virtually unchanged. The equity swap (derivative) is not recognised in the balance sheet, since this would lead to recognition of the same rights twice. When an equity is purchased in combination with the sale of an equivalent equity swap, the GPFG has virtually no exposure to the equity or the derivative and neither the equity nor the derivative are recognised in the balance sheet.

Secured lending
Cash collateral posted to counterparties in secured lending transactions is derecognised, and a corresponding receivable reflecting the cash amount that will be returned is recognised as a financial asset, Secured lending. This asset is measured at fair value.

Secured borrowing
Cash collateral received in connection with secured borrowing transactions is recognised as Deposits in banks together with a corresponding financial liability, Secured borrowing. This liability is measured at fair value.

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

Table 13.2 shows the amount presented as Secured lending, and the associated collateral received in the form of securities.

Table 13.2 Secured lending

Amounts in NOK million	31.12.2022	31.12.2021
Secured lending	462 982	297 405
Total secured lending	**462 982**	**297 405**
Associated collateral in the form of securities (off balance sheet)		
Equities received as collateral	169 631	118 669
Bonds received as collateral	303 525	185 951
Total collateral received in the form of securities related to secured lending	**473 157**	**304 620**

Table 13.3 shows transferred securities with the associated liability presented as Secured borrowing, and collateral received in the form of securities or guarantees.

Table 13.3 Transferred financial assets and secured borrowing

Amounts in NOK million	31.12.2022	31.12.2021
Transferred financial assets		
Equities lent	451 799	505 117
Bonds lent	886 555	623 367
Total transferred financial assets	**1 338 354**	**1 128 484**
Associated cash collateral, recognised as liability		
Secured borrowing	796 082	591 960
Total secured borrowing	**796 082**	**591 960**
Associated collateral in the form of securities or guarantees (off balance sheet)		
Equities received as collateral	226 054	267 575
Bonds received as collateral	342 978	304 538
Guarantees	19 953	12 519
Total collateral received in the form of securities or guarantees related to transferred financial assets	**588 985**	**584 632**

Note 14 Collateral and offsetting

Accounting policy

Cash collateral derivative transactions
Cash collateral posted in connection with derivative transactions is derecognised and a corresponding receivable, reflecting the cash amount that will be returned, is recognised in the balance sheet as Cash collateral posted. Cash collateral received in connection with derivative transactions is recognised in the balance sheet as Deposits in banks, with a corresponding liability Cash collateral received. Both Cash collateral posted and Cash collateral received are measured at fair value.

Offsetting
Financial assets and liabilities are not offset and presented net in the balance sheet because the criteria in IAS 32 Financial instruments: Presentation are not met. Table 14.1 does not therefore include a column for amounts offset/netted in the balance sheet.

Collateral
For various counterparties and transaction types, cash collateral will both be posted to and received from the same counterparty. Therefore, received cash collateral can be netted against posted cash collateral and vice-versa as shown in table 14.1. The balance sheet lines Cash collateral posted and Cash collateral received are related exclusively to derivative transactions. Collateral in the form of cash or securities is also posted and received in connection with secured lending and borrowing transactions. See note 13 Secured lending and borrowing for further information.

Offsetting
Table 14.1 provides an overview of financial assets and liabilities, the effects of legally enforceable netting agreements and related collateral to reduce credit risk. The column Assets/Liabilities in the balance sheet subject to netting shows the carrying amounts of financial assets and liabilities that are subject to legally enforceable netting agreements. These amounts are adjusted for the effect of potential netting of financial assets and liabilities recognised in the balance sheet with the same counterparty, together with posted or received cash collateral. This results in a net exposure, which is shown in the column Assets/liabilities after netting and collateral.

Some netting agreements could potentially not be legally enforceable. Transactions under the relevant contracts are shown in the column Assets/liabilities not subject to enforceable netting agreements.

In the event of counterparty default, a collective settlement between Norges Bank and the bankruptcy estate could be agreed for certain groups of instruments, irrespective of whether the instruments belong to the GPFG or Norges Bank's foreign exchange reserves. Such a settlement will be allocated proportionately between these portfolios and is therefore not adjusted for in the table.

Table 14.1 Assets and liabilities subject to netting agreements

Amounts in NOK million, 31.12.2022			Amounts subject to enforceable master netting agreements				
Description	Gross financial assets recognised in the balance sheet	Assets not subject to enforceable netting agreements[1]	Assets in the balance sheet subject to netting	Financial liabilities related to same counterparty	Cash collateral received (recognised as liability)	Security collateral received (not recognised)	Assets after netting and collateral
Assets							
Secured lending	462 982	137 371	325 611	-	151 451	174 150	10
Cash collateral posted	21 601	-	21 601	18 699	-	-	2 901
Financial derivatives	20 498	495	20 004	19 619	386	-	-
Total	**505 081**	**137 866**	**367 215**	**38 318**	**151 837**	**174 150**	**2 912**

Amounts in NOK million, 31.12.2022			Amounts subject to enforceable master netting agreements				
Description	Gross financial liabilities recognised in the balance sheet	Liabilities not subject to enforceable netting agreements[2]	Liabilities in the balance sheet subject to netting	Financial assets related to same counterparty	Cash collateral posted (recognised as asset)	Security collateral posted (not derecognised)	Liabilities after netting and collateral
Liabilities							
Secured borrowing	796 082	210 665	585 417	-	151 451	431 960	2 006
Cash collateral received	14 801	-	14 801	11 211	-	-	3 590
Financial derivatives	40 159	34	40 124	19 619	15 170	-	5 335
Total	**851 041**	**210 699**	**640 342**	**30 830**	**166 621**	**431 960**	**10 931**

Amounts in NOK million, 31.12.2021			Amounts subject to enforceable master netting agreements				
Description	Gross financial assets recognised in the balance sheet	Assets not subject to enforceable netting agreements[1]	Assets in the balance sheet subject to netting	Financial liabilities related to same counterparty	Cash collateral received (recognised as liability)	Security collateral received (not recognised)	Assets after netting and collateral
Assets							
Secured lending	297 405	82 735	214 669	-	124 868	89 801	-
Cash collateral posted	3 725	-	3 725	3 652	-	-	73
Financial derivatives	7 879	465	7 413	6 093	1 174	-	146
Total	**309 009**	**83 200**	**225 807**	**9 745**	**126 042**	**89 801**	**219**

Amounts in NOK million, 31.12.2021			Amounts subject to enforceable master netting agreements				
Description	Gross financial liabilities recognised in the balance sheet	Liabilities not subject to enforceable netting agreements[2]	Liabilities in the balance sheet subject to netting	Financial assets related to same counterparty	Cash collateral posted (recognised as asset)	Security collateral posted (not derecognised)	Liabilities after netting and collateral
Liabilities							
Secured borrowing	591 960	77 216	514 743	-	124 868	388 193	1 682
Cash collateral received	11 848	-	11 848	3 635	-	-	8 212
Financial derivatives	9 055	5	9 050	6 093	2 149	-	808
Total	**612 863**	**77 221**	**535 641**	**9 728**	**127 017**	**388 193**	**10 702**

[1] Secured lending includes amounts related to shares purchased in combination with equity swaps. In 2022, this amounted to NOK 104 billion (NOK 80 billion in 2021). See note 13 Secured lending and borrowing for further information.

[2] Secured borrowing includes amounts related to shares sold in combination with equity swaps. In 2022, this amounted to NOK 105 billion (NOK 64 billion in 2021). See note 13 Secured lending and borrowing for further information.

Note 15 Related parties

Accounting policy

Norges Bank is owned by the Norwegian government and is, in line with IAS 24 Related party disclosures, exempt from the disclosure requirements pertaining to related party transactions and outstanding balances, including commitments, with the Norwegian government. This includes transactions with other entities that are related parties because the Norwegian government has control of, joint control of, or significant influence over both Norges Bank and the other entities.

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

Transactions with the government

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

Transactions with Norges Bank

Norges Bank is not exposed to any economic risk from the management of the GPFG. The Ministry of Finance reimburses Norges Bank for costs incurred in connection with the management of the GPFG in the form of a management fee, see note 12 Management costs for further information. The management fee is deducted from the krone account throughout the year based on forecasts. The difference between the total amount deducted and final management fee for the year is presented in the balance sheet as Management fee receivable or Management fee payable and is settled in the following year. In 2022, NOK 5.0 billion was deducted from the krone account to pay the accrued management fee for 2022, while NOK 10.5 billion was deducted in 2021. The amount deducted in 2021 included the management fee for 2020 and 2021, since the timing for settlement of the management fee was changed in 2021 to before year-end. Management fee receivable was NOK 274 million at the end of 2022, compared to a receivable of NOK 536 million at the end of 2021.

Inflows to or withdrawals from the krone account are carried out through monthly transfers between the GPFG and Norges Bank. Five percent of the transferred amount is held back until the following month, in order to adjust the transferred amount in transaction currency to the instructed amount stated in Norwegian kroner from the Ministry of Finance. Unsettled transfer constitutes an outstanding balance between the GPFG and Norges Bank, and is presented in the balance sheet line Other assets or Other liabilities. Unsettled inflow at the end of 2022 presented in Other assets amounted to NOK 1 468 million. At the end of 2021, NOK 1 381 million was presented in Other assets related to unsettled inflow.

Internal trades in the form of money market lending or borrowing between the GPFG and Norges Bank's foreign exchange reserves are presented as a net balance between the two portfolios in the balance sheet lines Other assets and Other liabilities. At the end of 2022, the net balance between the portfolios represented a receivable for the GPFG of NOK 302 million, compared to a receivable of NOK 130 million at the end of 2021. Related income and expense items are presented net in the income statement as Interest income/expense.

Transactions with subsidiaries

Subsidiaries of Norges Bank are established as part of the management of the GPFG's investments in unlisted real estate and unlisted renewable energy infrastructure. For an overview of the companies that own and manage the investments, as well as consolidated subsidiaries, see note 16 Interests in other entities. For further information regarding transactions with subsidiaries, see note 6 Unlisted real estate and note 7 Unlisted renewable energy infrastructure.

Note 16 Interests in other entities

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

The overall objective of the ownership structures used for investments in unlisted real estate and unlisted infrastructure is to safeguard the financial wealth under management and to ensure the highest possible net return after costs, in accordance with the management mandate issued by the Ministry of Finance. Key criteria when deciding the ownership structure are legal protection, governance and operational efficiency. Taxes may represent a significant cost for the unlisted investments. Expected tax expense for the fund is therefore one of the factors considered when determining the ownership structure.

Table 16.1 shows the companies that own and manage the properties and infrastructure assets, as well as consolidated subsidiaries.

Table 16.1 Real estate and infrastructure companies

Company	Business address	Property address[1]	Ownership share and voting right in percent	Effective ownership share of underlying properties in percent	Recognised from
Non-consolidated companies					
United Kingdom					
NBIM George Partners LP[2]	London	London	100.00	25.00	2011
MSC Property Intermediate Holdings Limited	London	Sheffield	50.00	50.00	2012
NBIM Charlotte Partners LP	London	London	100.00	57.75	2014
NBIM Edward Partners LP	London	London	100.00	100.00	2014
NBIM Caroline Partners LP	London	London	100.00	100.00	2015
NBIM Henry Partners LP	London	London	100.00	100.00	2016
NBIM Elizabeth Partners LP	London	London	100.00	100.00	2016
NBIM Eleanor Partners LP	London	London	100.00	100.00	2018
WOSC Partners LP	London	London	75.00	75.00	2019
PELP UK Limited	Solihull	Mulitiple British cities	50.00	50.00	2022
Longfellow Strategic Value UK I LP	Bristol	Cambridge	48.75	48.75	2022
Luxembourg					
NBIM S.à r.l.	Luxembourg	N/A	100.00	N/A	2011
France					
NBIM Louis SAS	Paris	Paris	100.00	50.00	2011
SCI 16 Matignon	Paris	Paris	50.00	50.00	2011
Champs Elysées Rond-Point SCI	Paris	Paris	50.00	50.00	2011
SCI PB 12	Paris	Paris	50.00	50.00	2011
SCI Malesherbes	Paris	Paris	50.00	50.00	2012
SCI 15 Scribe	Paris	Paris	50.00	50.00	2012
SAS 100 CE	Paris	Paris	50.00	50.00	2012
SCI Daumesnil	Paris	Paris	50.00	50.00	2012

Company	Business address	Property address[1]	Ownership share and voting right in percent	Effective ownership share of underlying properties in percent	Recognised from
SCI 9 Messine	Paris	Paris	50.00	50.00	2012
SCI Pasquier	Paris	Paris	50.00	50.00	2013
NBIM Marcel SCI	Paris	Paris	100.00	100.00	2014
NBIM Victor SCI	Paris	Paris	100.00	100.00	2016
NBIM Eugene SCI	Paris	Paris	100.00	100.00	2017
NBIM Beatrice SCI	Paris	Paris	100.00	100.00	2018
NBIM Jeanne SCI	Paris	Paris	100.00	100.00	2019
Rodolphe Paris 1 SCI	Paris	Paris	65.00	65.00	2022
Germany					
NKE Neues Kranzler Eck Berlin Immobilien GmbH & Co. KG	Frankfurt	Berlin	50.00	50.00	2012
NBIM Helmut 2 GmbH & Co KG	Berlin	Berlin	100.00	100.00	2020
Sochribel GmbH	Berlin	Berlin	50.00	50.00	2022
Switzerland					
NBIM Antoine CHF S.à r.l.	Luxembourg	Zürich	100.00	100.00	2012
Europe					
Prologis European Logistics Partners S.à r.l.	Luxembourg	Multiple European cities	50.00	50.00	2013
United States					
T-C 1101 Pennsylvania Venture LLC	Wilmington, DE	Washington	49.90	49.90	2013
T-C Franklin Square Venture LLC	Wilmington, DE	Washington	49.90	49.90	2013
T-C 33 Arch Street Venture LLC	Wilmington, DE	Boston	49.90	49.90	2013
No. 1 Times Square Development LLC	Wilmington, DE	New York	45.00	45.00	2013
OFC Boston LLC	Wilmington, DE	Boston	47.50	47.50	2013
425 MKT LLC	Wilmington, DE	San Francisco	47.50	47.50	2013
555 12th LLC	Wilmington, DE	Washington	47.50	47.50	2013
Prologis U.S. Logistics Venture LLC	Wilmington, DE	Multiple American cities	46.30	44.96	2014
OBS Boston LLC	Wilmington, DE	Boston	47.50	47.50	2014
100 Federal JV LLC	Wilmington, DE	Boston	45.00	45.00	2014
Atlantic Wharf JV LLC	Wilmington, DE	Boston	45.00	45.00	2014
BP/CGCenter MM LLC	Wilmington, DE	New York	45.00	45.00	2014
T-C 2 Herald Square Venture LLC	Wilmington, DE	New York	49.90	49.90	2014
T-C 800 17th Street Venture NW LLC	Wilmington, DE	Washington	49.90	49.90	2014
T-C Foundry Sq II Venture LLC	Wilmington, DE	San Francisco	49.90	49.90	2014
T-C Hall of States Venture LLC	Wilmington, DE	Washington	49.90	49.90	2014
SJP TS JV LLC	Wilmington, DE	New York	45.00	45.00	2015
T-C Republic Square Venture LLC	Wilmington, DE	Washington	49.90	49.90	2015

Company	Business address	Property address[1]	Ownership share and voting right in percent	Effective ownership share of underlying properties in percent	Recognised from
T-C 888 Brannan Venture LLC	Wilmington, DE	San Francisco	49.90	49.90	2015
Hudson Square Properties, LLC	Wilmington, DE	New York	48.00	48.00	2015
ConSquare LLC	Wilmington, DE	Washington	47.50	47.50	2016
100 First Street Member LLC	Wilmington, DE	San Francisco	44.00	44.00	2016
303 Second Street Member LLC	Wilmington, DE	San Francisco	44.00	44.00	2016
900 16th Street Economic Joint Venture (DE) LP	Wilmington, DE	Washington	49.00	49.00	2017
1101 NYA Economic Joint Venture (DE) LP	Wilmington, DE	Washington	49.00	49.00	2017
375 HSP LLC	Wilmington, DE	New York	48.00	48.00	2017
T-C 501 Boylston Venture LLC	Wilmington, DE	Boston	49.90	49.90	2018
SVF Seaport JV LLC	Wilmington, DE	Boston	45.00	45.00	2018
OMD Venture LLC	Wilmington, DE	Boston	47.50	47.50	2021
ARE-MA Region No. 102 JV LLC	Wilmington, DE	Boston	41.00	41.00	2021
Japan					
TMK Tokyo TN1	Tokyo	Tokyo	70.00	70.00	2017
Tokyo MN1 TMK	Tokyo	Tokyo	100.00	39.90	2020
Netherlands					
Borssele Wind Farm C.V.	The Hague	Borssele 1&2	50.00	50.00	2021
Consolidated subsidiaries					
Japan					
NBRE Management Japan Advisors K.K.	Tokyo	N/A	100.00	N/A	2015
United Kingdom					
NBRE Management Europe Limited	London	N/A	100.00	N/A	2016

[1] For investments in unlisted real estate, the property address is shown. For investments in unlisted infrastructure, the project name is shown.
[2] One property in this company, 20 Air Street, has an ownership share of 50 percent.

Activity in the consolidated subsidiaries consists of providing investment-related services to the GPFG. This activity is presented in the income statement line Other costs and included in the balance sheet lines Other assets and Other liabilities.

In addition to the companies shown in table 16.1, Norges Bank has wholly-owned holding companies established in connection with investments in unlisted real estate and unlisted renewable energy infrastructure. These holding companies do not engage in any operations and do not own any properties or infrastructure assets directly. The holding companies have their business address either in the same country as the investments, in connection with NBIM S.à r.l. in Luxembourg, or in Norway for the holding companies established for investments in Japan, France, Germany and the Netherlands.

Note 17 Other assets and other liabilities

Table 17.1 Other assets

Amounts in NOK million	31.12.2022	31.12.2021
Net balance Norges Bank's foreign exchange reserves[1]	302	130
Unsettled inflow krone deposit[1]	1 468	1 381
Accrued income from secured lending	227	311
Other	20	38
Other assets	**2 017**	**1 860**

1 See note 15 Related parties for further information.

Table 17.2 Other liabilities

Amounts in NOK million	31.12.2022	31.12.2021
Tax payable	12	18
Other	44	38
Other liabilities	**56**	**56**

Independent auditor's report

To the Supervisory Council of Norges Bank

Opinion
We have audited the financial statements for the investment portfolio of the Government Pension Fund which are included in Norges Bank's annual financial statements. The financial statements comprise the balance sheet as at 31 December 2022, the income statement, statement of changes in owner's capital and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the financial statements comply with applicable legal requirements and give a true and fair view of the financial position of the investment portfolio of the Government Pension Fund as at 31 December 2022 and its financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the EU.

Basis for opinion
We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report. We are independent of Norges Bank in accordance with the requirements of the relevant laws and regulations in Norway and the International Ethics Standards Board for Accountants' *International Code of Ethics for Professional Accountants (including International Independence Standards)* (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters
Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements for 2022. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the financial statements.

Valuation of Investments
Basis for the key audit matter
Listed investments measured at fair value are measured at market value if the investments are traded in what is assessed to be an active market. These investments are classified as level 1 assets in the fair value hierarchy. Listed investments valued based on models which use directly or indirectly observable market data are classified as level 2 assets. Investments classified in level 1 and 2 of the fair value hierarchy as at 31 December amount to NOK 12 081 246 million.

Investments valued based on models which mainly use inputs that are not observable in the market place, are classified as level 3 assets in the fair value hierarchy. These valuations are to a larger extent influenced by judgmental assessments and therefore have a higher inherent risk of misstatement. As of 31 December, these assets amount to NOK 347 812 million.

Investments measured at fair value constitute the most material share of assets as at 31 December. The material amount, the measurement at fair value with occasional use of judgments and the classification to levels 1, 2 or 3 respectively in the fair value hierarchy, and the fact that the return on investment measurement follows from these valuations, we have considered the valuation of these investments to be a key audit matter.

The investments measured at fair value are disclosed in note 8 and 3 in the financial statements

Our audit response

For both listed and unlisted investments, we assessed the design and tested the operating effectiveness of internal controls over valuation processes, including controls over management's determination and approval of the methodology and assumptions used for valuation. For listed investments, we furthermore compared the recognized value at the balance sheet date, with externally observable market prices.

Our audit procedures for unlisted level 3 investments also comprised management's use of external experts and valuations, including the experts' expertise and objectivity. We have used EY's internal valuation specialists to review assumptions and calculations of valuation reports on a sample basis.

We have furthermore evaluated the design and tested the operating effectiveness of internal controls over the classification in the fair value hierarchy. For a sample of investments, we have tested the detailed classification in levels 1, 2 and 3 in the fair value hierarchy.

IT systems that support financial reporting

Basis for the key audit matter

Norges Bank has a complex and automated IT environment and is dependent on IT processes for reporting financial information. To ensure complete and accurate processing and reporting of financial information, it is important that controls over access management and system changes are designed and operate effectively. Key IT processes are also dependent on a well-functioning control environment at external service providers. IT systems that support financial reporting are considered to be a key audit matter as the IT environment is important to ensure accuracy, completeness and reliable financial reporting.

Our audit response

We obtained an understanding of Norges Bank's IT systems, IT environment and controls of importance to the financial reporting. We tested IT general controls over access management, system changes and IT operations. For selected system of particular importance, we also performed tests of detailed data on a sample basis to directly verify the accuracy and completeness of information from IT systems that support the financial reporting, against external data.

For relevant IT systems managed by external service providers, we evaluated third-party systems and organizations controls reports (ISAE 3402 reports) for the service provider's control environment. We further assessed the design and tested the operating effectiveness of Norges Bank's own controls relating to outsourced services. We have used our own IT specialists in our work to understand the organization's IT environment as well as in assessing the design of control activities and conducting the testing of the operating effectiveness of controls.

Other information

Other information consists of the information included in the annual report other than the financial statements and our auditor's report thereon. The Executive Board and management (management) is responsible for the other information. Our opinion on the financial statements does not cover the other information, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information, and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of management for the financial statements

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

The financial statements are prepared on a going concern basis.

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

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Norges Bank's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on Norges Bank's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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

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

Oslo, 8 February 2023
ERNST & YOUNG AS

Kjetil Rimstad
State Authorised Public Accountant (Norway)

(This translation from Norwegian has been prepared for information purposes only.)

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