9 February 2024 at 1:00 pm (EET)

Municipality Finance Financial Statements Bulletin

1 January–31 December 2023

MuniFin

In brief: MuniFin Group in 2023

- The Group's net operating profit excluding unrealised fair value changes in January–December increased by 3.2% and amounted to EUR 176 million (EUR 170 million). The net interest income grew by 7.5% propelled by rising short-term market rates and totalled EUR 259 million (EUR 241 million). The growth in result was slowed down by an increase in costs.

- Net operating profit amounted to EUR 139 million (EUR 215 million). Unrealised fair value changes amounted to EUR -37 million (EUR 45 million) in the financial year. Unrealised fair value changes were influenced in particular by changes in interest rate expectations and credit risk spreads in the Group's main funding markets.

- Costs in the financial year amounted to EUR 82 million (EUR 73 million). The growth in costs was primarily driven by the almost quadrupled guarantee commission of EUR 13 million (EUR 4 million) paid to the Municipal Guarantee Board, which resulted from a change in the calculation method. The guarantee commission is a compensation for the guarantees the Municipal Guarantee Board grants to MuniFin's funding.

- The Group's leverage ratio continued to strengthen, standing at 12.0% (11.6%) at the end of December.

- At the end of December, the Group's CET1 capital ratio was very strong at 103,4% (97.6%). CET1 capital ratio was well over the total requirement of 13.9%, with capital buffers accounted for. Because MuniFin Group only has CET1 capital, Tier 1 and total capital ratios are the same with the CET1 capital ratio, 103.4% (97.6%).

- The Russian invasion of Ukraine has not had a significant effect on the Group's operations. The war has accelerated inflation and pushed up market interest rates, which has had a positive effect on the Group's net interest income, but also increased costs. Because of the geopolitical uncertainty caused by the war, the Group has maintained strong liquidity buffers. Otherwise, the war has had only a minor effect on the Group's operations.

- Long-term customer financing (long-term loans and leased assets) excluding unrealised fair value changes totalled EUR 32,948 million (EUR 30,660 million) at the end of December and saw an increase of 7.5% (5.5%). New long-term customer financing in January–December was at the same level as in the previous year and amounted to EUR 4,370 million (EUR 4,375 million). Short-term customer financing totalled EUR 1,575 million (EUR 1,457 million).

- Of all long-term customer financing, the amount of green finance aimed at environmentally sustainable investments totalled EUR 4,795 million (EUR 3,251 million) and the amount of social finance aimed at investments promoting equality and communality totalled EUR 2,234 million (EUR 1,734 million) at the end of December. The total amount of this financing increased by 41.0% (42.9%) from the previous year. The ratio of green and social finance to long-term customer financing excluding unrealised fair value changes grew by 5.1 percentage points to 21.3%. In late 2023, the Group published its sustainability agenda, which extends to the year 2035. By the end of 2030, the Group's goal is to increase the share of green and social financing to one third of all long-term customer financing, and by the end of 2035 reduce financed emissions from financed properties by 38% from the 2022 level.

- In 2023, new long-term funding reached EUR 10,087 million (EUR 8,827 million). At the end of December, the total funding was EUR 43,320 million (EUR 40,210 million), of which long-term funding made up EUR 39,332 million (EUR 35,560 million). In March and in June 2023, the Group decided to repay the debt related to the European Central Bank's targeted longer-term refinancing operations (*TLTRO III*). The debt totalled EUR 2,000 million.

- The Group's total liquidity remained very strong, standing at EUR 11,633 million (EUR 11,506 million) at the end of the financial year. The liquidity coverage ratio (*LCR*) stood at 409% (257%) and the net stable funding ratio (*NSFR*) at 124% (120%) at the end of the year.

- The Board of Directors proposes to the Annual General Meeting to be held in spring 2024 a dividend of EUR 1.69 per share, totalling EUR 66.0 million. The total dividend payment in 2023 was EUR 1.73 per share, totalling EUR 67.6 million.

- Outlook for 2024: The Group expects its net operating profit excluding unrealised fair value changes to be at the same level or higher than in 2023. The Group expects its capital adequacy ratio and leverage ratio to remain strong. The valuation principles set in the IFRS framework may cause significant but temporary unrealised fair value changes, some of which increase the volatility of net operating profit and make it more difficult to estimate. A more detailed outlook is presented in the section *Outlook for 2024*.

Comparison figures deriving from the income statement and figures describing the change during the reporting period are based on figures reported for the corresponding period in 2022. Comparison figures deriving from the balance sheet and other cross-sectional items are based on the figures of 31 December 2022 unless otherwise stated.

Key figures (Group)

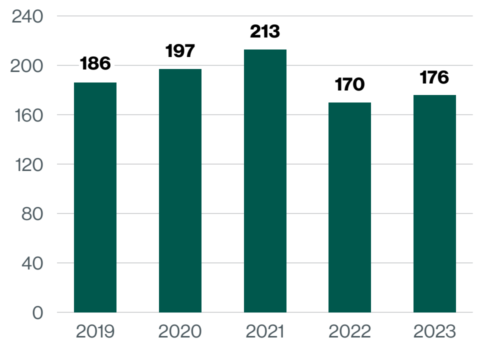
	Jan–Dec 2023	Jan–Dec 2022	Change, %
Net operating profit excluding unrealised fair value changes (EUR million)*	176	170	3.2
Net operating profit (EUR million)*	139	215	-35.5
Net interest income (EUR million)*	259	241	7.5
New long-term customer financing (EUR million)*	4,370	4,375	-0.1
New long-term funding (EUR million)*	10,087	8,827	14.3
Cost-to-income ratio, %*	32.4	23.9	35.7
Return on equity (*ROE*), %*	6.6	9.9	-33.5

	31 Dec 2023	31 Dec 2022	Change, %
Long-term customer financing (EUR million)*	32,022	29,144	9.9
Balance sheet total (EUR million)	49,736	47,736	4.2
CET1 capital (EUR million)	1,550	1,482	4.6
Tier 1 capital (EUR million)	1,550	1,482	4.6
Total own funds (EUR million)	1,550	1,482	4.6
CET1 capital ratio, %	103.4	97.6	5.9
Tier 1 capital ratio, %	103.4	97.6	5.9
Total capital ratio, %	103.4	97.6	5.9
Leverage ratio, %	12.0	11.6	3.8
Personnel	185	175	5.7

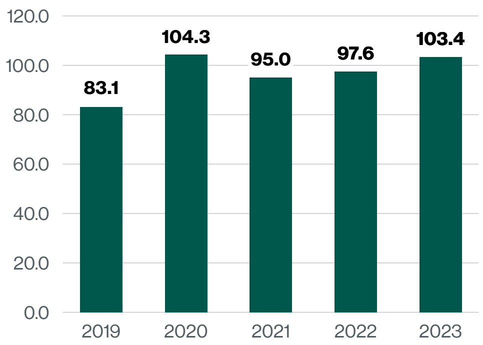
** Alternative performance measure.*

The calculation formulas for all key figures can be found on pages 43–51. All figures presented in the Financial Statements Bulletin are those of MuniFin Group, unless otherwise stated.

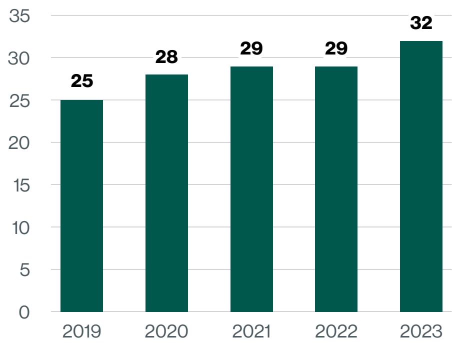
Net operating profit excluding unrealised fair value changes, EUR million*



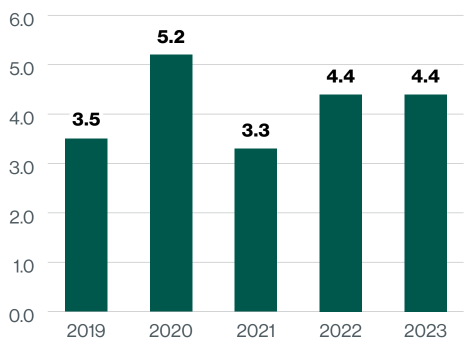
CET1 capital ratio, %



Long-term customer financing, EUR billion*



New long-term customer financing, EUR billion*



** Alternative performance measure.*

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Comment on the 2023 financial year by President and CEO Esa Kallio

The year 2023 was the fourth consecutive year marked by instability. The rising geopolitical tensions and market volatility did not significantly affect MuniFin's performance, and we were able to successfully carry out our core mandate of ensuring the availability of affordable long-term financing for our customers.

In 2023, the inflation exacerbated by the Russian invasion of Ukraine in 2022 took a downward turn, and interest rate hikes tapered off. Geopolitical tensions increased across the world throughout the year, and expectations of central bank measures caused uncertainty in the capital markets

> In Finland, the first half of the year was characterised by the parliamentary elections held in April and the ensuing government formation talks that stretched into June.

In Finland, the first half of the year was characterised by the parliamentary elections held in April and the ensuing government formation talks that stretched into June. The new government programme is unlikely to affect municipal operations directly. In the housing sector, our customers have been concerned about the government programme's entries concerning right-of-occupancy housing and state-subsidised housing production. In this uncertain operating environment, our role as our customers' trusted partner has grown even more important.

The demand for financing from our customers in the municipality sector was quiet at the beginning of the year, but demand picked up towards the end of the year close to the previous year's level. Temporary tax benefits boosted municipal finances, causing municipalities to have lower financing needs. In municipal finances, 2023 was still a relatively good year, but started to weaken at the end of the year.

In the affordable social housing sector, financing needs were higher than in the year before. Our housing sector customers have suffered from rising construction costs for several years now, which has decreased the start of new building contracts. Rising interest expenses have taken a further toll on them since 2022. Towards the end of the year, however, the demand for financing started to pick up as construction costs levelled off and right-of-occupancy project starts were rushed because of the new government programme's entries.

The new wellbeing services counties started their operations on 1 January 2023, and we financed the wellbeing services counties within the limits set by the Municipal Guarantee Board (*MGB*). The EUR 400 million limit for long-term finance set by the MGB was reached before the end of the year, and we could no longer fulfil wellbeing services counties' financing requests for 2023 after that.

Our funding operations were a success despite the fluctuation in the capital markets. Our issuances were well-timed, and all our transactions were successful. We continued to keep our liquidity at a strong level throughout the year to ensure the availability of financing for our customers in all conditions.

Our operations continued in the usual manner in 2023, and our profitability was slightly higher than in 2022.

In 2023, we revised our strategy to further underline our core mandate. Our revised strategy highlights sustainability and our role as an enabler of sustainable welfare in society. We also made efforts to better assess and measure the impact of our operations. In October, we published our sustainability agenda, which sets the framework and goals for our long-term sustainability work. The agenda focuses on our business operations, i.e. the products and services offered to our customers, and the long-term impact achieved through them.

I wish to thank our staff for their commitment to our shared work in enabling sustainable welfare in society and our customers for their continued confidence and collaboration in this year again.

Esa Kallio
President and CEO
Municipality Finance Plc

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Operating environment in 2023

The year 2023 was characterised by central banks' continuing efforts to tame inflation. The US Federal Reserve raised its key interest rate from a targeted range of 3.75–4.00% to a range of 5.25–5.5%, and the European Central Bank (*ECB*) hiked its deposit facility rate from 2.00% to 4.00%. Central banks also hastened the contraction of their balance sheets in 2023. Russia's ongoing war of aggression and other challenges in international politics, such as the tensions between the US and China and the breakout of the Israel–Hamas war, caused further economic uncertainty.

Despite the rapid tightening of monetary policy and the geopolitical risks at play, Western economies maintained a surprisingly positive trend for a long time. Rising interest rates created a downward trend in construction and manufacturing already in 2022, but the service sector, which generates the majority of the GDP in Western countries, stayed on a strong growth track in the first half of 2023. Expansionary fiscal policy also boosted growth, especially in the US. The effects of interest rate hikes became clearer in the second half of the year, however, when the euro area GDP began to contract and inflation fell faster than anticipated.

The negative economic trend hit Finland harder than the rest of the euro area. In Finland, the popularity of variable-rate loans and the major role of construction investments amplified the effects of the tightening monetary policy. The export industry's order intake also suffered from the rising cost of financing. In the housing market, the volume of sales stayed considerably below normal, and the full-year average price per square metre fell markedly. Despite the weak economic cycle, Finland's employment situation remained relatively good. In 2023, the average unemployment rate was only 0.5 percentage points higher than in 2022.

Central banks' rapid interest rate hikes and changes in the monetary policy outlook caused strong periodic fluctuation in the interest rate markets. The 12-month Euribor rate rose from 3.29% to 3.51% during the year, but long-term interest rates, on the other hand, ended up at a lower level than at the beginning of the year. Germany's 10-year bond yield came down from 2.56% to 2.02%, while Finland's corresponding rate fell from 3.09% to 2.57%.

Effects of the health and social services reform on MuniFin Group

On 1 January 2023, Finland's long-prepared health and social services reform became effective and the new wellbeing services counties began their operations. The operative work of the wellbeing services counties is being largely funded by the central government, but the counties have government authorisation to acquire long-term funding for their investments outside of central government funding. The counties can also independently seek short-term funding.

MuniFin continued to act as a lender and counterparty to the loans and other commitments that were transferred to the wellbeing services counties at the start of 2023. These totalled about four billion euros.

Legislation allows MuniFin to also finance new investments and other new financing needs by the wellbeing services counties. This new financing is currently affected by the fact that the wellbeing services counties are not liable for the guarantees for MuniFin's funding because, unlike municipalities, wellbeing services counties are not members of the Municipal Guarantee Board (*MGB*). For this reason, the MGB, which guarantees MuniFin's funding, has decided to set an annual limit to the amount of new financing MuniFin can grant to wellbeing services counties.

In 2023, the MGB's limit for MuniFin's long-term loans to wellbeing services counties was EUR 400 million. Because the wellbeing counties' government-authorised borrowing powers in 2023 were considerably higher than this, their financing needs were also higher than the limit. MuniFin reached the EUR 400 million limit before the end of the year and could no longer fulfil counties' financing requests for 2023 after that. Wellbeing services counties continued to have access to financing from other credit institutions. According to MuniFin's estimate, MuniFin's temporary absence from the market may increase wellbeing services counties' financing costs, which may not support the general goals of curbing the costs of the health and social services sector.

The MGB's limit for MuniFin's new short-term financing to wellbeing services counties, i.e. commercial papers to wellbeing services counties, was EUR 900 million in 2023. This limit was EUR 900 million also in 2022.

In MuniFin's view, legislation and the wellbeing services counties' financing model should be amended so that in the future, wellbeing services counties could either be members of the MGB or otherwise liable for the guarantees for the funding related to the financing targeted at them. This would ensure that their financing needs could be secured in the long-term and met cost-effectively. In late 2023, the MGB decided on the limits for 2024. They remain the same as in 2023, which means that the challenges in securing cost-effective financing for the investments of wellbeing services counties will also remain the same in 2024.

Information on the Group results

Consolidated income statement (EUR million)	Jan–Dec 2023	Jan–Dec 2022	Change, %	Jul–Dec 2023	Jul–Dec 2022	Change, %
Net interest income	259	241	7.5	135	119	12.9
Other income	0	2	-93.7	-1	1	<-100
Income excluding unrealised fair value changes	**259**	**243**	**6.5**	**134**	**120**	**11.5**
Commission expenses	-16	-6	>100	-8	-3	>100
HR expenses	-20	-19	9.1	-10	-10	6.6
Other items in administrative expenses	-20	-19	8.8	-11	-9	13.9
Depreciation and impairment on tangible and intangible assets	-7	-10	-37.2	-3	-3	18.5
Other operating expenses	-19	-20	-2.5	-7	-1	>100
Costs	**-82**	**-73**	**12.4**	**-39**	**-25**	**53.2**
Credit loss and impairments on financial assets	-1	0	<-100	-1	1	<-100
Net operating profit excluding unrealised fair value changes	**176**	**170**	**3.2**	**95**	**96**	**-1.5**
Unrealised fair value changes	-37	45	<-100	-33	28	<-100
Net operating profit	**139**	**215**	**-35.5**	**62**	**124**	**-50.2**
Income tax expense	-28	-43	-34.8	-12	-24	-48.1
Profit for the period	**111**	**172**	**-35.7**	**50**	**101**	**-50.7**

The sum of individual results may differ from the displayed total due to rounding. Changes of more than 100% are shown as >100% or <-100%.

The Group's net operating profit excluding unrealised fair value changes

MuniFin Group's core business operations remained strong in 2023. The Group's net operating profit excluding unrealised fair value changes increased by 3.2% and amounted to EUR 176 million (EUR 170 million). The growth resulted from an increase in net interest income. Russia's invasion of Ukraine had only a minor effect on the result both in the financial year and in the comparison period. The Group's net interest income benefited overall from the rising market interest rates resulting from the accelerating inflation.

The Group's income excluding unrealised fair value changes was EUR 259 million (EUR 243 million) and grew by 6.5%. Net interest income grew by 7.5%, totalling EUR 259 million (EUR 241 million). Net interest income was positively affected by growing business volumes, the continued low cost of funding and the positive effect that rising market interest rates have had on net interest income through equity.

Other income totalled EUR 0.1 million (EUR 2 million). Other income includes mainly the turnover of MuniFin's subsidiary company, Financial Advisory Services Inspira Ltd (*Inspira*) and capital gains and losses on net income from foreign exchange differences. At 0.1% (0.9%), other income relative to income excluding unrealised fair value changes forms only a minor part of the Group's income.

The Group's costs were EUR 82 million (EUR 73 million), rising by 12.4% from the year before. The increase in costs was primarily driven by the Municipal Guarantee Board's decision to change the guarantee commission of MuniFin's funding from a fixed fee to a fee tied to the amount of guaranteed funding, which considerably increased the sum to EUR 13 million (EUR 4 million). In contrast, the lower contribution fee to the Single Resolution Fund, which fell by 20.0% to EUR 7 million (EUR 9 million), helped curb the growth of expenses. In the comparison year, costs included a non-recurring item of EUR 5 million resulting from the discontinuation of a major IT project.

Commission expenses totalled EUR 16 million (EUR 6 million), and the growth in commission expenses was mainly due to the aforementioned increase in guarantee commission.

HR and administrative expenses reached EUR 41 million (EUR 37 million) and grew by 9.0% (7.6%). HR expenses comprised EUR 20 million (EUR 19 million) and other administrative expenses EUR 20 million (EUR 19 million). Employee numbers grew during the year, and the average number of employees in the Group was 183 (172). Other items in administrative expenses grew by 8.8% (8.9%). The growth is mainly due to the increased costs of maintaining and developing information systems.

During the financial year, depreciation and impairment of tangible and intangible assets reached EUR 7 million (EUR 10 million). This included the EUR 5 million impairment of the termination of the aforementioned IT project in the comparison year.

Other operating expenses decreased by 2.5% (growth in the previous year was 27.0%) to EUR 19 million (EUR 20 million). The reduction in fees was mainly due to the lower contribution fee to the Single Resolution Fund. Excluding fees collected by authorities other operating expenses totalled EUR 9 million (EUR 8 million), growing by 9.9%.

The amount of expected credit losses (*ECL*) amounted to EUR 1.2 million (EUR 0.1 million positive). During the financial year, the Group updated the probability of defaults in accordance with the update cycle, the recovery rates used in loss given default calculations and loss given default for certain customer segments. In addition, macro scenarios were updated to take into account forward-looking information. The Group has assessed the impact of rapidly increased interest rate environment on its receivables from customer financing and on credit risk. Based on the Group's assessment some customers may face challenges in the sufficiency of cash flows during the first half of 2024, so the Group's management still justified to recognise an additional discretionary provision of EUR 0.6 million based on a group-specific assessment.

The Group's overall credit risk position has remained low. At the end of December 2023, the Group had no guarantee receivables from public sector entities due to customer insolvency (EUR 4 million). The amount of forborne loans was EUR 491 million (EUR 80 million), while non-performing exposures amounted to EUR 140 million (EUR 7 million) at the end of the year. The non-performing exposures were less than 0.4% (0.02%) of total customer exposures. All the Group's customer financing receivables are from Finnish municipalities, joint municipal authorities, wellbeing services counties or joint county authorities, or accompanied by a securing municipal, joint municipal authority, wellbeing services county or joint county authority guarantee or a state deficiency guarantee supplementing real estate collateral, and therefore no final credit losses will arise. According to the management's assessment, all receivables from customers will be fully recovered. During the Group's history of almost 35 years, it has never recognised any final credit losses in its customer financing.

The credit risk of the liquidity portfolio has remained at a low level, and the average credit rating of the debt securities in the portfolio is AA+ (AA+). More information on the credit risks of financial assets and other commitments is available in Note *10* to the Financial Statements Bulletin.

The Group's profit and unrealised fair value changes

The Group's net operating profit was EUR 139 million (EUR 215 million). Unrealised fair value changes decreased the Group's net operating profit by EUR 37 million (in 2022: increased by EUR 45 million). In January–December, unrealised fair value changes in hedge accounting amounted to EUR -27 million (EUR 36 million) and unrealised net income from financial assets and liabilities through profit or loss to EUR -10 million (EUR 8 million).

The Group's effective tax rate in the financial year was 20.2% (20.0%). Taxes in the consolidated income statement amounted to EUR 28 million (EUR 43 million). After taxes, the Group's profit for the financial year was EUR 111 million (EUR 172 million).

The Group's full-year return on equity (*ROE*) was 6.6% (9.9%). Excluding unrealised fair value changes, the ROE was 8.4% (7.8%).

The Group's other comprehensive income includes unrealised fair value changes of EUR 109 million (EUR -21 million). During the financial year, the most significant item affecting the other comprehensive income was net change in fair value due to changes in own credit risk of financial liabilities designated at fair value through profit or loss totalling EUR 75 million (EUR -0.2 million). The cost-of-hedging amounted to EUR 25 million (EUR -15 million). Net change in fair value of financial assets at fair value through other comprehensive income was EUR 8 million (EUR -6 million).

On the whole, unrealised fair value changes net of deferred tax affected the Group's equity by EUR 56 million (EUR 19 million) and CET1 capital net of deferred tax in capital adequacy by EUR -3 million (EUR 16 million). The cumulative effect of unrealised fair value changes on the Group's own funds in capital adequacy calculations was EUR 45 million (EUR 47 million).

Unrealised fair value changes reflect the temporary impact of market conditions on the valuation levels of financial instruments at the time of reporting. The value changes may vary significantly from one reporting period to another, causing volatility in profit, equity and own funds in capital adequacy calculations. The effect on individual contracts will be removed by the end of the contract period. In the financial year, unrealised fair value changes were influenced in particular by changes in interest rate expectations and credit risk spreads in the Group's main funding markets.

In accordance with its risk management principles, the Group uses derivatives to hedge against interest rate, exchange rate and other market and price risks. Cash flows under agreements are hedged, but due to the generally used valuation methods, changes in fair value differ between the financial instrument and the respective hedging derivative. Changes in the shape of the interest rate curve and credit risk spreads in different currencies affect the valuations, which cause the fair values of hedged assets and liabilities and hedging instruments to behave in different ways. In practice, the changes in valuations are not realised on a cash basis because the Group primarily holds financial instruments and their hedging derivatives almost always until the maturity date. The counterparty credit risk related to derivatives is comprehensively covered by collateral management. Changes in credit risk spreads are not expected to be materialised as credit losses for the Group, because the Group's liquidity reserve has been invested in instruments with low credit risk.

The Parent Company and subsidiary company Inspira's results

In 2023, MuniFin's net interest income amounted to EUR 259 million (EUR 237 million) and net operating profit to EUR 139 million (EUR 211 million). The comparison period included interest expenses of EUR 4 million for an AT1 capital instrument redeemed in April 2022.

The turnover of MuniFin's subsidiary company, Inspira's, was EUR 1.4 million (EUR 1.6 million), and its net operating profit amounted to EUR 0.0 million (EUR 0.0 million).

The Group's financial performance in July–December

In the second half of 2023, the Group's net operating profit excluding unrealised fair value changes amounted to EUR 95 million (EUR 96 million), remaining at the same level as in the year before. Net interest income totalled EUR 135 million (EUR 119 million). Costs in July–December amounted to EUR 39 million (EUR 25 million). Unrealised fair value changes weakened the net operating profit by EUR 33 million (in the comparison period: improved by EUR 28 million). In July–December, the Group's net operating profit amounted to EUR 62 million (EUR 124 million).

In the second half of the year, net operating profit excluding unrealised fair value changes increased by 16.3% from the first half. Net interest income grew by 8.5% compared to the first half of the year. Costs amounted to EUR 39 million in July–December and to EUR 43 million in January–June. The net operating profit totalled EUR 62 million in July–December, decreasing by 19.0% from January–June. In the second half of the year, unrealised fair value changes affected the net operating profit by EUR -33 million, while in the first half of the year, their effect was EUR -5 million.

Information on the consolidated statement of financial position

Consolidated statement of financial position (EUR million)	31 Dec 2023	31 Dec 2022	Change, %
Cash and balances with central banks	0	0	4.5
Loans and advances to credit institutions	9,187	9,625	-4.6
Loans and advances to the public and public sector entities	32,022	29,144	9.9
Debt securities	5,145	4,787	7.5
Derivative contracts	1,857	2,707	-31.4
Other items included in the assets	1,526	1,473	3.6
Total assets	**49,736**	**47,736**	**4.2**
Liabilities to credit institutions	214	2,333	-90.8
Liabilities to the public and public sector entities	2,588	2,530	2.3
Debt securities issued	40,602	35,592	14.1
Derivative contracts	3,373	4,616	-26.9
Other items included in the liabilities	1,216	1,052	15.6
Total equity	1,744	1,614	8.1
Total liabilities and equity	**49,736**	**47,736**	**4.2**

The sum of individual results may differ from the displayed total due to rounding.
Changes of more than 100% are shown as >100% or <-100%.

MuniFin Group's consolidated statement of financial position saw a growth of 4.2% (3.0%) and totalled EUR 49,736 million (EUR 47,736 million). The growth in assets was mainly due to the increase in the long-term loan portfolio in loans and advances to the public and public sector entities. In liabilities, the largest changes were the repayment of the TLTRO III debt in liabilities to credit institutions, and new debt issuances in debt securities issued.

At the end of the financial year, the Group's equity stood at EUR 1,744 million (EUR 1,614 million). The Group's equity was increased by the financial year's profit of EUR 111 million (EUR 171 million), and change in own credit revaluation reserve, fair value reserve of investments and cost-of-hedging reserve in total of EUR 87 million (EUR -17 million). In the consolidated accounts, dividends of EUR 68 million (EUR 40 million) for the financial year 2022, paid to MuniFin's shareholders in April 2023, were deducted from the equity.

The Parent Company's balance sheet at the end of the year was EUR 49,735 million (EUR 47,736 million).

Financing and other services for customers

MuniFin's customers include municipalities, joint municipal authorities, wellbeing services counties, corporate entities under their control, and non-profit organisations and projects nominated by the Housing Finance and Development Centre of Finland (*ARA*). The Group is by far the largest single provider of financing for its customer groups, offering its customers a wide range of financing services and extensive support in investment planning and financial management.

In 2023, the relatively high inflation and rising interest rates caused cost pressure for customers. MuniFin's business operations remained strong in 2023, propelled especially by the housing sector's higher demand for financing late in the year. The number of credit applications and the amount of granted housing finance exceeded previous years' figures by a wide margin, partly because ARA production picked up speed when the rise in construction costs levelled out. The demand for financing gained a further boost after the Government decided to remove subsidies given to new right-of-occupancy homes in 2024 and the reform of the Act on Interest Subsidy.

With the health and social services reform, 2023 was the first year when municipalities were no longer responsible for organising healthcare, social welfare and rescue services and investments related to these services. Municipal finances were supported by temporary tax benefits stemming from the health and social services reform, which meant that municipalities experienced less financing needs. Municipalities had also prepared relatively well for the general rise in interest rate levels through interest rate hedging and long-term interest rates.

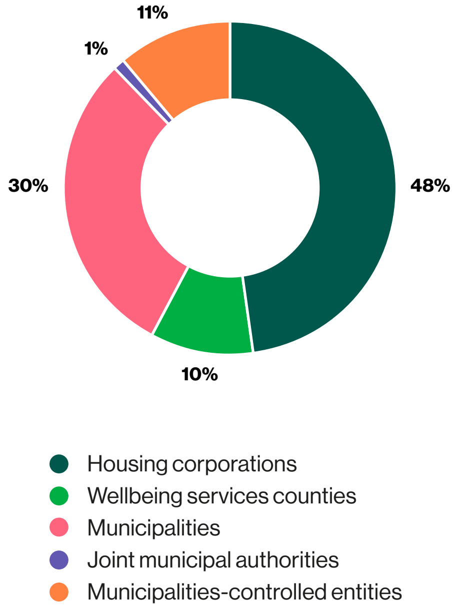
Hospital districts – the predecessors of the new wellbeing services counties – had proactively prepared for their financing needs by withdrawing financing in advance, but wellbeing services counties' demand for financing nevertheless increased towards the end of the year. MuniFin transferred financing contracts and other commitments from hospital districts, special care districts and voluntary joint municipal authorities for health and social services to the wellbeing services counties in the beginning of 2023. These commitments totalled about four billion euros.

In 2023, the Municipal Guarantee Board's limit for MuniFin's long-term loans to wellbeing services counties was EUR 400 million. The government-authorised borrowing powers in 2023 as well as wellbeing services counties' financing needs were considerably higher than the limit effecting on MuniFin's operations. MuniFin reached the EUR 400 million limit before the end of the year and could no longer fulfil counties' financing requests for 2023 in the last quarter of the year.

New long-term customer financing remained on the 2022 level

New long-term customer financing remained almost on the same level as in 2022, decreasing by 0.1% (in the comparison year it grew by 19.2%). The Group's new long-term customer financing totalled EUR 4,370 million (EUR 4,375 million), of which EUR 4,103 million (EUR 4,074 million) consisted of loans and EUR 268 million (EUR 301 million) of leased assets. In total, long-term customer financing at year-end amounted to EUR 32,022 million (EUR 29,144 million), of which long-term loan portfolio totalled EUR 30,580 million (EUR 27,841 million) and leased assets EUR 1,442 million (EUR 1,303 million). 48% of the long-term loan portfolio is for housing corporations, 42% for municipalities, entities controlled by them and joint municipal authorities and 10% for wellbeing services counties. Long-term customer financing excluding unrealised fair value changes was EUR 32,948 million (EUR 30,660 million) at the end of December, and it grew by 7.5% (5.5%).

Long-term loan portfolio by customer type 31 Dec 2023, %



Short-term customer financing in commercial papers totalled EUR 1,575 million (EUR 1,457 million) at the end of 2023.

MuniFin's subsidiary company Inspira specialises in financial advisory services for the municipal sector. In 2023, the demand for Inspira's services was robust, and Inspira's turnover was EUR 1.4 million (EUR 1.6 million). Inspira supports its customers in designing and implementing sustainable economic and financial solutions. The shifting operating environment increased customers' needs to find, prepare and implement measures to balance their finances and operations. In 2023, the most popular services were services that help customers balance their finances and services that help wellbeing services counties plan their finances and their property ownership and management.

In response to Russia's war of aggression, the European Commission approved in late 2022 a subsidised loan and guarantee scheme that allows MuniFin to finance Finnish municipal energy companies under the EU State Aid Temporary Crisis Framework. The arrangement was valid until the end of 2023, but there was little demand for this type of financing.

More digital leaps

In 2023, MuniFin devoted significant resources to the development of its digital services. MuniFin expanded its previously available digital services for commercial papers in short-term customer financing to cover the application process for long-term finance, and by the end of the year, around half of all loan applications were submitted online. The digital trade of commercial papers for MuniFin's customers launched in 2022 increased its popularity in 2023, and almost all commercial papers were traded online by the end of the year.

MuniFin also launched a new ESG application, which aroused interest among customers. The application allows municipal sector customers to monitor their ESG indicators and compare them to those of other municipalities. MuniFin's other applications continued to enjoy popularity. For instance, the widely-used loan portfolio application proved invaluable in planning finances amidst the changing interest rate environment.

MuniFin supports and encourages its customers to manage their finances in a sustainable way and to make sustainable investment decisions. MuniFin also offers regular economic reports, training for its digital services and various events to support decision-making. MuniFin's training sessions, seminars and events are very popular, and they again attracted thousands of attendees interested in economic topics.

New sustainability agenda sets a high bar for sustainability work
In 2023, MuniFin continued to measure the emissions of its own operations and the projects it finances. The goal in this work is to systematically reduce the carbon footprint of MuniFin's financed emissions, offer customers support with emission reductions and better manage the climate and environmental risks associated with the Group's operations.

In late 2023, MuniFin published its first sustainability agenda with the goal of increasing the proportion of sustainable finance and through it reducing financed emissions from buildings. The amount of sustainable finance offers a clear and commensurate measure of the Group's impact and describes the sustainability of its operations. The goal is for green finance to account for 25% and social finance for 8% of the long-term customer finance portfolio by 2030. In 2023, green finance accounted for 14.6% and social finance for 6.8% of long-term customer financing excluding unrealised fair value changes. The sustainability agenda also includes the Group's first financed emissions goal, aiming for financed emissions from buildings to have an emissions intensity of 8 kgCO2e/m2 by 2035. The emissions intensity of the Group's portfolio was 13 kgCO2e/m2 based on the data of 2022.

MuniFin works actively to improve its own and its customers' sustainability competence and commitments such as participating actively in working groups and in discussions promoting sustainability.

Sustainable finance products keep increasing in popularity
MuniFin Group offers its customers green and social finance for their sustainable investments. Green finance is aimed at investments that are friendly for the climate and environment, whereas social finance is aimed at investments that produce widespread social benefits. Together they form the spearhead of MuniFin's sustainability agenda.

Through green and social finance, MuniFin Group wants to encourage its customers to make environmentally and socially sustainable investments. To achieve this, the Group grants a margin discount for eligible projects, which encourages customers to assess the impacts of their investments more extensively and make choices that are sustainable for the environment and society. In 2023, the Group gave further incentive to apply for green finance by increasing the margin discount granted to most green project categories.

The demand for MuniFin's green finance remained high. At the end of 2023, there were 412 (246) green projects with outstanding financing, and green finance totalled EUR 4,795 million (EUR 3,251 million). Social finance also continued to gain more demand. At the end of 2023, there were 123 (76) social projects with outstanding financing, and social finance totalled EUR 2,234 million (EUR 1,734 million). For the housing sector, the guidelines of Finnish government's new programme have been relevant in 2023, which may have an impact on the amount of social finance in the future. The effects are particularly related to the reduction of authorisation of interest subsidy loans and investment aid for special groups.

MuniFin Group publishes separately from this Financial Statements Bulletin a Green Impact Report and a Social Impact Report for 2023 in the first week of March. Both Reports are available on MuniFin's website.

Funding and liquidity management

MuniFin Group acquires its funding mainly from the international capital markets as issuances under debt programmes. The funding strategy relies on wide diversification into multiple currencies, maturities, geographical areas and investor groups to secure access to funding under all market conditions.

The Group's strategy has proved highly successful during recent monetary and security policy upheavals: the Group retained strong access to capital markets throughout the year, and the average cost of funding remained at a low level. In the first half of 2023, rising inflation, global challenges in the banking sector and rapidly rising interest rate levels created uncertainty in the market. As the year progressed, risk premiums continued to widen as a result of cyclical concerns in the global economy, conflict in the Middle East, and the rapid contraction of central banks' balances. At the end of the year, the reference rates fell clearly, when inflation slowed down faster than expected and the markets began to price the central banks' future interest rate cuts more strongly than before.

The Group issued five benchmark bonds in 2023: three denominated in euros and two in US dollars. All five bonds were highly successful. The Group also made several tap issues to previously issued bonds. In addition to the strategic benchmark bonds, the Group also conducted a variety of other funding operations on account of the increased market volatility. The Group was particularly active in the markets for pound sterling and Norwegian krone and re-entered the Swiss franc market.

MuniFin repaid its EUR 2 billion debt acquired through the European Central Bank's targeted longer-term refinancing operations (*TLTRO III*) in March and in June 2023, and acquired a corresponding amount through other long-term funding operations.

In 2023, the Group's new long-term funding totalled EUR 10,087 million (EUR 8,827 million). A total of 87 (180) long-term funding arrangements were made in 12 (13) different currencies. The Group uses derivatives to hedge against market risks in funding.

At the end of 2023, the Group's total funding amounted to EUR 43,320 million (EUR 40,210 million), of which the Euro Commercial Papers (*ECP*) totalled EUR 3,987 million (EUR 4,650 million). Of total funding, 54.0% (48.5%) were denominated in euros and 46.0% (51.5%) in foreign currencies.

Debt programmes used by MuniFin

Medium Term Note *(MTN)* programme	EUR 45,000 million
Euro Commercial Paper *(ECP)* programme	EUR 10,000 million
AUD debt programme *(Kangaroo)*	AUD 2,000 million

MuniFin's funding is guaranteed by the Municipal Guarantee Board *(MGB)*, a public law institution whose members consist of all the municipalities in mainland Finland. The members are responsible for the liabilities of the MGB in proportion to their population. The MGB has granted guarantees for both the debt programmes and funding arrangements outside the programmes. Based on this, debt instruments issued by MuniFin are classified as zero-risk when calculating the capital adequacy of credit institutions and solvency of insurance companies, and as Level 1 liquid assets in liquidity calculation in the EU.

Investor interest in sustainable finance products continues to increase, and regulation is also steering markets towards a more sustainable direction. The Group is committed to issuing new green and social bonds regularly. In 2023, the Group issued a EUR 1 billion green bond that became the largest EUR green bond to date for MuniFin as well as the largest EUR green bond of all time in the Nordic SSA (*Sovereigns, Supranationals, Agencies)* market. The bond was many times oversubscribed despite the challenging market backdrop, and nearly 80% of the participating investors were dedicated ESG investors. The Group issued one social bond as a private placement.

The geopolitical situation and market volatility have impacted MuniFin's liquidity planning, the aim of which is to ensure the availability of financing for customers in all market conditions. The Group's long-term risk appetite framework specifies that total liquidity must cover uninterrupted business for a survival horizon of at least 12 months. With the amount held at the end of the year, the Group could uphold all its commitments with no additional funding for almost 16 months (15 months).

Because of the general market uncertainty, MuniFin continued to keep its largest allocations in central bank deposits also in 2023. At the end of the year, the Group's total liquidity stood at EUR 11,633 million (EUR 11,506 million).

Of this, central bank deposits totalled EUR 7,989 million (EUR 8,144 million) and investments in liquid, low-risk securities EUR 3,570 million (EUR 3,330 million), with the average credit rating of AA+ (AA+) and average maturity of 2.9 years (2.6 years). In addition to this, the Group's money market deposits in credit institutions totalled EUR 74 million (EUR 32 million). The Group's liquidity investments are hedged with interest rate swaps. Changes in interest rates therefore do not have a direct impact on profit and loss.

The Group's Sustainable Investment Framework summarises the sustainability principles, processes and responsibilities of the Group's investment operations. In addition to low credit risk and high liquidity, sustainability is a key factor in the Group's liquidity investments. The Group monitors the sustainability of its investments through their ESG *(Environmental, Social and Governance)* score, calculated quarterly by an external service provider. The ESG score takes into account what the most significant ESG risks and opportunities facing the issuer and its industry are, how exposed the issuer is to those risks and opportunities, how well the issuer manages key risks and opportunities, what the overall picture for the issuer is and how it compares to its global peer group. These aspects are evaluated through ten different ESG themes on a scale of 0 to 10 to calculate the final ESG score, where 10 corresponds to the best rating.

At the end of 2023, the Group's liquidity investments had an average ESG score of 7.59 (7.65), above the benchmark index of 7.41 (7.43). The Group held a total of EUR 635 million (EUR 498 million) in direct socially responsible investments *(SRIs)*, which is 17.8% (15.0%) of all the Group's investments in securities. The ratio of sustainable investments was higher than the market benchmark of 17.4% (8.1%). The ratio of socially responsible investments to the Group's own green and social funding was 14.0% (14.5%)

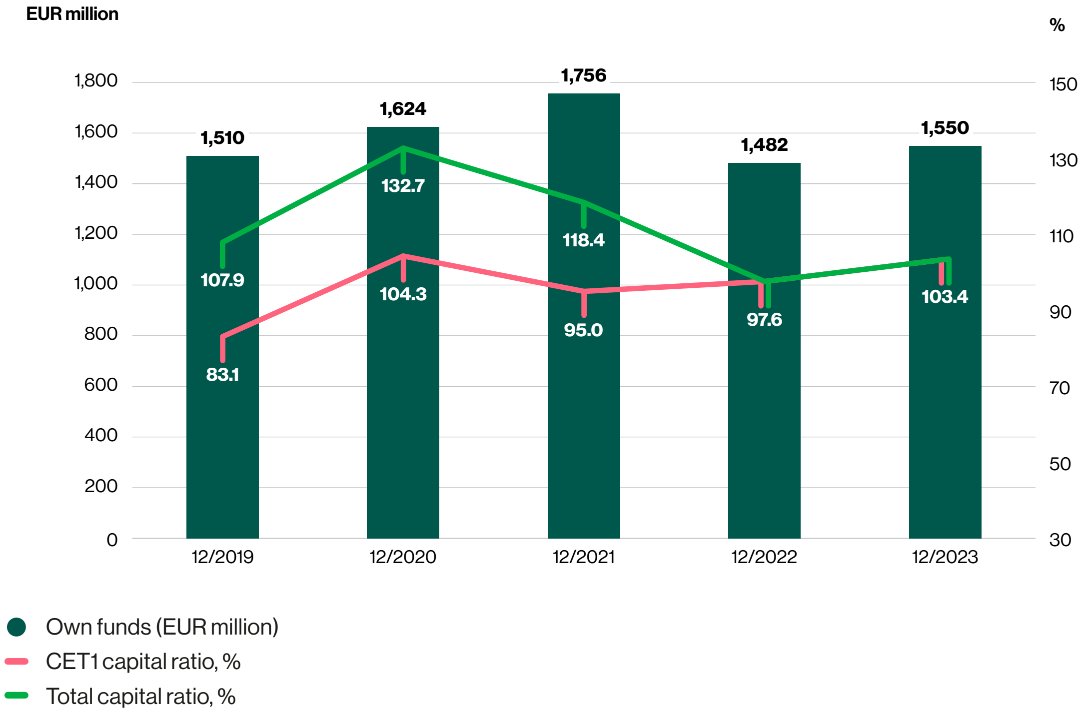
MuniFin's credit ratings

Rating agency	Long-term funding	Outlook	Short-term funding
Moody's Investors Service	Aa1	Stable	P-1
Standard & Poor's	AA+	Stable	A-1+

MuniFin's credit ratings correspond to those of the Government of Finland. The credit ratings did not change during the financial year. The Municipal Guarantee Board, which guarantees MuniFin Group's funding, also has the corresponding ratings.

Capital adequacy

MuniFin Group's own funds and capital adequacy



MuniFin Group's own funds and capital adequacy

MuniFin Group's capital adequacy is very strong. The Group's CET1 capital ratio was 103.4% (97.6%), which corresponds to its Tier 1 capital ratio and total capital ratio at the end of December 2023 (97.6%) because the Group only had CET1 capital at the time. The Group's CET1 capital ratio is over seven times the required minimum of 13.9%, taking capital buffers into account.

Consolidated own funds (EUR 1,000)	31 Dec 2023	31 Dec 2022
Common Equity Tier 1 before regulatory adjustments	1,677,800	1,546,129
Regulatory adjustments to Common Equity Tier 1	-127,991	-64,519
Common Equity Tier 1 (*CET1*)	**1,549,809**	**1,481,610**
Additional Tier 1 capital before regulatory adjustments	-	-
Regulatory adjustments to Additional Tier 1 capital	-	-
Additional Tier 1 capital (*AT1*)	**-**	**-**
Tier 1 capital (*T1*)	**1,549,809**	**1,481,610**
Tier 2 capital before regulatory adjustments	-	-
Regulatory adjustments to Tier 2 capital	-	-
Tier 2 capital (*T2*)	**-**	**-**
Total own funds	**1,549,809**	**1,481,610**

At the end of the year, the Group's CET1 capital totalled EUR 1,550 million (EUR 1,482 million). The Group had no Additional Tier 1 instruments or Tier 2 capital at the end of financial year, so its CET1 capital was therefore equal to its Tier 1 capital and total own funds, EUR 1,550 million (EUR 1,482 million).

The CET1 capital includes profit for the financial year. This profit has been subject to a financial review by auditors and can therefore be included in CET1 capital based on the permission granted by the ECB in accordance with the Capital Requirements Regulation *(CRR)*. The Board's 2023 dividend proposal of EUR 66 million has been deducted from the Group's own funds.

During the financial year the Group further developed its additional valuation adjustment *(AVA)* models, but these changes did not have a significant impact on its own funds.

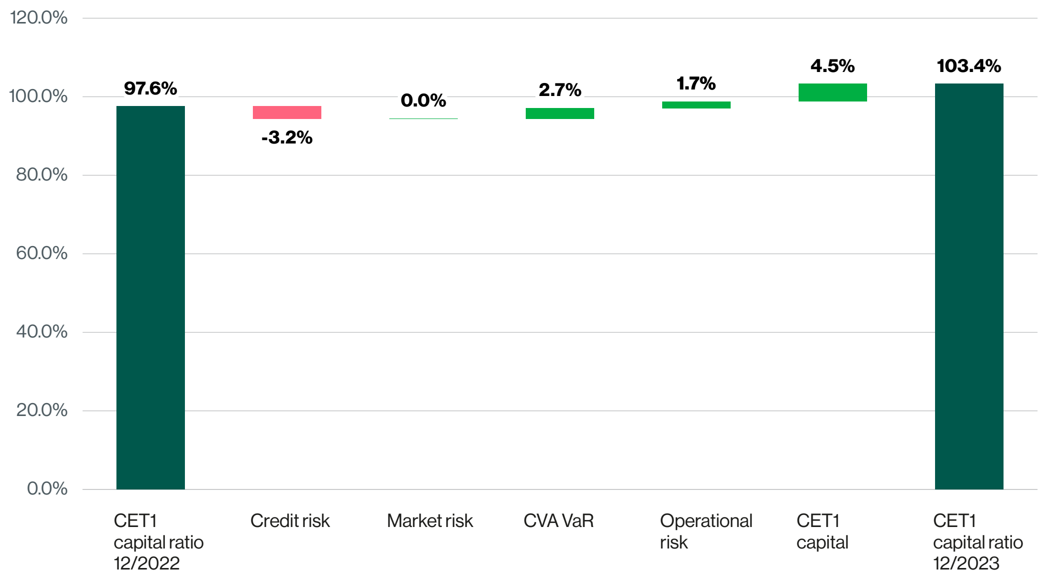
Consolidated minimum requirement for own funds (EUR 1,000)	31 Dec 2023 Capital requirement	31 Dec 2023 Risk exposure amount	31 Dec 2022 Capital requirement	31 Dec 2022 Risk exposure amount
Credit and counterparty credit risk, standardised approach	**45,826**	**572,829**	**41,727**	**521,592**
Exposures to central governments or central banks	-	0	-	0
Exposures to regional governments or local authorities	430	5,372	419	5,240
Exposures to public sector entities	441	5,507	639	7,983
Exposures to multilateral development banks	-	0	-	0
Exposures to institutions	29,511	368,890	26,800	335,004
Exposures to corporates	1,850	23,130	3,297	41,210
Exposures in the form of covered bonds	10,630	132,874	8,723	109,041
Other items	2,964	37,056	1,849	23,113
Market risk	**-**	**-**	**-**	**-**
Credit valuation adjustment risk (*CVA VaR*), standard method	**34,154**	**426,924**	**37,644**	**470,552**
Operational risk, basic indicator approach	**39,984**	**499,797**	**42,071**	**525,892**
Total	**119,964**	**1,499,550**	**121,443**	**1,518,036**

The capital requirement for counterparty risk is EUR 3,047 thousand (EUR 5,640 thousand).

The Group's total risk exposure amount decreased by 1.2% from the end of 2022, totalling EUR 1,500 million (EUR 1,518 million) at the end of the financial year.

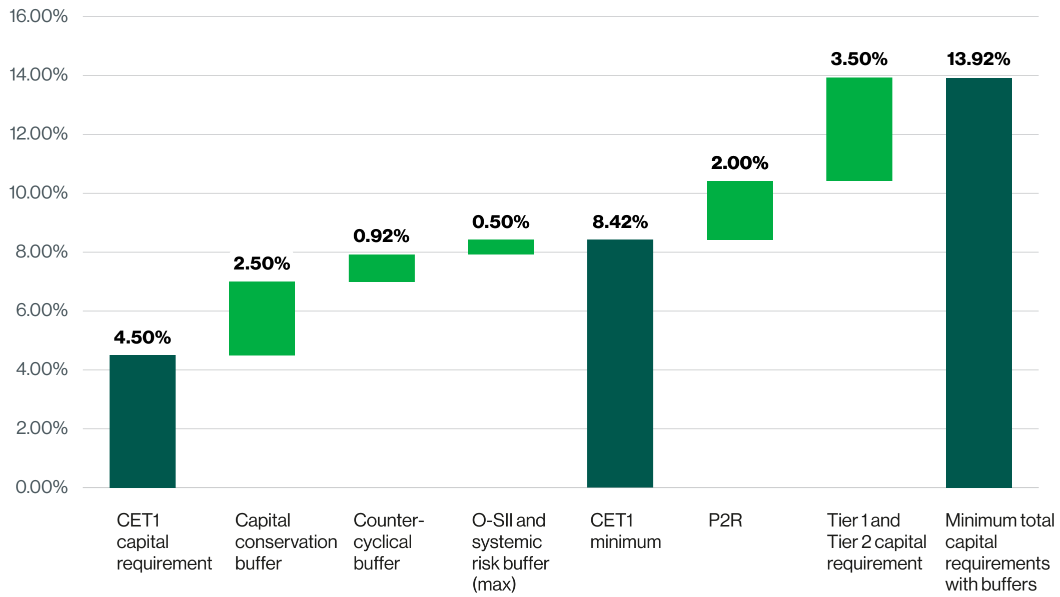
The risk exposure amount for credit and counterparty credit risk increased by EUR 51 million from the end of 2022. There was no capital requirement for market risk at the end of the financial year or in the comparison year, because the currency position was less than 2% of the Group's own funds, and, based on Article 351 of the CRR, the own funds requirement for market risk has therefore not been calculated. The credit valuation adjustment *(CVA VaR)* decreased to EUR 427 million (EUR 471 million). The risk exposure amount of operational risk was EUR 500 million (EUR 526 million). MuniFin Group has further developed in 2023 the calculation methods for calculating derivatives counterparty credit risk's risk exposures, which has diminished both CVA Var as well as SA-CCR risk exposure amount.

CET1 capital ratio changes, %



MuniFin Group will publish separately from this Financial Statements Bulletin a Pillar III Disclosure Report on its risk management, capital adequacy and remuneration in English on its website in the first week of March.

The Group's minimum capital requirements and capital buffers, %



The Group's minimum capital requirements and capital buffers

The minimum capital requirement is 8% for total capital adequacy and 4.5% for CET1 capital adequacy. Under the Act on Credit Institutions, the capital conservation buffer is 2.5%. An additional capital requirement for other systemically important credit institutions *(O-SII buffer)* is 0.5% for MuniFin Group. At the end of June 2023, the Finnish Financial Supervisory Authority *(FIN-FSA)* gave its yearly decision on O-SII buffers and kept MuniFin Group's buffer unchanged at 0.5%. At the end of March 2023, the FIN-FSA decided on a systemic risk buffer *(SyRB)* requirement of 1% for MuniFin Group. This decision is effective as of 1 April 2024 and also applies to other Finnish credit institutions at the same level. Before April 2024, the SyBR is 0%.The systemic risk buffer and the O-SII buffer are parallel buffers, of which only the greater is applied.

In December 2023, the FIN-FSA decided to keep the countercyclical capital buffer requirement unchanged at the baseline level of 0%. For MuniFin Group, the credit institution-specific countercyclical capital buffer requirement that is imposed based on the geographical distribution of exposures is 0.9% (0.8%). The Group therefore has a minimum requirement of 8.4% (8.3%) for its CET1 capital ratio and 11.9% (11.8%) for its total capital ratio.

In addition to the abovementioned requirements, the ECB has imposed a bank-specific Pillar 2 requirement *(P2R)* of 2.0% on MuniFin Group as part of the annual Supervisory Review and Evaluation Process *(SREP)*. This requirement remained unchanged from the year before. Including this P2R requirement, the total SREP capital requirement ratio *(TSCR)* was 10.0% (10.0%) at the end of December 2023.

The minimum level of total capital ratio was 13.9% (13.8%) including P2R and other additional capital buffers.

Leverage ratio, liquidity coverage ratio and net stable funding ratio

At the end of the year, MuniFin Group's leverage ratio was 12.0% (11.6%). MuniFin fulfils the CRR II definition of a public development credit institution and may therefore deduct all credit receivables from municipalities, wellbeing services counties and the central government in the calculation of its leverage ratio. The amount of credit receivables from municipalities, wellbeing services counties and the central government was EUR 35,251 million (EUR 31,853 million) at the end of the year. After the deduction, the Group's leverage ratio exposures totalled EUR 12,877 million (EUR 12,777 million). The minimum required leverage ratio is 3%.

At the end of the year, MuniFin Group's liquidity coverage ratio *(LCR)* was 409.1% (256.7%) and its net stable funding ratio *(NSFR)* was 124.1% (120.3%). Both have a minimum requirement of 100%.

Liabilities under the Act on the Resolution of Credit Institutions and Investment Firms

MuniFin's crisis resolution authority is the EU's Single Resolution Board *(SRB)*. The SRB has imposed on MuniFin a binding minimum requirement for own funds and eligible liabilities *(MREL)*. The size of the MREL requirement is 10% of the total risk exposure amount and 3% of the leverage ratio exposure. The MREL requirement takes into account the SRB's decision on the simplified resolution strategy being applied to MuniFin.

The MREL requirement took effect on 1 January 2024, but MuniFin has had to fully comply with the final MREL target levels, which equal the capital and leverage ratio requirements, from January 2022 onwards. MuniFin's own funds and eligible liabilities currently exceed the MREL requirement multiple times, and there is no present need for MuniFin to issue Tier 3 instruments.

Changes in banking regulation

In March 2023, MuniFin Group published as part of the 2022 Pillar III Disclosure Report its ESG risks in accordance with CRR Article 449a, and taking into account the requirements of the technical standard EBA/ITS/2022/01 of the European Banking Authority. During 2023, the Group started preparing for the disclosure of the phase 2 information of Green Asset Ratio (*GAR*) in March 2024.

At the end of October 2021, the European Commission published its proposal for the implementation of the final Basel III banking regulatory standards in the EU *('CRR III package')*. This reform will affect banks' solvency calculation, especially in the context of credit, market and operational risks, credit valuation adjustment *(CVA VaR)*, and leverage ratio. It also introduces a new output floor. MuniFin Group's business model is based on zero-risk-weighted customer financing, which will not change with the implementation of the Basel III package. The reform will, however, affect MuniFin's capital adequacy calculations and reporting methods.

During the financial year, the Group assessed the potential impact of the regulatory changes. According to the Group's current estimate, the changes in regulation will result in increased capital requirements related to derivatives, but otherwise their impact on capital adequacy is expected to be minor. The impact assessment entails some uncertainty because these regulatory changes are not yet interpreted in an established way. The Group nevertheless expects to exceed the minimum regulatory capital requirements many times over due to its strong capital position, also in the future. The regulatory changes are not expected to impact MuniFin's leverage ratio.

Sustainability-related reporting requirements are growing in the financial sector, increasingly obliging MuniFin and its customers to document the impacts of their operations in more detail. The Group has started preparations in connection with the Corporate Sustainability Reporting Directive (*CSRD*), approved by the European Parliament in November 2022. The implementation of CSRD into national legislation has been approved at the end of 2023. The reporting requirement applies to the Group from 2025, so that the first reporting will be done in the first half of 2026.

The Group has also started preparations for Digital Operational Resiliency Act (*DORA*) in the financial sector to take into account changes in ICT agreements and to the processes of maintaining information systems both within MuniFin Group and with IT vendors related to the systems. The regulation entered into force in January 2023 and will apply from January 2025. The regulation contains requirements aimed at improving the ability of the financial sector to tolerate errors and disturbances in information systems.

MuniFin's revised strategy, emphazising sustainability

In September 2023, the MuniFin Board of Directors ratified the Group's revised strategy. This new strategy builds on previous strategies and rather refines the Group's strategy than introduces any major reforms. This means that the core of MuniFin Group's strategy and business model remained fundamentally unchanged.

The objective of the strategy work was to clarify the interpretation of the Group's core mandate in a changed operating environment and to integrate sustainability even more broadly to the Group's operations. MuniFin's mandate is to ensure that MuniFin's limited customer base, which is assigned to carry out public duties, has access to affordable financing under all market conditions, that MuniFin Group meets its customers' financing needs in a responsible and efficient manner and that the Group seeks to serve the genuine interests of its customers in the long term.

MuniFin's core mandate highlights the determined growth of customer benefits and the long-term focus, sustainability and ease of operations, without forgetting the interests of MuniFin's owners. Together with a clear business model and the Group's values of customer centricity, responsibility and transparency, the core mandate guides the entire Group's operations.

The strategy contains key policies that guide MuniFin Group's operations in terms of its core mandate, sustainability, skills development and operational development. These key policies have the following objectives:

- Ensuring and securing MuniFin's role in the evolving Finnish society and public sector.
- Acting as a supportive partner to our customers as they build a sustainable society and managing the Group's own climate and environmental risks.
- Investing in skills development by nurturing expertise, encouraging accountability and increasing learning opportunities.
- Simplifying, streamlining and automating operations to enable the continuous improvement of customer benefits and employee experience.

MuniFin Group's financial objectives

MuniFin's core mandate is to ensure that its limited customer base, which is assigned to carry out public duties, has access to affordable financing under all market conditions. This core mandate necessitates keeping MuniFin's capital quantity and quality and liquidity at levels that exceed even the strictest regulatory requirements at all times, thus enabling the continuation of normal business operations even during financially difficult times. MuniFin has conservative risk management policies and maintains a strong risk-bearing capacity in both quantity and quality.

Due to its specialised business model, the Group's strictest regulatory capital requirement is the leverage ratio, unlike in most credit institutions. The leverage ratio requirement is a prudential tool defined under the Capital Requirements Regulation *(CRR)* that complements minimum capital adequacy requirements. Its purpose is to prevent credit institutions from building up excessive leverage. The leverage ratio is calculated as a ratio between the institution's Tier 1 capital and total exposure calculated based on the assets and off-balance sheet items as described in the regulatory framework. MuniFin fulfils the CRR II (Regulation (EU) 2019/876) definition of a public development credit institution and may therefore deduct all credit receivables from municipalities, wellbeing services counties and the central government in the calculation of its leverage ratio. After the deduction, the most significant factor affecting MuniFin's leverage ratio is the size of its liquidity portfolio, which safeguards the Group's liquidity.

MuniFin's aim is for the Group's Common Equity Tier 1 (*CET1*) capital to always surpass 7%, which is the sum of the minimum requirement set in regulation (3%) and the capital buffers set by the management (4%). The Group uses these capital buffers to prepare for events and changes that have an adverse effect on its capital position. These can include realised business risks or regulatory changes. The capital requirement for business risk is based on a strict stress test, and it mostly results from unrealised fair value changes, which are temporary in nature.

At the end of December 2023, the Group's leverage ratio calculated with CET1 capital was 12.0%. Capital exceeding the Group's minimum target covers fluctuation in capital requirements caused by changes in the total liquidity amount and safeguards the Group's continuity of operations and ability to pay dividends.

Considering that MuniFin's objective as a public development credit institution is not to maximise profits, the Group aims at a result that will ensure the Group's ability to carry out its core mandate in the long term. The Group's objective is to achieve at least a result that is sufficient to cover any increases in capital requirements arising from increased business operations and to satisfy the shareholders' expected yield in the long term. MuniFin uses long-term pricing strategies and other measures to maximise its customer benefits while also ensuring the continuity of its operations and the yield expectation of its shareholders.

In March 2023, the Annual General Meeting (*AGM*) ratified MuniFin's dividend policy. According to this policy, MuniFin aims to pay 30–60% of the Group's financial year's profit in dividends, as long as it does not jeopardise the Parent Company's solvency, liquidity or ability to meet its commitments. When drafting the annual dividend proposal and deciding on the distribution of profits, the following factors influencing the Group's capital position are taken into account on a broad spectrum:

- Uncertainties and changes in the operating environment and regulation
- Assessments of the Group's financial situation in the future
- The Group's funding position and liquidity
- Changes to the Group's risk position
- Unrealised fair value changes affecting the Group's own funds
- Assessments of the Group's liquidity development
- Views of supervisory authorities and credit rating agencies
- Accruals of possible AT1 capital instruments not recognised in profit and loss.

Risk management

MuniFin Group's operations require adequate risk management mechanisms to ensure that its risk position remains within the limits set by the Parent Company's Board of Directors. To preserve its strong credit rating, the Group applies conservative risk management principles and aims to keep the overall risk status low.

The relevant risk types associated with the Group's operations include credit and counterparty risk, market risk and liquidity risk. All business operations also involve strategic risks, ESG risks and operational risks, including compliance risk.

MuniFin Group will publish separately from this Financial Statements Bulletin a Pillar III Disclosure Report on its risk management, capital adequacy and remuneration in English on its website in the first week of March.

The Group's risk position

There were no material changes in MuniFin Group's risk position during 2023, and risks remained within the risk appetite limits set by the Board of Directors. The Russian invasion of Ukraine continued to have little effect on the Group's financial position and results. The year was marked by the shifting capital market landscape and challenging market environment. The combination of rapidly escalating inflation, soaring interest rates and worldwide issues within the banking sector caused market uncertainty that complicated the acquisition of funding. Despite these challenges, MuniFin's own funding continued in the usual manner during the financial year, and the Group has nevertheless kept as a precaution strong liquidity buffers. Russia's war of aggression mainly affects the Group's risks indirectly through market conditions. Cyberattacks targeted at the Group could also affect its risks, but the Group has carefully prepared for these.

Despite the changes in the operating environment, the Group's risk position remained stable and at a low level during the financial year. Unrealised fair value changes of financial instruments caused earnings volatility. The Group continuously monitors and analyses the volatility arising from valuations and prepares for any impacts this may have on its profit and capital adequacy.

In the first half of 2023, MuniFin Group took part in the SSM Stress Test carried out by the European Central Bank, covering the years 2023–2025. The test's results were published in July 2023. MuniFin Group's capital clearly exceeds the capital needs calculated under the stress test adverse scenario.

The Group is exposed to credit risks as part of its business, but due to the nature of its customer base, these risks are low. The Group's credit risks emerge almost exclusively from customer financing, liquidity portfolio investments and the derivatives portfolio. MuniFin also offers derivative products for its customers for hedging their interest rate positions. These products are covered with offsetting contracts from the market. The Group only uses derivatives for hedging against market risks.

In view of its credit risk mitigation techniques (mortgage collateral and guarantees received) and the exemptions set out in CRR Article 400 related to the calculation of large exposures, MuniFin Group is not exposed to the customer risk referred to in the regulation in its customer financing, and thus the customer risk of any individual customer does not exceed 10% of the Group's own funds. The amount of expected credit losses was EUR 1.2 million (EUR 0.1 million positive) recognised in the income statement for the financial year. The amount of forborne loans was EUR 491 million (EUR 80 million), while non-performing exposures amounted to EUR 140 million (EUR 7 million) at the end of the year. For these non-performing exposures, MuniFin has absolute guarantees by municipalities or by wellbeing services counties, or real estate collateral and state deficiency guarantee, and these exposures are therefore not expected to carry the risk of a final credit loss. Non-performing exposures represented less than 0.4% (0.02%) of total customer exposures.

MuniFin's credit risk position remained stable and at a low level during the year. It is expected to remain stable and in line with the Group's credit risk strategy also in the future.

Market risks include interest rate risk, exchange rate risk and other market and price risks. The Group uses derivatives to hedge against market risks. Derivatives can only be used for hedging purposes as the Group does not engage in trading activities. Interest rate risk mainly arises from the differences in reference rates applicable to the assets and liabilities in the balance sheet. The Group actively monitors and hedges its interest rate risk. Ten scenarios are used in the calculation of the net interest income *(NII)* risk, of which the least favourable outcome is considered. One-year NII risk at the end of December was EUR -18 million, and the least favourable scenario was a short rate shock up (at the end of 2022, the least favourable scenario was a parallel shock down of -200 basis points, EUR -25 million). Several scenarios are also used in the calculation of the economic value of equity *(EVE)*, of which the least favourable outcome is considered. At the end of the year, the least favourable scenario was a parallel shock up of 200 basis points, resulting in EVE of EUR -93 million (at the end of 2022, the least favourable scenario was a parallel shock up of 200 basis points, EUR -34 million).

The Group mitigates its foreign exchange *(FX)* risk by using derivative contracts to swap all funding and investments denominated in foreign currency into euros. The Group's customer financing is denominated in euros, and the Group has no significant open FX positions. In practice, a small temporary exchange rate risk may occasionally arise due to collateral management in the clearing of derivatives by central counterparties, but this risk is actively monitored and hedged. Derivatives are also used to hedge against other market and price risks.

The Group has also determined valuation risk as a significant risk for its business. During the financial year, unrealised fair value changes of financial instruments increased the Group's earnings volatility. Unrealised fair value changes were influenced in particular by changes in interest rate expectations and credit risk spreads in the Group's main funding markets and by challenges in the banking sector. The Group continuously monitors and analyses the volatility arising from valuations and prepares for any impacts this may have on its profit and capital adequacy.

The Group's market risk has remained stable despite the market changes.

MuniFin Group manages its refinancing risk by limiting the average maturity between financial assets and liabilities. In addition, the Group manages its liquidity risk by setting a limit for the minimum adequacy of the available short-term and long-term liquidity. The Group's survival horizon was almost 16 months (15 months) at the end of the year. The Group's liquidity remained good, with the liquidity coverage ratio *(LCR)* being 409.1% (256.7%) at the end of the year. The availability of long-term funding is monitored via the net stable funding ratio *(NSFR)*, which stood at 124.1% (120.3%) at the end of the year. The availability of funding remained good throughout the year, and the Group issued EUR 10,087 million (EUR 8,827 million) in long-term funding.

MuniFin Group's operational risks are estimated to be at a moderate level, and there were no material losses from operational risks in 2023.

ESG risks include environmental, social and governance risks. There have been no material changes in ESG risks during the financial year.

According to the Group's assessment, its exposure to climate and environmental risks is low. As per the Group's business model, customer receivables originate from the Finnish municipal and wellbeing services counties sectors or are from the State of Finland after credit mitigation (*state deficiency guarantee*). MuniFin Group recognises that its customers may be exposed to both physical risk caused by climate change and transition risk related to climate change mitigation. The Group can also be exposed to these risks through its customers. Identified risks are related to real estate collateral, but given the existing guarantee arrangements, even the materialisation of a climate or environmental risk is not expected to incur final credit losses. The Group's investment counterparties are governments, central banks, SSA sector entities and credit institutions. According to the Group's assessment, the impact of climate and environmental risks on these operators for the Group is minor. MuniFin Group only invests in counterparties whose risks it considers to be low. This also applies to the Group's derivative counterparties.

According to the Group's assessment, environmental and climate risks are unlikely to manifest substantially in the short term, but they may have an adverse economic effect on the Group's customers in the medium and long term. Although the Group assesses the climate and environmental risks to it as low, it recognises that as climate change progresses, the risks associated with it will increase and the uncertainty will rise. Therefore, MuniFin Group assesses its exposure to climate and environmental risks at least annually.

According to the Group's estimate, it is currently not exposed to any substantial social or governance risks. The perceived low exposure to social risks stems from the lack of identified material risks related to non-compliance with labour laws, human rights or other aspects of social justice. The Group monitors the governance of its customers and investment counterparties through an ESG scoring model, which it uses to evaluate their reported governance and other ESG factors.

In 2023, the Group continued to build its ESG risk management framework in line with regulatory requirements and feedback received from the European Central Bank. This work will continue in the coming years.

Governance

In addition to corporate legislation, MuniFin complies with the governance requirements of the Finnish Act on Credit Institutions and supervisory guidelines. The governance policy is described in more detail on MuniFin's website. MuniFin publishes at the same time with the Annual Report, a Corporate Governance Statement for 2023, pursuant to chapter 7, section 7 of the Finnish Securities Market Act. The statement includes a description of the main features of the internal audit and risk management systems pertaining to the financial reporting process. The statement also includes the governance descriptions required by the Act on Credit Institutions as well as information on how MuniFin complies with the Finnish Corporate Governance Code for listed companies published by the Finnish Securities Market Association. This code applies to Finnish listed companies, i.e. companies whose shares are listed on Nasdaq Helsinki Ltd (*Helsinki Stock Exchange*). Since MuniFin is exclusively an issuer of listed bonds, and its shares are not subject to public trading, this code does not apply directly to MuniFin.

Group structure

Municipality Finance Group (*MuniFin Group* or *the Group*) consists of Municipality Finance Plc (*MuniFin* or *the Parent Company*) and Financial Advisory Services Inspira Ltd (*Inspira*). Inspira is fully owned by MuniFin. No changes to the group structure took place in the reporting period.

General meeting

The Annual General Meeting (*AGM*) of MuniFin was held on 28 March 2023. The AGM confirmed the Financial Statements for 2022 and discharged the members of the Board of Directors, the CEO and the Deputy CEO from liability for the financial year 2022. In addition, in accordance with the proposal of the Board of Directors, the AGM authorised a dividend of EUR 1.73 per share to be paid, totalling EUR 67.6 million. The amount of distributable funds on the Group's balance sheet on 31 December 2022 was EUR 365.8 million.

Based on the proposal of the Shareholders' Nomination Committee, the AGM decided to appoint eight Board members for the 2023–2024 term, lasting from the 2023 AGM to the end of the subsequent AGM. The AGM also confirmed the Shareholders' Nomination Committee's proposal on the remuneration of Board members.

In accordance with the Board's proposal, the AGM elected KPMG Oy Ab as MuniFin's auditor, with APA Tiia Kataja as the principal auditor. Kataja acted as the principal auditor during the previous term as well. The AGM also noted that MuniFin must elect a new auditor for the term beginning in 2024 to comply with the mandatory audit firm rotation requirement. At the AGM, the Audit Committee's recommendation regarding the election of the auditor for the term starting in 2024 and the Board's proposal for auditor for the following year's annual general meeting were noted for information. The proposal of MuniFin's Board for the 2024 annual general meeting is that the new auditor will be PricewaterhouseCoopers Oy.

The AGM ratified MuniFin's dividend policy as proposed by the Board of Directors. According to this policy, MuniFin aims to pay 30–60% of the Group's financial year's profit in dividends, as long as it does not jeopardise MuniFin's solvency, liquidity or ability to meet its commitments. The dividend distribution is described in more detail in the section *MuniFin Group's financial objectives*.

Also based on the proposal of the Board of Directors, the AGM approved the incorporation of MuniFin's shares into the book-entry system at the time decided by the Board, as well as necessary changes to MuniFin's Articles of Association. The required measures for the incorporation of MuniFin's shares into the book-entry system are still in progress. In addition, more technical revisions were made to MuniFin's Articles of Association. The AGM's resolutions are published on MuniFin's website.

Board of Directors

The Shareholders' Nomination Committee made a proposal to the AGM held on 28 March 2023 regarding the members to be elected for the term that began at the end of the 2023 AGM and will conclude at the end of the subsequent AGM.

The AGM elected the following members to the Board of Directors: Maaria Eriksson, Markku Koponen, Kari Laukkanen, Tuomo Mäkinen, Minna Smedsten, Denis Strandell, Leena Vainiomäki and Arto Vuojolainen. As per the Committee's proposal, the MuniFin Board nominated Kari Laukkanen as the Chair of the Board and Maaria Eriksson as the Vice Chair.

MuniFin has statutory audit, risk and remuneration committees established by the Board of Directors. The committees act as assisting and preparatory bodies to the Board of Directors. The MuniFin Board selected Markku Koponen (Chair), Tuomo Mäkinen, Minna Smedsten and Denis Strandell as the members of the Audit Committee. In the Risk Committee, the Board selected Leena Vainiomäki (Chair), Maaria Eriksson, Kari Laukkanen and Arto Vuojolainen. In the Remuneration Committee, the Board selected Kari Laukkanen (Chair), Leena Vainiomäki and Maaria Eriksson.

From the 2022 AGM to the 2023 AGM, the members of the Board of Directors were Kari Laukkanen (Chair), Maaria Eriksson (Vice Chair), Markku Koponen, Vivi Marttila, Tuomo Mäkinen, Minna Smedsten, Denis Strandell and Leena Vainiomäki. Vivi Marttila was not available for the Board's 2023–2024 term.

The operations of the MuniFin Board of Directors and its committees are described in more detail on MuniFin's website.

Personnel

At the end of December 2023, MuniFin Group had 185 (175) employees, of which 174 (165) worked for the Parent Company. Salaries and remuneration paid across the Group amounted to EUR 16.9 million (EUR 15.5 million).

The President and CEO of MuniFin is Esa Kallio, with Mari Tyster, Executive Vice President, acting as deputy to the CEO. In addition, the MuniFin Executive Management Team includes Executive Vice Presidents Aku Dunderfelt, Toni Heikkilä, Joakim Holmström, Harri Luhtala, Minna Piitulainen and Juha Volotinen.

Salaries and remuneration

The remuneration paid to MuniFin Group's management and employees consists of fixed remuneration (base salary and fringe benefits) and a variable element based on the conditions of the remuneration scheme. The principles of the remuneration scheme are confirmed by the Parent Company's Board of Directors, and they are reviewed on an annual basis. The Remuneration Committee advises the Board of Directors on remuneration-related matters. MuniFin Group will publish separately from this Financial Statements Bulletin a Pillar III Disclosure Report on capital adequacy, risk management and remuneration in English on MuniFin's website in the first week of March.

Internal audit

The purpose of MuniFin Group's internal audit is to monitor the reliability and accuracy of the Group's information on finances and other management. It also ensures that MuniFin Group has sufficient and appropriately organised manual operations and IT systems and that the risks associated with the operations are adequately managed. Mauri Mikola has started in the position of Head of Internal Audit in March 2023.

Events after the reporting period

The MuniFin Board of Directors is not aware of any events having taken place after the end of the reporting period that would have a material effect on the Group's financial standing.

Outlook for 2024

The global economy is starting 2024 in a weakening economic cycle. The demand-slowing effects of interest rate hikes are reaching their peak and making sources of growth scarce, while fiscal policies are contracting as governments need to curb their debt. The geopolitical environment continues to remain unpredictable. On the upside, the cooling economy is helping to cushion cost pressures, and inflation is falling towards the ECB's target of 2% in the euro area. The ECB is expected to commence interest rate cuts in 2024.

In Finland, the combined effect of factors saddling growth will peak in the first half of 2024. As the months pass and inflation eases, consumer purchasing power increases and interest rates start to come down moderately, the domestic market will gradually kick off economic recovery. Towards the end of the year, the export market may also start to contribute to recovery. Because of the low starting level, Finland's GDP growth may nevertheless remain slightly in the negative in 2024.

The economic downturn will inevitably reflect on employment. In many sectors, Finland is suffering from such high structural labour shortages that strong growth in unemployment seems unlikely, but the employment outlook is nevertheless looking risky. It remains difficult to estimate how severe the construction sector's recession will become and what multiplier effects this will have in other sectors. The euro area's inflation trajectory is also looking somewhat uncertain. If inflation proves more persistent than anticipated and expected interest rate cuts are postponed, the downturn may drag on and push unemployment up more than expected.

Although Finland's government programme sports ambitious fiscal efforts, public finances are projected to continue to show a significant deficit and high levels of debt in the coming years. The higher-than-expected increase in health and social services expenditure and financing costs and the cyclical decrease in tax income are making public finances difficult to balance. After a few exceptionally strong years, the municipal sector will return into serious deficit as various positive non-recurring items cancel out, costs increase and central government transfers decrease. The main uncertainties in municipal finances stem from the general economic development, the upcoming changes to central government transfers and the potential additional costs arising from the transfer of employment and economic development services (*TE services*) to municipalities.

Considering the above-mentioned circumstances, the Group expects its net operating profit excluding unrealised fair value changes to be at the same level as or higher than in 2023. The Group expects its capital adequacy ratio and leverage ratio to remain strong. The valuation principles set in the IFRS framework may cause significant but temporary unrealised fair value changes, some of which increase the volatility of net operating profit and make it more difficult to estimate.

These estimates are based on a current assessment of the development of MuniFin Group's operations and the operating environment.

The Board's proposal concerning the use of the profit shown in the balance sheet and the distribution of dividends

Municipality Finance Plc has distributable funds of EUR 365.6 million, of which the profit for the financial year totalled EUR 67.4 million.

In accordance with the dividend policy ratified by the Annual General Meeting (*AGM*) in March 2023, MuniFin aims to pay 30–60% of the Group's financial year's profit in dividends. The Board of Directors proposes to the AGM that based on the confirmed balance sheet, EUR 1.69 per share be paid in dividend, totalling EUR 66.0 million. This is 59.7% of the Group's financial year's profit. The total dividend payment for financial year 2022 was EUR 67.6 million.

MuniFin's result for the financial year was strong The Board of Directors considers the payment of the proposed dividend to be justified. MuniFin clearly exceeds all the prudential requirements set for it. No events have taken place since the end of the financial year that would have a material effect on the Company's financial position. According to the Board's assessment, the proposed distribution of profits does not place the fulfilment of the capital requirements or the Company's liquidity in jeopardy or conflict with binding legislation.

Dividends will be paid to shareholders who are recorded in the Company's list of shareholders on 21 May 2024. The Board of Directors proposes that the dividends be paid on 28 May 2024 at the earliest.

Helsinki, 9 February 2024
Municipality Finance Plc
Board of Directors

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Development of the Group's key figures in 2019–2023

	Jan–Dec 2023	Jan–Dec 2022	Jan–Dec 2021	Jan–Dec 2020	Jan–Dec 2019
Turnover (EUR million)	2,680	759	535	532	718
Net interest income (EUR million)*	259	241	280	254	240
% of turnover	9.7	31.8	52.4	47.7	33.5
Net operating profit (EUR million)*	139	215	240	194	131
% of turnover	5.2	28.3	44.8	36.5	18.3
Unrealised fair value changes (EUR million)*	-37	45	27	-3	-54
Net operating profit excluding unrealised fair value changes (EUR million)*	176	170	213	197	186
Cost-to-income ratio, %*	32.4	23.9	21.7	21.6	29.9
Cost-to-income ratio excluding unrealised fair value changes, %*	27.4	28.4	23.8	21.3	23.2
Return on equity *(ROE)*, %*	6.6	9.9	10.7	9.4	6.8
Return on equity (*ROE*) excluding unrealised fair value changes, %*	8.4	7.8	9.6	9.6	9.6
Return on assets *(ROA)*, %*	0.2	0.4	0.4	0.4	0.3
Return on assets *(ROA)* excluding unrealised fair value changes, %*	0.3	0.3	0.4	0.4	0.4
New long-term customer financing (EUR million)*	4,370	4,375	3,671	5,157	3,486
New long-term funding (EUR million)*	10,087	8,827	9,395	10,966	7,385

	31 Dec 2023	31 Dec 2022	31 Dec 2021	31 Dec 2020	31 Dec 2019
Long-term customer financing (EUR million)*	32,022	29,144	29,214	28,022	24,798
Green finance (EUR million)*	4,795	3,251	2,328	1,786	1,263
Social finance (EUR million)*	2,234	1,734	1,161	589	-
Total funding (EUR million)*	43,320	40,210	40,712	38,139	33,929
Equity (EUR million)	1,744	1,614	1,862	1,705	1,594
Total balance sheet (EUR million)	49,736	47,736	46,360	44,042	38,934
Total liquidity (EUR million)*	11,633	11,506	12,222	10,089	9,882
Liquidity Coverage Ratio *(LCR)*, %	409.1	256.7	334.9	264.4	430.2
Net Stable Funding Ratio *(NSFR)*, %	124.1	120.3	123.6	116.4	116.3
Equity ratio, %*	3.5	3.4	4.0	3.9	4.1
CET1 capital (EUR million)	1,550	1,482	1,408	1,277	1,162
Tier 1 capital (EUR million)	1,550	1,482	1,756	1,624	1,510
Total own funds (EUR million)	1,550	1,482	1,756	1,624	1,510
CET1 capital ratio, %	103.4	97.6	95.0	104.3	83.1
Tier 1 capital ratio, %	103.4	97.6	118.4	132.7	107.9
Total capital ratio, %	103.4	97.6	118.4	132.7	107.9
Leverage ratio, %**	12.0	11.6	12.8	3.9	4.0
Personnel	185	175	164	165	167

* *Alternative performance measure.*

** *MuniFin fulfils the CRR II definition of a public development credit institution, and may therefore deduct all the credit receivables from municipalities, wellbeing services counties and the central government in the calculation of its leverage ratio. CRR II Regulation entered into force in June 2021.*

The calculation formulas for all key figures can be found on pages 43–51. All figures presented in the Financial Statements Bulletin are those of MuniFin Group, unless otherwise stated.

Key figures

MuniFin Group defines the Alternative Performance Measures (*APMs*) to be financial measures that have not been defined in the IFRS standards or the capital requirements regulation (*CRD/CRR*). The APMs improve comparability between companies in the same sector and between reporting periods and provide valuable information to the readers of the financial reports. The APMs provide a more consistent basis for comparing the results of financial periods and for assessing MuniFin Group's performance. They are also an important aspect of the way in which the Group's management defines operating targets and monitors performance.

The APMs are presented in MuniFin Group's financial reports in accordance with the guidelines for Alternative Performance Measures issued by the European Securities and Markets Authority (*ESMA*).

The calculation formulas of key ratios have been updated, where applicable, to take into account the Finnish Financial Supervisory Authority's amendments to the *Regulations and Guidelines 2/2016* (valid from 1 Jan 2023) for certain items in the income statement. The comparison data has also been updated to reflect the updated guidelines.

Alternative Performance Measure EUR million	Definition / Explanation	Reconciliation	Jan–Dec 2023	Jan–Dec 2022
Net interest income	Interest income and expense from financial assets and liabilities are recognised in net interest income. A significant part of the Group's revenues consists of net interest income.	Interest and similar income (incl. Leasing)	2,718	712
		interest and similar expense	-2,458	-471
		Net interest income	**259**	**241**
Unrealised fair value changes	According to IFRS 9 standard, part of financial instruments are measured at fair value through profit and loss which increases PnL volatility. To enhance comparability of business performance between periods and companies, it is often necessary to exclude the PnL effect of the unrealised fair value changes. Items in the calculation formula is from consolidated income statement's line item *Net income on financial instruments at fair value through profir or loss.*	Net income from financial assets and liabilities through profit or loss, unrealised fair value changes	-10	8
		Net income from hedge accounting	-27	36
		Unrealised fair value changes	**-37**	**45**
Net operating profit	Net operating profit describes the Group's operating profit before taxes.	**Net operating profit**	**139**	**215**
Net operating profit excluding unrealised fair value changes	Net operating profit excluding unrealised fair value changes as an APM is of interest for showing MuniFin Group's underlying earnings capacity.	Net operating profit	139	215
		- Unrealised fair value changes	-37	45
		Net operating profit excluding unrealised fair value changes	**176**	**170**
Income	Income, which describes the Group's total income including net interest income, is used e.g. as a denominator (excl. Commission expenses) in Cost-to-income ratio.	Net interest income	259	241
		Commission income	2	2
		Net income on financial instruments at fair value through profit or loss	-39	45
		Net income on financial assets at fair value through other comprehensive income	0	0
		Other operating income	0	0
		Income	**222**	**288**

Alternative Performance Measure EUR million	Definition / Explanation	Reconciliation	Jan–Dec 2023	Jan–Dec 2022
Income excluding unrealised fair value changes	Income excluding unrealised fair value changes reflects the Group's operating income, of which the most significant is net interest income.	Income	222	288
		- Unrealised fair value changes	-37	45
		Income excluding unrealised fair value changes	**259**	**243**
Other income	Other income includes all other income of the Group except net interest income and unrealised fair value changes.	Commission income	2	2
		Net income from financial assets and liabilities through profit or loss, realised	0	-
		Net income from FX differences	-2	0
		Net income on financial assets at fair value through other comprehensive income	0	0
		Other operating income	0	0
		Other income	**0**	**2**
Costs	Costs, which describe the Group's total costs, is used e.g. as a numerator (excl. Commission expenses) in Cost-to-income ratio.	Commission expenses	16	6
		HR and administrative expenses	41	37
		Depreciation and impairment on tangible and intangible assets	7	10
		Other operating expenses	19	20
		Costs	**82**	**73**
Costs excluding the non-recurring item	Costs excluding the non-recurring item reflects the amount of costs comparable between financial periods.	Costs	82	73
		Non-recurring item (expenses on terminated IT system implementation)	-	-5
		Costs excluding the non-recurring item	**82**	**69**
Cost-to-income ratio	Cost-to-income ratio is an established key ratio in the banking sector for assessing the relationship between expenses and income. The ratio gives investors a comparative view of MuniFin Group's cost-effectiveness.	Costs (excl. Commission expenses)	67	68
		÷ Income (incl. Net commission income)	205	283
		Cost-to-income ratio, %	**32.4%**	**23.9%**

Alternative Performance Measure EUR million	Definition / Explanation	Reconciliation	Jan–Dec 2023	Jan–Dec 2022
Cost-to-income ratio excluding unrealised fair value changes	Cost-to income ratio excluding unrealised fair value changes gives a more precise picture of MuniFin Group's operative effectiveness as it excludes the income volatility of unrealised fair value changes. It improves comparability of operative effectiveness between companies and reporting periods.	Costs (excl. Commission expenses)	67	68
		÷ (Income (incl. Net commission income)	205	283
		- Unrealised fair value changes)	-37	45
		Cost-to-income ratio excluding unrealised fair value changes, %	**27.4%**	**28.4%**
The effect of unrealised fair value changes on other comprehensive income and equity net of tax	Key indicator used in management reporting to describe the effect of unrealised fair value changes during the reporting period on the Group's comprehensive income and equity net of tax.	Unrealised fair value changes through PnL	-37	45
		Taxes related to the unrealised fair value changes through PnL	7	-9
		Net change in fair value due to changes in own credit risk on financial liabilities designated at fair value through profit or loss, net of tax	60	0
		Net change in Cost-of-Hedging, net of tax	20	-12
		Net change in fair value of financial assets at fair value through other comprehensive income, net of tax	6	-5
		Net change in expected credit loss of financial assets at fair value through other comprehensive income, net of tax	0	-
		The effect of unrealised fair value changes on other comprehensive income and equity net of tax	**57**	**19**
New long-term customer financing	Key indicator used in management reporting to describe MuniFin Group's business volume during the reporting period. The indicator includes the amount of new loans excluding unrealised fair value changes and new leased assets excluding unrealised fair value changes.	New lending	4,103	4,074
		New leased assets	268	301
		New long-term customer financing	**4,370**	**4,375**
New long-term funding	Key indicator used in management reporting to describe MuniFin Group's funding activity during the reporting period. The indicator includes the amount of new funding (over 1 year) issued excluding unrealised fair values changes.	**New long-term funding**	**10,087**	**8,827**

Alternative Performance Measure EUR million	Definition / Explanation	Reconciliation	Jan–Dec 2023	Jan–Dec 2022
Return on Equity *(ROE)*, %	ROE measures the efficiency of MuniFin Group's capital usage. It is a commonly used performance measure and as an APM improves comparability between companies. The key figure in reported annualised.	((Net operating profit	139	215
		- Taxes)	-28	-43
		÷ Equity and non-controlling interest (average of values at the beginning and end of the period)) x100	1,679	1,738
		Return on Equity *(ROE)*, %	**6.6%**	**9.9%**
Return on Equity *(ROE)* excluding unrealised fair value changes, %	MuniFin Group's strategy indicator. Excluding the unrealised changes in fair values increases comparability between reporting periods. The key figure in reported annualised.	((Net operating profit excluding unrealised fair value changes	176	170
		- Taxes)	-35	-34
		÷ Equity and non-controlling interest (average of values at the beginning and end of the period)) x100	1,679	1,738
		Return on Equity *(ROE)* excluding unrealised fair value changes, %	**8.4%**	**7.8%**
Return on Assets *(ROA)*, %	ROA measures the efficiency of MuniFin Group's investments. It is a commonly used performance measure and as an APM improves comparability between companies. The key figure in reported annualised.	((Net operating profit	139	215
		- Taxes)	-28	-43
		÷ Average balance sheet total (average of values at the beginning and end of the period)) x100	48,736	47,048
		Return on Assets *(ROA)*, %	**0.2%**	**0.4%**
Return on Assets *(ROA)* excluding unrealised fair value changes, %	Excluding the unrealised changes in fair values increases comparability of ROA between reporting periods. The key figure in reported annualised.	((Net operating profit excluding unrealised fair value changes	176	170
		- Taxes)	-35	-34
		÷ Average balance sheet total (average of values at the beginning and end of the period)) x100	48,736	47,048
		Return on Assets *(ROA)* excluding unrealised fair value changes, %	**0.3%**	**0.3%**

Alternative Performance Measure EUR million	Definition / Explanation	Reconciliation	31 Dec 2023	31 Dec 2022
Equity ratio, %	Equity ratio is an investment leverage and solvency ratio that measures the amount of assets that are financed by equity. It is a commonly used performance measure and as an APM improves comparability between companies.	(Equity and non-controlling interest	1,744	1,614
		÷ Balance sheet total) x100	49,736	47,736
		Equity ratio, %	**3.5%**	**3.4%**
Long-term loan portfolio	Key indicator used in management reporting to describe MuniFin Group's business volume.	Loans and advances to the public and public sector entities	32,022	29,144
		- Leasing	1,442	1,303
		Long-term loan portfolio	**30,580**	**27,841**
Long-term customer financing	Key indicator used in management reporting to describe MuniFin Group's business volume.	Loans and advances to the public and public sector entities	32,022	29,144
		Long-term customer financing	**32,022**	**29,144**
Long-term customer financing excluding unrealised fair value changes	Key indicator used in management reporting to describe MuniFin Group's business volume. In this indicator the unrealised fair value changes have been excluded to enhance comparability of business performance between periods.	Loans and advances to the public and public sector entities	32,022	29,144
		- Unrealised fair value changes	926	1,516
		Long-term customer financing excluding unrealised fair value changes	**32,948**	**30,660**
Ratio of green finance and social finance to long-term customer financing excluding unrealised fair value changes	Key indicator used in management reporting to describe MuniFin Group's business volume.	Green finance	4,795	3,251
		Social finance	2,234	1,734
		(Total of green and social finance	**7,029**	**4,985**
		÷ Long-term customer financing excluding unrealised fair value changes) x100	32,948	30,660
		Ratio of green finance and social finance to long-term customer financing excluding unrealised fair value changes	**21.3%**	**16.3%**
Short-term customer financing	Key indicator used in management reporting to describe MuniFin Group's business volume.	Debt securities, commercial papers from customers	1,575	1,457
		Short-term customer financing	**1,575**	**1,457**

Alternative Performance Measure EUR million	Definition / Explanation	Reconciliation	31 Dec 2023	31 Dec 2022
Total funding	Key indicator used in management reporting to describe MuniFin Group's funding volume.	Liabilities to credit institutions	214	2,333
		Liabilities to the public and public sector entities	2,588	2,530
		Debt securities issued	40,602	35,592
		Total	**43,404**	**40,454**
		- CSA collateral (received)	-82	-244
		- Liabilities to credit institutions, payable on demand	-2	-
		Total funding	**43,320**	**40,210**
Long-term funding	Key indicator used in management reporting to describe MuniFin Group's funding volume.	Total funding	43,320	40,210
		- Short-term issued funding *(ECP)*	-3,987	-4,650
		Long-term funding	**39,332**	**35,560**
Total liquidity	Key indicator used in management reporting to describe MuniFin Group's liquidity position.	Debt securities	5,145	4,787
		- Short-term customer financing	-1,575	-1,457
		Investments in securities total	**3,570**	**3,330**
		Cash and balances with central banks	0	0
		Deposits	8,063	8,176
		Other investments total	**8,063**	**8,176**
		Total liquidity	**11,633**	**11,506**
Ratio of socially responsible investments to MuniFin Group's own green and social funding	Key indicator used in management reporting for social responsibility area.	(Socially responsible investments	635	498
		÷Green and social funding) x100	4,523	3,430
		Ratio of socially responsible investments to MuniFin Group's own green and social funding	**14.0%**	**14.5%**

Other measures EUR million	Definition	Reconciliation	Jan–Dec 2023	Jan–Dec 2022
Turnover	Defined in IFRS (IAS 1). Turnover is not disclosed in MuniFin Group's income statement so the formula for turnover should be given even though it is not considered to be an APM.	Interest and similar income (incl. Leasing)	2,718	712
		Commission income	2	2
		Net income on financial instruments at fair value through profit or loss	-39	45
		Net income on financial assets at fair value through other comprehensive income	0	0
		Other operating income	0	0
		Turnover	**2,680**	**759**
			31 Dec 2023	**31 Dec 2022**
Liquidity Coverage Ratio *(LCR)*, %	Defined in CRR.	(Liquid assets	10,909	10,882
		÷ (Liquidity outflows - liquidity inflows in a stress situation)) x100	2,667	4,240
		Liquidity Coverage Ratio *(LCR)*, %	**409.1%**	**256.7%**
Net Stable Funding Ratio *(NSFR)*, %	Defined in CRR.	(Available Stable Funding (*ASF*)	36,279	31,966
		÷ Required Stable Funding (*RSF*)) x100	29,244	26,583
		Net Stable Funding Ratio *(NSFR)*, %	**124.1%**	**120.3%**
CET1 capital ratio, %	Defined in CRR.	(Common Equity Tier 1 (*CET1*) capital	1,550	1,482
		÷ Risk exposure amount) x100	1,500	1,518
		CET1 capital ratio, %	**103.4%**	**97.6%**

Other measures EUR million	Definition	Reconciliation	31 Dec 2023	31 Dec 2022
Tier 1 capital ratio, %	Defined in CRR.	(Tier 1 capital	1,550	1,482
		÷ Risk exposure amount) x100	1,500	1,518
		Tier 1 capital ratio, %	**103.4%**	**97.6%**
Total capital ratio, %	Defined in CRR.	(Total own funds	1,550	1,482
		÷ Risk exposure amount) x100	1,500	1,518
		Total capital ratio, %	**103.4%**	**97.6%**
Leverage ratio, %	Defined in CRR.	(Tier 1 capital	1,550	1,482
		÷ Total exposure) x100	12,877	12,777
		Leverage ratio, %	**12.0%**	**11.6%**

MuniFin Group's Financial Statements Bulletin tables

MuniFin

Consolidated income statement

(EUR 1,000)	Note	Jan–Dec 2023	Jan–Dec 2022	Jul–Dec 2023	Jul–Dec 2022
Interest and similar income	(2)	2,717,519	711,740	1,659,024	470,788
Interest and similar expense	(2)	-2,458,266	-470,585	-1,524,139	-351,349
Net interest income		**259,253**	**241,155**	**134,886**	**119,439**
Commission income		2,275	2,302	1,173	1,127
Commission expense		-15,638	-5,517	-7,907	-2,756
Net income on financial instruments at fair value through profit and loss	(3)	-39,461	44,583	-34,423	28,439
Net income on financial assets at fair value through other comprehensive income		-257	-149	-	-149
Other operating income		139	90	37	24
HR and administrative expenses		-40,711	-37,361	-20,664	-18,758
Depreciation and impairment on tangible and intangible assets	(9)	-6,543	-10,423	-3,405	-2,874
Other operating expenses		-19,271	-19,774	-6,709	-858
Credit loss and impairments on financial assets	(10)	-1,203	118	-985	858
Net operating profit		**138,583**	**215,024**	**62,002**	**124,492**
Income tax expense		-28,058	-43,023	-12,393	-23,894
Profit for the period		**110,526**	**172,001**	**49,609**	**100,598**

In the consolidated income statement, where applicable, the Finnish Financial Supervisory Authority's amendments to the *Regulations and Guidelines 2/2016* (valid from 1 Jan 2023) have been taken into account for certain items in the income statement.

The accompanying notes are an integral part of the Financial Statements Bulletin.

Consolidated statement of comprehensive income

(EUR 1,000)	Note	Jan–Dec 2023	Jan–Dec 2022	Jul–Dec 2023	Jul–Dec 2022
Profit for the period		110,526	172,001	49,609	100,598
Components of other comprehensive income					
Items not to be reclassified to income statement in subsequent periods					
Net change in fair value due to changes in own credit risk on financial liabilities designated at fair value through profit or loss	(3)	75,401	-184	44,068	30,168
Net change in Cost-of-Hedging	(4)	25,417	-15,166	35,756	11,810
Items to be reclassified to income statement in subsequent periods					
Net change in fair value of financial assets at fair value through other comprehensive income		7,851	-5,961	8,622	-1,686
Net amount reclassified to the income statement on the sales of financial assets at fair value through other comprehensive income		287	-	-	-
Net change in expected credit loss of financial assets at fair value through other comprehensive income	(10)	-2	3	2	3
Taxes related to components of other comprehensive income		-21,791	4,262	-17,690	-8,059
Total components of other comprehensive income		87,163	-17,046	70,758	32,235
Total comprehensive income for the period		**197,689**	**154,955**	**120,367**	**132,833**

The accompanying notes are an integral part of the Financial Statements Bulletin.

Consolidated statement of financial position

(EUR 1,000)	Note	31 Dec 2023	31 Dec 2022
Assets			
Cash and balances with central banks	(7)	2	2
Loans and advances to credit institutions		9,187,071	9,625,488
Loans and advances to the public and public sector entities		32,021,717	29,144,361
Debt securities		5,144,963	4,786,768
Derivative contracts	(8)	1,856,769	2,707,103
Intangible assets	(9)	6,311	8,831
Tangible assets	(9)	9,648	5,062
Other assets		1,073,885	1,234,810
Accrued income and prepayments		435,982	223,104
Deferred tax assets		9	763
Total assets	**(5, 6)**	**49,736,359**	**47,736,293**

(EUR 1,000)	Note	31 Dec 2023	31 Dec 2022
Liabilities and equity			
Liabilities			
Liabilities to credit institutions	(11)	213,695	2,332,623
Liabilities to the public and public sector entities		2,588,275	2,529,585
Debt securities issued	(12)	40,601,646	35,592,065
Derivative contracts	(8)	3,372,514	4,616,111
Provisions and other liabilities	(13)	418,275	593,848
Accrued expenses and deferred income		474,620	166,635
Deferred tax liabilities		323,517	291,717
Total liabilities	**(5, 6)**	**47,992,542**	**46,122,584**
Equity			
Share capital		42,583	42,583
Reserve fund		277	277
Fair value reserve of investments		2,052	-4,457
Own credit revaluation reserve		60,238	-83
Cost-of-Hedging reserve	(4)	21,821	1,488
Reserve for invested non-restricted equity		40,366	40,366
Retained earnings		1,576,480	1,533,535
Total equity attributable to Parent Company equity holders		**1,743,817**	**1,613,709**
Total equity		**1,743,817**	**1,613,709**
Total liabilities and equity		**49,736,359**	**47,736,293**

The accompanying notes are an integral part of the Financial Statements Bulletin.

Consolidated statement of changes in equity

(EUR 1,000)	Share capital	Reserve fund	Fair value reserve of investments	Own credit revaluation reserve	Cost-of-Hedging reserve	Reserve for invested non-restricted equity	Retained earnings	Total	Other equity instruments issued	Total equity
	Total equity attributable to Parent Company equity holders									
Equity at 31 December 2021	**42,583**	**277**	**309**	**64**	**13,621**	**40,366**	**1,416,916**	**1,514,136**	**347,454**	**1,861,590**
Redemption of Additional Tier 1 capital instrument	-	-	-	-	-	-	-2,546	-2,546	-347,454	-350,000
Interest paid on Additional Tier 1 capital instrument	-	-	-	-	-	-	-12,600	-12,600	-	-12,600
Dividends paid for 2021	-	-	-	-	-	-	-40,236	-40,236	-	-40,236
Profit for the financial year	-	-	-	-	-	-	172,001	172,001	-	172,001
Components of other comprehensive income net of tax										
Items not to be reclassified to income statement in subsequent periods										
Net change in fair value due to changes in own credit risk on financial liabilities designated at fair value through profit or loss	-	-	-	-147	-	-	-	-147	-	-147
Net change in Cost-of-Hedging	-	-	-	-	-12,133	-	-	-12,133	-	-12,133
Items to be reclassified to income statement in subsequent periods										
Net change in fair value of financial assets at fair value through other comprehensive income	-	-	-4,769	-	-	-	-	-4,769	-	-4,769
Net amount reclassified to the income statement on the sales of financial assets at fair value through other comprehensive income	-	-	-	-	-	-	-	-	-	-
Net change in expected credit loss of financial assets at fair value through other comprehensive income	-	-	2	-	-	-	-	2	-	2
Equity at 31 December 2022	**42,583**	**277**	**-4,457**	**-83**	**1,488**	**40,366**	**1,533,535**	**1,613,709**	**-**	**1,613,709**

	Total equity attributable to Parent Company equity holders									
(EUR 1,000)	**Share capital**	**Reserve fund**	**Fair value reserve of investments**	**Own credit revaluation reserve**	**Cost-of-Hedging reserve**	**Reserve for invested non-restricted equity**	**Retained earnings**	**Total**	**Other equity instruments issued**	**Total equity**
Redemption of Additional Tier 1 capital instrument	-	-	-	-	-	-	-	-	-	-
Interest paid on Additional Tier 1 capital instrument	-	-	-	-	-	-	-	-	-	-
Dividends paid for 2022	-	-	-	-	-	-	-67,580	-67,580	-	-67,580
Profit for the financial year	-	-	-	-	-	-	110,526	110,526	-	110,526
Components of other comprehensive income net of tax										
Items not to be reclassified to income statement in subsequent periods										
Net change in fair value due to changes in own credit risk on financial liabilities designated at fair value through profit or loss	-	-	-	60,320	-	-	-	60,320	-	60,320
Net change in Cost-of-Hedging	-	-	-	-	20,334	-	-	20,334	-	20,334
Items to be reclassified to income statement in subsequent periods										
Net change in fair value of financial assets at fair value through other comprehensive income	-	-	6,281	-	-	-	-	6,281	-	6,281
Net amount reclassified to the income statement on the sales of financial assets at fair value through other comprehensive income	-	-	230	-	-	-	-	230	-	230
Net change in expected credit loss of financial assets at fair value through other comprehensive income	-	-	-2	-	-	-	-	-2	-	-2
Equity at 31 December 2023	**42,583**	**277**	**2,052**	**60,238**	**21,821**	**40,366**	**1,576,480**	**1,743,817**	**-**	**1,743,817**

The accompanying notes are an integral part of the Financial Statements Bulletin.

Consolidated statement of cash flows

(EUR 1,000)	Jan–Dec 2023	Jan–Dec 2022
Cash flow from operating activities	**84,900**	**-7,975,442**
Net change in long-term funding	2,782,391	2,063,033
Net change in short-term funding	-719,460	1,103,027
Net change in long-term loans	-2,305,076	-1,637,350
Net change in short-term loans	-107,788	-368,992
Net change in investments	2,566	-7,919,967
Net change in collaterals	166,962	-1,332,255
Interest on assets	1,517,912	97,307
Interest on liabilities	-1,196,347	93,906
Other income	62,955	54,080
Payments of operating expenses	-84,091	-61,490
Taxes paid	-35,125	-66,742
Cash flow from investing activities	**-545**	**-3,550**
Acquisition of tangible assets	-7	-16
Proceeds from sale of tangible assets	138	149
Acquisition of intangible assets	-676	-3,684
Cash flow from financing activities	**-69,765**	**-407,887**
Redemption of AT1 capital instrument	-	-350,000
Paid interest on AT1 capital instrument	-	-15,750
Dividend paid	-67,580	-40,236
Total cash flow from leases	-2,185	-1,902
Change in cash and cash equivalents	**14,590**	**-8,386,879**
Cash and cash equivalents at 1 Jan	**48,624**	**8,435,504**
Cash and cash equivalents at 31 Dec	**63,214**	**48,624**

The accompanying notes are an integral part of the Financial Statements Bulletin.

Notes to the Financial Statements Bulletin

MuniFin

Note 1. Basis of preparation of the Financial Statements Bulletin

MuniFin Group's Consolidated Financial Statements have been prepared in accordance with International Financial Reporting Standards (*IFRS*). The Financial Statements Bulletin complies with IAS 34 *Interim Financial Reporting* standard and the accounting policies presented in the Consolidated Financial Statements 2022 (Note *1*). No significant changes have been made to the accounting policies compared to the Consolidated Financial Statements 2022.

In the Financial Statements Bulletin, where applicable, the Finnish Financial Supervisory Authority's amendments to the *Regulations and Guidelines 2/2016* (valid from 1 Jan 2023) have been taken into account for certain items in the income statement. The comparison data has also been updated to reflect the updated guidelines.

Line item in the income statement until the end of 2022	Line item in the income statement from beginning of 2023
Net income from securities and foreign exchange transactions	Net income on financial instruments at fair value through profit or loss
Hedge accounting	Net income on financial instruments at fair value through profit or loss
Administrative expenses	HR and administrative expenses

The Financial Statements Bulletin is based on the audited 2023 Financial Statements. The Auditor's Report has been issued on 9 February 2024.

The figures in the Notes to the Financial Statements Bulletin are presented in thousand euro. All figures in the Financial Statements Bulletin have been rounded, so the total of individual figures may differ from the total figure presented. The Financial Statements Bulletin is available in Finnish and English. The Finnish version is official and will be used if there is any discrepancy between the language versions.

Management judgement and key uncertainty factors related to estimates

In preparing the Financial Statements Bulletin under IFRS, the Group's management is required to make certain estimates and use judgement. The key assumptions made by the Group concern key uncertainty factors pertaining to the future and the estimates at the reporting date.

Management judgement related to the determination of fair value

The level of management judgement required in establishing the fair value of financial instruments for which there is a quoted price in an active market is usually minimal. For the valuation of financial instruments where prices quoted in active markets are not available, the Group uses valuation techniques to establish fair value. These valuation techniques involve some level of management estimation and judgement, the degree of which will depend on the observability of the input parameters and the instrument's complexity. For instruments valued using valuation models which are standard across the industry and where all inputs are quoted in active markets, the level of subjectivity or judgement required is low. The level of subjectivity and degree of management judgement required is more significant for those instruments valued using sophisticated models and where some or all of the inputs are less liquid or unobservable. Management judgement is required in the selection and application of appropriate parameters, assumptions and modelling techniques in particular where data is obtained from infrequent market transactions or extrapolation techniques are applied.

MuniFin Group discloses financial assets and liabilities according to their fair value hierarchy levels in the Notes to the Financial Statements Bulletin. Management judgement is required in determining the hierarchy level to which a financial instrument should be classified specifically when the valuation is determined by a number of inputs, of which some are observable and others not. Furthermore, the classification of an instrument can change over time to reflect changes in input liquidity. The Group also discloses a sensitivity analysis of the impact on the level 3 financial instruments by using reasonably possible alternatives for the unobservable input. The determination of reasonably possible alternatives requires management judgement.

The valuation methods and controls and quantitative disclosures with respect to the determination of fair value as well as the fair value hierarchy levels and sensitivity analysis are disclosed in Note *6 Fair values of financial assets and liabilities*. The changes in the fair values of financial instruments impact the income statement line item *Net income on financial instruments at fair value through profit or loss* as well as the other comprehensive income line items *Net change in fair value of financial assets at fair value through other comprehensive income, Net change in fair value due to changes in own credit risk on financial liabilities designated at fair value through profit or loss* and *Net change in Cost-of-Hedging.*

<u>Management judgement related to the expected credit losses</u>

The measurement of impairment losses under IFRS 9 across all categories of financial assets requires judgement, in particular, with the estimation of the amount and timing of future cash flows and collateral values when determining impairment losses and the assessment of a significant increase in credit risk. These estimates are driven by a number of factors, changes in which can result in different levels of allowances. Expected credit losses are disclosed in Note *10 Credit risks of financial assets and other commitments.* The changes of the expected credit losses are recognised under the income statement line *Credit loss and impairments of financial assets*.

The Group's ECL calculations are an output of complex models with a number of underlying assumptions regarding the choice of variable inputs and their interdependencies. Elements of ECL models that are considered accounting judgements and estimates include:

- The Group's internal credit scoring model, which assigns probabilities of default (*PD*) to the individual grades.
- The Group's criteria for assessing if there has been a significant increase in credit risk and qualitative assessment.
- Development of ECL models, including the various formulas and the choice of inputs.
- Determination of relationships between macroeconomic scenarios and, economic inputs, such as unemployment levels and collateral values and their effect on PDs, EADs (*Exposures at Default*) and LGDs (*Loss Given Default*).
- Selection of forward-looking macroeconomic scenarios and their probability weightings, to derive the economic inputs into the ECL models.

The Group regularly reviews its models in the context of actual loss experience and adjusts them when necessary. MuniFin Group has updated in the first half of 2023 the probability of defaults according to the update cycle. In addition, macro scenarios were updated to take into account forward-looking information at the end of the financial year. At the same time, the recovery rates used in loss given default calculations were updated as well as loss given default for certain customer segments.

The Group has assessed the impact of rapidly increased interest rate environment on its receivables from customer financing and on credit risk. At the end of June 2023, the Group's management decided to record an additional discretionary provision of EUR 609 thousand based on a group-specific assessment as some customers may face challenges in the sufficiency of cash flows during the second half of 2023. At the end of the financial year 2023, the Group's management assessed again the need of additional discretionary provision and recognised an additional provision of EUR 16 thousand. Based on the Group's assessment some customer may face challenges in the sufficiency of cash flows during the first half of 2024, which may appear in increased payment delays and forbearances for MuniFin Group. The total amount of additional discretionary provision based on a group-specific assessment was EUR 625 thousand at the end of 2023. The additional discretionary provision relates to the balance sheet item *Loans and advances to the public and public sector entities*. The additional discretionary provision has not been allocated to the contract level.

Note 2. Interest income and expense

(EUR 1,000)	Jan–Dec 2023 Interest and similar income	Jan–Dec 2023 Interest and similar expense	Jan–Dec 2023 Net	Jan–Dec 2022 Interest and similar income	Jan–Dec 2022 Interest and similar expense	Jan–Dec 2022 Net
Assets						
Amortised cost						
Cash and balances with central banks	-	-	-	30,304	-26,828	3,475
Loans and advances to credit institutions	317,664	-29	317,636	8,290	-8,346	-56
Loans and advances to the public and public sector entities	779,143	-	779,143	220,905	-	220,905
Debt securities	46,110	-23	46,087	5,345	-3,206	2,140
Other assets	45,861	-	45,861	8,019	-	8,019
Fair value through other comprehensive income						
Debt securities	6,982	-	6,982	9	-	9
Designated at fair value through profit or loss						
Loans and advances to the public and public sector entities	348	-	348	348	-	348
Debt securities	27,395	-	27,395	9,436	-	9,436
Mandatorily at fair value through profit or loss						
Loans and advances to the public and public sector entities	1,033	-	1,033	827	-	827
Fair value through profit or loss						
Derivative contracts at fair value through profit or loss	441,616	-348,450	93,166	92,225	-87,665	4,560
Derivative contracts in hedge accounting	356,190	-	356,190	-34,804	-	-34,804
Leased assets	38,640	-	38,640	10,177	-	10,177
Interest on non-financial other assets	2	-	2	6	-	6
Interest on assets	**2,060,984**	**-348,502**	**1,712,482**	**351,089**	**-126,045**	**225,044**
, of which interest income/expense according to the effective interest method	*1,195,761*	*-52*		*272,863*	*-38,380*	

(EUR 1,000)	Jan–Dec 2023 Interest and similar income	Jan–Dec 2023 Interest and similar expense	Jan–Dec 2023 Net	Jan–Dec 2022 Interest and similar income	Jan–Dec 2022 Interest and similar expense	Jan–Dec 2022 Net
Liabilities						
Amortised cost						
Liabilities to credit institutions	-	-26,276	-26,276	11,575	-12,570	-995
Liabilities to the public and public sector entities	-	-37,557	-37,557	-	-44,838	-44,838
Debt securities issued	-	-466,008	-466,008	778	-263,148	-262,370
Provisions and other liabilities	-	-17,106	-17,106	-	-4,286	-4,286
Designated at fair value through profit or loss						
Liabilities to credit institutions	-	-1,005	-1,005	-	-54	-54
Liabilities to the public and public sector entities	-	-37,034	-37,034	-	-34,195	-34,195
Debt securities issued	-	-369,060	-369,060	-	-157,748	-157,748
Fair value through profit or loss						
Derivative contracts at fair value through profit or loss	656,535	-604,280	52,255	348,298	-139,384	208,915
Derivative contracts in hedge accounting	-	-551,439	-551,439	-	311,682	311,682
Interest on liabilities	**656,535**	**-2,109,764**	**-1,453,229**	**360,651**	**-344,540**	**16,111**
, of which interest income/expense according to the effective interest method	-	*-546,947*		*12,353*	*-324,841*	
Total interest income and expense	**2,717,519**	**-2,458,266**	**259,253**	**711,740**	**-470,585**	**241,155**

Interest income on stage 3 financial assets in the expected credit loss (*ECL*) calculations totalled EUR 1,726 thousand (EUR 743 thousand) during the financial year. These are included in the line items *Loans and advances to the public and public sector entities* and *Leased assets*.

Interest expense on provisions and other liabilities includes EUR 52 thousand (EUR 51 thousand) of interest on lease liabilities recognised in accordance with IFRS 16 *Leases* standard.

Interest expenses on financial assets at amortised cost on cash and balances with central banks consisted of interest paid on central bank deposits, and interest on loans and advances to credit institutions of interest on cash collateral receivables in the comparison period. Interest expenses on debt securities consist of interest paid on short-term lending in money market instruments. The derivative contracts contained in this line item hedge financial assets which are designated at fair value through profit or loss, derivative contracts with municipalities and derivative contracts hedging derivatives with municipalities, in addition to derivative contracts used for hedging interest rate risk of the balance sheet, for which no hedged item has been specified. Derivative contracts in hedge accounting hedge line items *Loans and advances to the public and public sector entities* and *Leased assets*.

Interest income on financial liabilities at amortised cost to credit institutions in the comparison period consisted of interest received on cash collateral liabilities as well as on TLTRO III debt, and interest income on debt securities issued consisted of interest received on ECPs. Interest income on derivative contracts at fair value through profit or loss consists of positive interest expense on derivatives that are not included in hedge accounting. Derivative contracts contained in this line item hedge financial liabilities which are designated at fair value through profit or loss. Derivative contracts in hedge accounting are used as hedges for line items *Liabilities to credit institutions, Liabilities to the public and public sector entities* and *Debt securities issued*.

	Jul–Dec 2023			Jul–Dec 2022		
(EUR 1,000)	Interest and similar income	Interest and similar expense	Net	Interest and similar income	Interest and similar expense	Net
Assets						
Amortised cost						
Cash and balances with central banks	-	-	-	30,304	-3,234	27,070
Loans and advances to credit institutions	184,547	48	184,595	8,254	-4,524	3,730
Loans and advances to the public and public sector entities	459,034	-	459,034	145,105	-	145,105
Debt securities	27,661	-	27,661	5,337	-721	4,616
Other assets	26,823	-	26,823	6,833	-	6,833
Fair value through other comprehensive income						
Debt securities	4,879	-	4,879	9	174	183
Designated at fair value through profit or loss						
Loans and advances to the public and public sector entities	174	-	174	174	-	174
Debt securities	15,687	-	15,687	6,245	-	6,245
Mandatorily at fair value through profit or loss						
Loans and advances to the public and public sector entities	573	-	573	404	-	404
Fair value through profit or loss						
Derivative contracts at fair value through profit or loss	265,584	-215,263	50,321	58,125	-44,283	13,842
Derivative contracts in hedge accounting	212,440	-	212,440	12,807	-	12,807
Leased assets	23,285	-	23,285	5,930	-	5,930
Interest on non-financial other assets	1	-	1	2	-	2
Interest on assets	**1,220,689**	**-215,215**	**1,005,474**	**279,530**	**-52,588**	**226,942**
, of which interest income/expense according to the effective interest method	*702,945*	*48*		*195,833*	*-8,305*	

(EUR 1,000)	Jul–Dec 2023 Interest and similar income	Jul–Dec 2023 Interest and similar expense	Jul–Dec 2023 Net	Jul–Dec 2022 Interest and similar income	Jul–Dec 2022 Interest and similar expense	Jul–Dec 2022 Net
Liabilities						
Amortised cost						
Liabilities to credit institutions	-	-5,724	-5,724	-654	-10,223	-10,877
Liabilities to the public and public sector entities	-	-18,295	-18,295	-	-24,430	-24,430
Debt securities issued	-	-270,372	-270,372	15	-134,099	-134,084
Provisions and other liabilities	-	-9,796	-9,796	-	-2,434	-2,434
Designated at fair value through profit or loss						
Liabilities to credit institutions	-	-704	-704	-	-27	-27
Liabilities to the public and public sector entities	-	-18,975	-18,975	-	-17,648	-17,648
Debt securities issued	-	-184,549	-184,549	-	-127,038	-127,038
Fair value through profit or loss						
Derivative contracts at fair value through profit or loss	438,336	-441,208	-2,872	191,897	-72,550	119,347
Derivative contracts in hedge accounting	-	-359,299	-359,299	-	89,687	89,687
Interest on liabilities	**438,336**	**-1,308,924**	**-870,588**	**191,258**	**-298,761**	**-107,503**
, of which interest income/expense according to the effective interest method	-	*-304,188*		*-639*	*-171,185*	
Total interest income and expense	**1,659,024**	**-1,524,139**	**134,886**	**470,788**	**-351,349**	**119,439**

Note 3. Net income on financial instruments at fair value through profit or loss

(EUR 1,000)	Jan–Dec 2023 Capital gains	Jan–Dec 2023 Capital losses	Jan–Dec 2023 Unrealised fair value changes	Jan–Dec 2023 Total	Jul–Dec 2023 Capital gains	Jul–Dec 2023 Capital losses	Jul–Dec 2023 Unrealised fair value changes	Jul–Dec 2023 Total
Financial assets								
Designated at fair value through profit or loss								
Loans and advances to the public and public sector entities	-	-	2,592	2,592	-	-	1,819	1,819
Debt securities	-	-	120,709	120,709	-	-	104,863	104,863
Mandatorily at fair value through profit or loss								
Loans and advances to the public and public sector entities	-	-	-827	-827	-	-	-925	-925
Financial liabilities								
Designated at fair value through profit or loss								
Liabilities to credit institutions	-	-	-1,212	-1,212	-	-	-1,838	-1,838
Liabilities to the public and public sector entities	-	-	-76,384	-76,384	-	-	-54,474	-54,474
Debt securities issued: commercial papers	-	-	1,937	1,937	-	-	2,060	2,060
Debt securities issued: bonds	-	-	-309,603	-309,603	-	-	-151,433	-151,433
Derivative contracts at fair value through profit or loss	123	-211	252,443	252,354	-	-	89,008	89,008
Day 1 gain or loss	-	-	42	42	-	-	21	21
Net income from financial assets and liabilities through profit or loss	**123**	**-211**	**-10,303**	**-10,391**	**-**	**-**	**-10,900**	**-10,900**
Net income from FX differences	**108,801**	**-102,714**	**-8,009**	**-1,923**	**44,308**	**-47,864**	**1,776**	**-1,780**
Net income from hedge accounting	**-**	**-**	**-27,147**	**-27,147**	**-**	**-**	**-21,743**	**-21,743**
Total	**108,924**	**-102,926**	**-45,460**	**-39,461**	**44,308**	**-47,864**	**-30,867**	**-34,423**

Line item *Net income from financial assets and liabilities through profit or loss* includes fair value changes of financial assets and liabilities measured at fair value through profit or loss, fair value changes of derivative contracts not included in hedge accounting (derivative contracts at fair value through profit or loss) as well as capital gains and losses related to these items. Line item *Net income from FX differences* includes unrealised and realised translation differences for all items denominated in foreign currencies. The breakdown of line item *Net income from hedge accounting* is presented in Note *4 Hedge accounting*. The reconciliation for Day 1 gain or loss is presented in Note *6 Fair values of financial assets and liabilities.*

(EUR 1,000)	Jan–Dec 2022 Capital gains	Capital losses	Unrealised fair value changes	Total	Jul–Dec 2022 Capital gains	Capital losses	Unrealised fair value changes	Total
Financial assets								
Designated at fair value through profit or loss								
Loans and advances to the public and public sector entities	-	-	-9,812	-9,812	-	-	-2,185	-2,185
Debt securities	-	-	-235,724	-235,724	-	-	-96,949	-96,949
Mandatorily at fair value through profit or loss								
Loans and advances to the public and public sector entities	-	-	-976	-976	-	-	1,308	1,308
Financial liabilities								
Designated at fair value through profit or loss								
Liabilities to credit institutions	-	-	1,521	1,521	-	-	377	377
Liabilities to the public and public sector entities	-	-	397,597	397,597	-	-	120,346	120,346
Debt securities issued: commercial papers	-	-	-112	-112	-	-	264	264
Debt securities issued: bonds	-	-	160,312	160,312	-	-	-128,731	-128,731
Derivative contracts at fair value through profit or loss	378	-172	-304,568	-304,363	378	-172	110,935	111,140
Day 1 gain or loss	-	-	-156	-156	-	-	-176	-176
Net income from financial assets and liabilities through profit or loss	**378**	**-172**	**8,083**	**8,288**	**378**	**-172**	**5,188**	**5,393**
Net income from FX differences	**125,198**	**-136,321**	**10,976**	**-148**	**85,986**	**-101,242**	**15,047**	**-209**
Net income from hedge accounting	**-**	**-**	**36,444**	**36,444**	**-**	**-**	**23,255**	**23,255**
Total	**125,575**	**-136,494**	**55,502**	**44,583**	**86,363**	**-101,414**	**43,489**	**28,439**

The following tables present carrying amounts of financial assets and liabilities designated at fair value through profit or loss and their fair value changes recognised during the reporting period in the income statement under *Net income on financial instruments at fair value through profit or loss* and in the other comprehensive income under *Net change in fair value due to changes in own credit risk on financial liabilities designated at fair value through profit or loss*.

Financial assets and liabilities designated at fair value through profit or loss (EUR 1,000)	Nominal value 31 Dec 2023	Carrying amount 31 Dec 2023	Nominal value 31 Dec 2022	Carrying amount 31 Dec 2022
Financial assets				
Loans and advances to the public and public sector entities	30,000	30,326	30,000	28,432
Debt securities	3,284,881	3,200,340	3,355,906	3,162,034
Total financial assets*	**3,314,881**	**3,230,667**	**3,385,906**	**3,190,465**
Financial liabilities				
Liabilities to credit institutions	44,000	42,989	5,000	3,291
Liabilities to the public and public sector entitities	1,449,753	1,311,174	1,495,567	1,318,658
Debt securities issued	9,870,880	9,472,387	11,505,250	10,842,676
Total financial liabilities	**11,364,633**	**10,826,551**	**13,005,818**	**12,164,626**

* Financial assets designated at fair value through profit or loss are exposed to credit risk up to the carrying amounts of those securities at 31 Dec 2023 and 31 Dec 2022.

Change in fair value of financial assets designated at fair value through profit or loss (EUR 1,000)	31 Dec 2023	1 Jan 2023	Fair value change recognised in the income statement Jan–Dec 2023	, of which due to credit risk	, of which due to market risk	Fair value change recognised in the income statement Jul–Dec 2023	, of which due to credit risk	, of which due to market risk
Financial assets								
Loans and advances to the public and public sector entities	-7,988	-10,581	2,592	151	2,441	1,819	83	1,735
Debt securities	-94,789	-215,498	120,709	-6,493	127,202	104,863	-5,173	110,036
Total financial assets	**-102,777**	**-226,078**	**123,301**	**-6,342**	**129,643**	**106,682**	**-5,090**	**111,771**

Financial assets that MuniFin Group has designated at fair value through profit or loss include debt securities in the liquidity portfolio and some lending agreements of which the interest rate risk is hedged with interest rate and cross currency interest rate swaps. The designation is made as it significantly reduces accounting mismatch which would otherwise arise from measuring the derivative contract at fair value through profit or loss and the debt security at fair value through other comprehensive income and lending agreements at amortised cost based on the IFRS 9 business model. MuniFin Group does not have credit derivatives hedging these financial assets.

Change in fair value of financial liabilities designated at fair value through profit or loss (EUR 1,000)	31 Dec 2023	1 Jan 2023	Fair value change recognised in the income statement Jan–Dec 2023	Change in own credit risk recognised in the other comprehensive income Jan–Dec 2023	Total fair value change in Jan–Dec 2023	Fair value change recognised in the income statement Jul–Dec 2023	Change in own credit risk recognised in the other comprehensive income Jul–Dec 2023	Total fair value change in Jul–Dec 2023
Financial liabilities								
Liabilities to credit institutions	495	1,708	-1,212	514	-698	-1,838	414	-1,424
Liabilities to the public and public sector entitities	169,099	245,483	-76,384	30,218	-46,167	-54,474	13,553	-40,921
Debt securities issued	425,589	733,254	-307,666	44,669	-262,997	-149,373	30,100	-119,273
Total financial liabilities	**595,183**	**980,445**	**-385,262**	**75,401**	**-309,862**	**-205,685**	**44,068**	**-161,617**

Net change in fair value in line item Net income from financial assets and liabilities through profit or loss (EUR 1,000)	Cumulative change in fair value 31 Dec 2023	Fair value change recognised in the income statement Jan–Dec 2023	Fair value change recognised in the income statement Jul–Dec 2023
Financial liabilities designated at fair value through profit or loss	595,183	-385,262	-205,685
Derivative contracts at fair value through profit or loss hedging financial liabilities	-592,125	397,646	210,246
Net change in fair value	**3,058**	**12,384**	**4,561**

MuniFin Group has designated short-term debt instruments denominated in foreign currencies, which have been hedged with FX swaps at fair value through profit or loss. The designation reduces accounting mismatch which would otherwise arise between the measurement of the derivative contract and the financial liability. Financial liabilities designated at fair value through profit or loss consist of financial liabilities, which have been hedged according to the Group's risk management policy, but which are not subject to IFRS 9 fair value hedge accounting. The fair value changes of the financial liabilities impact the income statement, but as they have been hedged, the expected profit or loss is restricted to interest. The table above describes the net impact of these financial liabilities and their hedges on the income statement.

When a financial liability is designated at fair value through profit or loss, the fair value change, with exception to MuniFin's own credit risk that is presented in other comprehensive income as change of the own credit revaluation reserve, is presented in *Net income on financial instruments at fair value through profit or loss*.

MuniFin Group applies the income approach of IFRS 13 standard to the separation of fair value changes related to changes in own credit risk from the fair value changes of the financial liability. For the majority of financial liabilities designated at fair value through profit or loss, no market price is available as there is no active secondary market. The methodology for separation of own credit risk utilises MuniFin's benchmark curves, cross currency basis spreads and credit spreads of MuniFin's issued debt securities on the primary market as input. Based on the aforementioned inputs, valuation curves can be constructed for various reporting periods for valuing financial liabilities designated at fair value through profit or loss. By comparing fair values calculated using the trade date and reporting date, the impact of change in own credit risk on the fair value of the financial liability can be determined.

Financial liabilities designated at fair value through profit or loss are not traded.

Change in fair value of financial assets designated at fair value through profit or loss (EUR 1,000)	31 Dec 2022	1 Jan 2022	Fair value change recognised in the income statement Jan–Dec 2022	, of which due to credit risk	, of which due to market risk	Fair value change recognised in the income statement Jul–Dec 2022	, of which due to credit risk	, of which due to market risk
Financial assets								
Loans and advances to the public and public sector entities	-10,581	-769	-9,812	196	-10,008	-2,185	66	-2,251
Debt securities	-215,498	20,226	-235,724	-9,088	-226,635	-96,949	-5,273	-91,676
Total financial assets	**-226,078**	**19,457**	**-245,535**	**-8,892**	**-236,643**	**-99,134**	**-5,208**	**-93,926**

Change in fair value of financial liabilities designated at fair value through profit or loss (EUR 1,000)	31 Dec 2022	1 Jan 2022	Fair value change recognised in the income statement Jan–Dec 2022	Change in own credit risk recognised in the other comprehensive income Jan–Dec 2022	Total fair value change in Jan–Dec 2022	Fair value change recognised in the income statement Jul–Dec 2022	Change in own credit risk recognised in the other comprehensive income Jul–Dec 2022	Total fair value change in Jul–Dec 2022
Financial liabilities								
Liabilities to credit institutions	1,708	187	1,521	-25	1,496	377	22	399
Liabilities to the public and public sector entitities	245,483	-152,113	397,597	-12,269	385,327	120,346	5,886	126,233
Debt securities issued	733,254	573,054	160,201	12,111	172,311	-128,467	24,260	-104,208
Total financial liabilities	**980,445**	**421,127**	**559,318**	**-184**	**559,134**	**-7,744**	**30,168**	**22,424**

Net change in fair value in line item Net income from financial assets and liabilities through profit or loss (EUR 1,000)	Cumulative change in fair value 31 Dec 2022	Fair value change recognised in the income statement Jan–Dec 2022	Fair value change recognised in the income statement Jul–Dec 2022
Financial liabilities designated at fair value through profit or loss	980,445	559,318	-7,744
Derivative contracts at fair value through profit or loss hedging financial liabilities	-989,771	-554,212	12,950
Net change in fair value	**-9,325**	**5,106**	**5,205**

Note 4. Hedge accounting

The interest rate and foreign exchange rate risks of the Group are managed by entering into derivative transactions. According to the Market Risk Policy, the Group's hedging strategy is mainly to hedge all material foreign exchange and interest rate risks of financial assets and liabilities with maturities exceeding one year. As a result, foreign currency denominated items are translated into euros, and fixed rates and long-term reference rates are swapped to floating interest rates with shorter terms. The risk management principles related to the Group' s hedging of market risk are described in more detail in the Consolidated Financial Statements 2022 in Note *2 Risk Management principles and the Group's risk position.*

The Group applies both fair value hedge accounting according to IFRS 9 and fair value portfolio hedge accounting according to IAS 39. The Group does not apply cash flow hedge accounting. Accounting policies related to hedge accounting are described in the accounting polices of the Consolidated Financial Statements 2022 (Note *1*) in Section *10. Hedge Accounting*. Net income on hedge accounting is recognised in PnL in *Net income on financial instruments at fair value through profit or loss.*

In the following table hedged assets and liabilities are presented according to the statement of financial position line items divided into IAS 39 portfolio hedge accounting and IFRS 9 fair value hedge accounting, which is further subdivided into whether hedging is subject to the separation of the Cost-of-Hedging.

Hedge accounting 31 Dec 2023 (EUR 1,000)	Nominal value	Fair value hedge accounting total	IAS 39 portfolio hedge accounting	IFRS 9 fair value hedge accounting	IFRS 9 fair value hedge accounting incl. Cost-of-Hedging
Assets					
Loans and advances to the public and public sector entities – Loans	11,843,871	10,937,466	10,877,199	60,267	-
Loans and advances to the public and public sector entities – Leased assets	395,417	383,163	-	383,163	-
Total assets	**12,239,288**	**11,320,629**	**10,877,199**	**443,430**	**-**
Liabilities					
Liabilities to credit institutions	95,000	86,889	-	86,889	-
Liabilities to the public and public sector entities	1,287,710	1,277,101	-	1,277,101	-
Debt securities issued	32,537,103	30,841,465	-	17,950,427	12,891,038
Total liabilities	**33,919,813**	**32,205,454**	**-**	**19,314,416**	**12,891,038**

Hedge accounting 31 Dec 2022 (EUR 1,000)	Nominal value	Fair value hedge accounting total	IAS 39 portfolio hedge accounting	IFRS 9 fair value hedge accounting	IFRS 9 fair value hedge accounting incl. Cost-of-Hedging
Assets					
Loans and advances to the public and public sector entities – Loans	12,826,877	11,348,612	11,289,353	59,259	-
Loans and advances to the public and public sector entities – Leased assets	302,864	274,053	-	274,053	-
Total assets	**13,129,741**	**11,622,665**	**11,289,353**	**333,313**	**-**
Liabilities					
Liabilities to credit institutions	95,000	84,892	-	84,892	-
Liabilities to the public and public sector entities	1,302,710	1,210,927	-	1,210,927	-
Debt securities issued	27,163,444	24,419,692	-	12,603,372	11,816,320
Total liabilities	**28,561,154**	**25,715,510**	**-**	**13,899,190**	**11,816,320**

The figures presented in the adjacent table contain the cumulative fair value change at the beginning and at end of the reporting period, in addition to the fair value change of the hedged risk and the hedging instrument during the reporting period. These figures presented in the table do not include the changes in fair value due to foreign exchange differences of hedging instruments and the hedged items. Due to the aforementioned reason, the total amount of hedging instruments does not correspond to the fair value presented in Note *8 Derivatives* on line *Total derivative contracts in hedge accounting*. The fair value changes of the hedged risk of the hedged items and all other fair value changes of the hedging instruments are recognised in the income statement under *Net income on financial instruments at fair value through profit or loss*. The ineffective portion of the hedging relationship is thus shown on this line in the income statement. Net income on financial instruments at fair value through profit or loss is specified in Note *3*.

In accordance with the market practice and IFRS 13 *Fair value measurement* standard, the Group discounts hedged items with the swap curve and the hedging derivatives with the OIS curve, which causes a significant part of the Group's hedge ineffectiveness. In addition, ineffectiveness may also arise to some extent from differences in notional, day count methods or timing of the cash flows.

Value of hedged risk (EUR 1,000)	31 Dec 2023	1 Jan 2023	Recognised in the income statement Jan–Dec 2023	Recognised in the income statement Jul–Dec 2023
Assets				
IAS 39 portfolio hedge accounting				
Loans and advances to the public and public sector entities	-907,319	-1,476,553	569,233	457,786
Derivative contracts in hedge accounting	969,754	1,549,315	-579,561	-461,718
Accumulated fair value accrual from the termination of hedge accounting	-1,652	-1,721	69	130
IAS 39 portfolio hedge accounting, net	**60,783**	**71,041**	**-10,258**	**-3,802**
IFRS 9 fair value hedge accounting				
Loans and advances to the public and public sector entities	-10,422	-29,402	18,980	16,367
Derivative contracts in hedge accounting	9,060	28,548	-19,488	-16,650
IFRS 9 fair value hedge accounting, net	**-1,362**	**-855**	**-507**	**-282**
Liabilities				
IFRS 9 fair value hedge accounting				
Liabilities to credit institutions	8,111	10,108	-1,997	-2,996
Liabilities to the public and public sector entities	4,425	54,570	-50,145	-45,643
Debt securities issued	1,407,537	2,559,950	-1,152,413	-1,084,348
Derivative contracts in hedge accounting	-1,442,656	-2,631,089	1,188,433	1,115,329
IFRS 9 fair value hedge accounting, net	**-22,583**	**-6,461**	**-16,122**	**-17,658**
IBOR reform related compensations	-3,603	-3,343	-260	-
Total hedge accounting	**33,235**	**60,382**	**-27,147**	**-21,743**

Value of hedged risk (EUR 1,000)	31 Dec 2022	1 Jan 2022	Recognised in the income statement Jan–Dec 2022	Recognised in the income statement Jul–Dec 2022
Assets				
IAS 39 portfolio hedge accounting				
Loans and advances to the public and public sector entities	-1,476,553	122,505	-1,599,058	-522,396
Derivative contracts in hedge accounting	1,549,315	-78,911	1,628,226	529,236
Accumulated fair value accrual from the termination of hedge accounting	-1,721	218	-1,939	-1,948
IAS 39 portfolio hedge accounting, net	**71,041**	**43,812**	**27,229**	**4,892**
IFRS 9 fair value hedge accounting				
Loans and advances to the public and public sector entities	-29,402	25,414	-54,816	-16,870
Derivative contracts in hedge accounting	28,548	-25,669	54,217	16,183
IFRS 9 Fair value hedge accounting, net	**-855**	**-255**	**-599**	**-687**
Liabilities				
IFRS 9 fair value hedge accounting				
Liabilities to credit institutions	10,108	-5,120	15,228	1,713
Liabilities to the public and public sector entities	54,570	-340,433	395,003	115,258
Debt securities issued	2,559,950	-171,028	2,730,978	825,498
Derivative contracts in hedge accounting	-2,631,089	500,306	-3,131,395	-923,419
IFRS 9 fair value hedge accounting, net	**-6,461**	**-16,275**	**9,814**	**19,049**
IBOR reform related compensations	-3,343	-3,343	0	0
Total hedge accounting	**60,382**	**23,938**	**36,444**	**23,255**

The adjacent table presents the impact of Cost-of-Hedging of cross currency derivatives on equity in the *Cost-of-Hedging reserve*. The figures are presented net of deferred taxes. For all foreign currency hedge relationships, the Group has elected to utilise Cost-of-Hedging. For each hedge relationship, when the cross currency swap is designated as a hedging instrument, the cross currency basis spread is separated and excluded from the designation and accounted for as Cost-of-Hedging.

The difference between the changes in fair value of the actual derivative and the designated portion of the derivative are recorded in other comprehensive income as Cost-of-Hedging to the Cost-of-Hedging reserve. Thus, changes in cross currency basis spreads will impact other comprehensive income and do not create ineffectiveness in the hedge relationship.

Hedging impact on equity (EUR 1,000)	31 Dec 2023	1 Jan 2023	Impact on Cost-of-Hedging reserve
Cost-of-Hedging			
Derivative contracts in hedge accounting	21,821	1,488	20,334
Total	**21,821**	**1,488**	**20,334**

Hedging impact on equity (EUR 1,000)	31 Dec 2022	1 Jan 2022	Impact on Cost-of-Hedging reserve
Cost-of-Hedging			
Derivative contracts in hedge accounting	1,488	13,621	-12,133
Total	**1,488**	**13,621**	**-12,133**

The following table presents the cumulative effectiveness of hedge accounting by hedged items. In addition, the table shows the hedging instruments used.

Effectiveness of hedge accounting 31 Dec 2023 (EUR 1,000)

		Gains/losses attributable to the hedged risk		
Hedged item	**Hedging instruments**	**Hedged items**	**Hedging instruments**	**Hedge ineffectiveness**
Assets				
IAS 39 portfolio hedge accounting				
Fixed rate and revisable rate loans	Interest rate derivatives	-907,319	969,754	62,435
IFRS 9 fair value hedge accounting				
Structured lending	Interest rate derivatives	1,829	-1,608	222
Fixed rate and revisable rate leased assets	Interest rate derivatives	-12,251	10,668	-1,584
Assets total		**-917,742**	**978,814**	**61,072**
Liabilities				
IFRS 9 fair value hedge accounting				
Financial liabilities denominated in EUR	Interest rate derivatives	1,105,788	-1,132,380	-26,592
Financial liabilities denominated in foreign currencies	Currency derivatives (Cross currency interest rate swaps) Interest rate derivatives	314,285	-310,277	4,009
Liabilities total		**1,420,073**	**-1,442,656**	**-22,583**

Effectiveness of hedge accounting
31 Dec 2022 (EUR 1,000)

		Gains/losses attributable to the hedged risk		
Hedged item	**Hedging instruments**	**Hedged items**	**Hedging instruments**	**Hedge ineffectiveness**
Assets				
IAS 39 portfolio hedge accounting				
Fixed rate and revisable rate loans	Interest rate derivatives	-1,476,553	1,549,315	72,762
IFRS 9 fair value hedge accounting				
Structured lending	Interest rate derivatives	-595	1,043	449
Fixed rate and revisable rate leased assets	Interest rate derivatives	-28,808	27,504	-1,304
Assets total		**-1,505,955**	**1,577,862**	**71,907**
Liabilities				
IFRS 9 fair value hedge accounting				
Financial liabilities denominated in EUR	Interest rate derivatives	1,967,231	-1,972,437	-5,207
Financial liabilities denominated in foreign currencies	Currency derivatives (Cross currency interest rate swaps) Interest rate derivatives	657,397	-658,652	-1,255
Liabilities total		**2,624,628**	**-2,631,089**	**-6,461**

Note 5. Financial assets and liabilities

Financial assets 31 Dec 2023 (EUR 1,000)	Amortised cost	Fair value through other comprehensive income	Designated at fair value through profit or loss	Mandatorily at fair value through profit or loss	Fair value through profit or loss	Total	Fair value
Cash and balances with central banks	2	-	-	-	-	2	2
Loans and advances to credit institutions	9,187,071	-	-	-	-	9,187,071	9,187,071
Loans and advances to the public and public sector entities*	30,905,386	-	30,326	27,482	-	30,963,194	32,746,762
Debt securities	1,574,954	369,669	3,200,340	-	-	5,144,963	5,145,075
Derivative contracts at fair value through profit or loss	-	-	-	-	312,957	312,957	312,957
Derivative contracts in hedge accounting	-	-	-	-	1,543,813	1,543,813	1,543,813
Other assets**	1,048,412	-	-	-	-	1,048,412	1,048,412
Total	**42,715,826**	**369,669**	**3,230,667**	**27,482**	**1,856,769**	**48,200,413**	**49,984,092**

* Line item includes EUR 383,163 thousand of leased assets for which the Group applies fair value hedge accounting. Unhedged leased assets are not presented in this note of financial assets and liabilities as leased assets are not regarded as financial assets for the purpose of IFRS 9 classification.

** Line item includes cash collateral given to central counterparties.

Financial liabilities 31 Dec 2023 (EUR 1,000)	Amortised cost	Designated at fair value through profit or loss	Fair value through profit or loss	Total	Fair value
Liabilities to credit institutions	170,706	42,989	-	213,695	213,654
Liabilities to the public and public sector entities	1,277,101	1,311,174	-	2,588,275	2,601,224
Debt securities issued	31,129,259	9,472,387	-	40,601,646	40,566,379
Derivative contracts at fair value through profit or loss	-	-	1,157,142	1,157,142	1,157,142
Derivative contracts in hedge accounting	-	-	2,215,373	2,215,373	2,215,373
Provisions and other liabilities*	401,010	-	-	401,010	401,010
Total	**32,978,076**	**10,826,551**	**3,372,514**	**47,177,141**	**47,154,781**

* Line item includes EUR 392,173 thousand of cash collateral received from central counterparties and EUR 8,837 thousand of lease liabilities in accordance with IFRS 16 standard.

Financial assets 31 Dec 2022 (EUR 1,000)	Amortised cost	Fair value through other comprehensive income	Designated at fair value through profit or loss	Mandatorily at fair value through profit or loss	Fair value through profit or loss	Total	Fair value
Cash and balances with central banks	2	-	-	-	-	2	2
Loans and advances to credit institutions	9,625,488	-	-	-	-	9,625,488	9,625,488
Loans and advances to the public and public sector entities*	28,055,798	-	28,432	31,090	-	28,115,321	29,739,890
Debt securities	1,457,098	167,636	3,162,034	-	-	4,786,768	4,786,383
Derivative contracts at fair value through profit or loss	-	-	-	-	504,097	504,097	504,097
Derivative contracts in hedge accounting	-	-	-	-	2,203,006	2,203,006	2,203,006
Other assets**	1,219,541	-	-	-	-	1,219,541	1,219,541
Total	**40,357,928**	**167,636**	**3,190,465**	**31,090**	**2,707,103**	**46,454,223**	**48,078,407**

* Line item includes EUR 274,053 thousand of leased assets for which the Group applies fair value hedge accounting. Unhedged leased assets are not presented in this note of financial assets and liabilities as leased assets are not regarded as financial assets for the purpose of IFRS 9 classification.

** Line item includes cash collateral given to central counterparties.

Financial liabilities 31 Dec 2022 (EUR 1,000)	Amortised cost	Designated at fair value through profit or loss	Fair value through profit or loss	Total	Fair value
Liabilities to credit institutions	2,329,332	3,291	-	2,332,623	2,332,609
Liabilities to the public and public sector entities	1,210,927	1,318,658	-	2,529,585	2,543,548
Debt securities issued	24,749,389	10,842,676	-	35,592,065	35,650,001
Derivative contracts at fair value through profit or loss	-	-	1,562,525	1,562,525	1,562,525
Derivative contracts in hedge accounting	-	-	3,053,586	3,053,586	3,053,586
Provisions and other liabilities*	574,192	-	-	574,192	574,192
Total	**28,863,840**	**12,164,626**	**4,616,111**	**45,644,576**	**45,716,461**

* Line item includes EUR 570,922 thousand of cash collateral received from central counterparties and EUR 3,269 thousand of lease liabilities in accordance with IFRS 16 standard.

The following table shows the impact of reclassification of financial assets in the implementation of IFRS 9 standard (as of 1 Jan 2018) from at fair value through profit or loss under IAS 39 into amortised cost under IFRS 9 standard. MuniFin Group did not reclassify any financial liabilities from fair value through profit or loss into amortised cost.

Financial assets (EUR 1,000)	Original measurement category under IAS 39	New measurement category under IFRS 9	Fair value 31 Dec 2023	Fair value gain or loss for the financial year*	EIR determined as at 1 Jan 2018**	Interest revenue recognised Jan–Dec 2023	Interest revenue recognised during Jul–Dec 2023
Loans and advances to the public and public sector entities	Fair value option	Amortised cost	86,977	434	0.14%	2,743	1,651

* The fair value gain or loss that would have been recognised in the income statement during the financial year if the financial assets had not been reclassified.
** Effective interest rate determined on the date of initial application.

Financial assets (EUR 1,000)	Original measurement category under IAS 39	New measurement category under IFRS 9	Fair value 31 Dec 2022	Fair value gain or loss for the financial year	EIR determined as at 1 Jan 2018	Interest revenue recognised Jan–Dec 2022	Interest revenue recognised during Jul–Dec 2022
Loans and advances to the public and public sector entities	Fair value option	Amortised cost	91,834	-983	0.14%	478	242

Note 6. Fair values of financial assets and liabilities

Fair value is the price that would be received to sell the asset or paid to transfer the liability in an orderly transaction between market participants at the measurement date. The Group measures fair values using the following fair value hierarchy, which reflects the significance of the inputs used in making the fair value measurements:

Level 1
Inputs that are quoted market prices (unadjusted) for identical instruments in active markets that the Group can access at the measurement date. The market is considered to be active if trading is frequent and price data is regularly available. These quotes (mid) represent the price for an orderly transaction between parties in the market on the valuation date. Level 1 instruments comprise mainly investments in debt securities.

Level 2
Inputs other than quoted prices included within level 1 that are observable either directly (i.e. as prices) or indirectly (i.e. derived from prices). This level includes instruments valued using quoted prices for identical instruments in markets that are considered less than active or other valuation techniques in which all significant inputs are directly or indirectly observable from market data. Level 2 instruments comprise mainly OTC derivatives, the Group's issued plain-vanilla financial liabilities and the Group's lending agreements.

Level 3
Level 3 includes all instruments for which the valuation technique includes inputs that are not observable and the unobservable inputs have a significant effect on the instrument's valuation. Unobservable inputs are used only to the extent that no relevant observable inputs are available. If the valuation input is illiquid, extrapolated or based on historical prices, the valuation input will be defined as a level 3 valuation input as these types of inputs are per definition unobservable. This level includes financial instruments with equity and FX structures due to the impact of the utilisation of inputs such as dividend yield on the fair value measurement. In addition, level 3 contains some interest rate structures with long maturities (exceeding e.g. 35 years) or in currencies where the interest rate curve is not considered liquid for all maturities.

Due to the nature of MuniFin Group's funding portfolio (i.e. issued bonds are hedged back-to-back), if a swap that is hedging an issued bond is designated as a level 3 instrument, then the issued bond will also be designated as a level 3 instrument. Same principle applies to other portfolios and levels of the hierarchy as well. The Group does not hold other assets or liabilities which are measured at fair value or assets or liabilities which are non-recurringly measured at fair value.

The following table presents financial instruments by the level of the fair value hierarchy into which the fair value measurement is categorised.

Financial assets 31 Dec 2023 (EUR 1,000)	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
At fair value					
Fair value through other comprehensive income					
Debt securities	369,669	369,669	-	-	369,669
Designated at fair value through profit or loss					
Loans and advances to the public and public sector entities	30,326	-	30,326	-	30,326
Debt securities	3,200,340	3,153,086	47,254	-	3,200,340
Mandatorily at fair value through profit or loss					
Loans and advances to the public and public sector entities	27,482	-	-	27,482	27,482
Fair value through profit or loss					
Derivative contracts at fair value through profit or loss	312,957	-	304,492	8,464	312,957
Derivative contracts in hedge accounting	1,543,813	-	1,543,813	-	1,543,813
Total at fair value	**5,484,587**	**3,522,755**	**1,925,886**	**35,946**	**5,484,587**
In fair value hedge accounting					
Amortised cost					
Loans and advances to the public and public sector entities	11,320,629	-	11,872,370	-	11,872,370
Total in fair value hedge accounting	**11,320,629**	**-**	**11,872,370**	**-**	**11,872,370**
At amortised cost					
Cash and balances with central banks	2	2	-	-	2
Loans and advances to credit institutions	9,187,071	8,126,158	1,060,913	-	9,187,071
Loans and advances to the public and public sector entities	19,584,757	-	20,816,584	-	20,816,584
Debt securities	1,574,954	-	1,575,066	-	1,575,066
Other assets	1,048,412	-	1,048,412	-	1,048,412
Total at amortised cost	**31,395,197**	**8,126,160**	**24,500,975**	**-**	**32,627,136**
Total financial assets	**48,200,413**	**11,648,915**	**38,299,231**	**35,946**	**49,984,093**

Financial liabilities 31 Dec 2023 (EUR 1,000)		Fair value			
	Carrying amount	Level 1	Level 2	Level 3	Total
At fair value					
Designated at fair value through profit or loss					
Liabilities to credit institutions	42,989	-	42,989	-	42,989
Liabilities to the public and public sector entities	1,311,174	-	1,212,590	98,584	1,311,174
Debt securities issued	9,472,387	-	9,178,791	293,596	9,472,387
Fair value through profit or loss					
Derivative contracts at fair value through profit or loss	1,157,142	-	1,039,248	117,893	1,157,142
Derivative contracts in hedge accounting	2,215,373	-	2,201,980	13,393	2,215,373
Total at fair value	**14,199,065**	**-**	**13,675,599**	**523,466**	**14,199,065**
In fair value hedge accounting					
Amortised cost					
Liabilities to credit institutions	86,889	-	86,847	-	86,847
Liabilities to the public and public sector entities	1,277,101	-	1,290,050	-	1,290,050
Debt securities issued *	30,841,465	-	30,621,730	184,468	30,806,198
Total in fair value hedge accounting	**32,205,454**	**-**	**31,998,627**	**184,468**	**32,183,095**
At amortised cost					
Liabilities to credit institutions	83,817	-	83,817	-	83,817
Debt securities issued	287,794	-	287,794	-	287,794
Provisions and other liabilities	401,010	-	401,010	-	401,010
Total at amortised cost	**772,622**	**-**	**772,622**	**-**	**772,622**
Total financial liabilities	**47,177,141**	**-**	**46,446,847**	**707,935**	**47,154,781**

* MuniFin Group's fixed-rate benchmark bond issuances are presented on level 2 as these bonds are in fair value hedge accounting with respect to the hedged risk. Valuation of the hedged risk is based on the level 2 inputs. In the Notes of the Financial Statements Bulletin, the Group's fixed-rate benchmark bonds' fair values are adjusted to reflect fair value based on the quoted prices from Bloomberg. The market price is a level 1 input.

Financial assets 31 Dec 2022 (EUR 1,000)	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
At fair value					
Fair value through other comprehensive income					
Debt securities	167,636	137,695	29,941	-	167,636
Designated at fair value through profit or loss					
Loans and advances to the public and public sector entities	28,432	-	28,432	-	28,432
Debt securities	3,162,034	3,057,135	104,899	-	3,162,034
Mandatorily at fair value through profit or loss					
Loans and advances to the public and public sector entities	31,090	-	-	31,090	31,090
Fair value through profit or loss					
Derivative contracts at fair value through profit or loss	504,097	-	489,218	14,880	504,097
Derivative contracts in hedge accounting	2,203,006	-	2,202,335	671	2,203,006
Total at fair value	**6,096,296**	**3,194,830**	**2,854,824**	**46,641**	**6,096,296**
In fair value hedge accounting					
Amortised cost					
Loans and advances to the public and public sector entities	11,622,665	-	12,214,359	-	12,214,359
Total in fair value hedge accounting	**11,622,665**	**-**	**12,214,359**	**-**	**12,214,359**
At amortised cost					
Cash and balances with central banks	2	2	-	-	2
Loans and advances to credit institutions	9,625,488	8,224,415	1,401,072	-	9,625,488
Loans and advances to the public and public sector entities	16,433,133	-	17,466,009	-	17,466,009
Debt securities	1,457,098	-	1,456,713	-	1,456,713
Other assets	1,219,541	-	1,219,541	-	1,219,541
Total at amortised cost	**28,735,262**	**8,224,417**	**21,543,335**	**-**	**29,767,753**
Total financial assets	**46,454,223**	**11,419,247**	**36,612,519**	**46,641**	**48,078,407**

Financial liabilities 31 Dec 2022 (EUR 1,000)	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
At fair value					
Designated at fair value through profit or loss					
Liabilities to credit institutions	3,291	-	3,291	-	3,291
Liabilities to the public and public sector entities	1,318,658	-	1,166,432	152,227	1,318,658
Debt securities issued	10,842,676	-	9,865,856	976,820	10,842,676
Fair value through profit or loss					
Derivative contracts at fair value through profit or loss	1,562,525	-	1,222,013	340,512	1,562,525
Derivative contracts in hedge accounting	3,053,586	-	3,047,585	6,001	3,053,586
Total at fair value	**16,780,736**	**-**	**15,305,177**	**1,475,559**	**16,780,736**
In fair value hedge accounting					
Amortised cost					
Liabilities to credit institutions	84,892	-	84,878	-	84,878
Liabilities to the public and public sector entities	1,210,927	-	1,224,889	-	1,224,889
Debt securities issued	24,419,692	-	24,420,879	56,749	24,477,627
Total in fair value hedge accounting	**25,715,510**	**-**	**25,730,646**	**56,749**	**25,787,395**
At amortised cost					
Liabilities to credit institutions	2,244,440	-	2,244,440	-	2,244,440
Debt securities issued	329,698	-	329,698	-	329,698
Provisions and other liabilities	574,192	-	574,192	-	574,192
Total at amortised cost	**3,148,329**	**-**	**3,148,329**	**-**	**3,148,329**
Total financial liabilities	**45,644,576**	**-**	**44,184,153**	**1,532,308**	**45,716,461**

All valuation models, both complex and simple models, use market prices and other inputs. These market prices and inputs comprise interest rates, FX rates, volatilities, correlations etc. The Group applies different types of valuation inputs depending on the type and complexity of the instruments and the related risk factors and payoff structures. The Group's defined categorisation to the fair value hierarchy levels is based on the analysis performed with regards to the valuation input, stress testing (reasonable possible alternative assumption) and model complexity. If the inputs used to measure fair value are categorised into different levels on the fair value hierarchy, the fair value measurement is categorised in its entirety on the level of the lowest level input that is significant to the entire measurement.

IFRS 13 classifies valuation models and techniques into three different categories: market approach, income approach and cost approach. The Group applies the market-based approach when the instrument has a functioning market and public price quotations are available. The Group uses the market approach for the valuation of investment bonds of the liquidity portfolio. For all level 1 assets, the Group uses market prices available for identical assets (same ISIN). The Group does not make use of prices for comparable assets.

Income approach is applied when valuation is based, for example, on determining the present value of future cash flows (discounting). Valuation methods take into account an assessment of the credit risk, discount rates used, the possibility of early repayment and other factors that influence the fair value of a financial instrument reliably. The Group uses the income approach for many of its financial instruments, for example derivatives, lending and funding. The Group does not use the cost approach for the valuation of any of its financial instruments.

The Group uses widely recognised valuation models to determine the fair value of common and simple financial instruments, such as interest rate and currency swaps, that use only observable market data and require little management judgement and estimation. Observable prices or model inputs are usually available in the market for listed debt and equity securities and simple OTC derivatives such as interest rate swaps. The availability of observable market prices and model inputs reduces the need for management judgement and estimation and reduces the uncertainty associated with determining fair values. The availability of observable market prices and inputs varies depending on the products and markets and is prone to changes based on specific events and general conditions in the financial markets.

MuniFin Group applies different models in order to derive the fair values of certain types of instruments. The choice of base models and model calibration depends on the complexity of the financial instrument and the observability of the relevant inputs. In line with market practice, the primary choice of base model is contingent on the underlying instrument classes. Additionally, instruments are broken down into different categories granular enough to capture the most important risk drivers and different kinds of calibration techniques. The specific combination of base models and the different assumptions and calibration techniques are documented. The Group's fair value instruments that are subject to mark-to-model valuation techniques consist of four asset classes:
- Interest rate instruments,
- FX instruments,
- Equity-linked instruments and
- Hybrid instruments.

Financial instruments under *FX, equity-linked* and *hybrid* classes are mainly classified as level 3 instruments.

Fair value of financial instruments is generally calculated as the net present value of the individual instruments. This calculation is supplemented by counterparty level adjustments. The Group incorporates credit valuation adjustments (*CVA*) and debit valuation adjustments (*DVA*) into derivative valuations. CVA reflects the impact of the counterparty's credit risk on fair value and DVA MuniFin Group's own credit quality. The Group uses the same methodology to compute CVA and DVA. They are both assessed as the result of three inputs: Loss Given Default (*LGD*), Probability of Default (*PD*, own for DVA and of the counterparty for CVA) and Expected Exposure (*EE*). In addition, the Group calculates Funding Valuation Adjustment for those derivative contracts that do not hold cash collateral arrangements (derivatives made with MuniFin Group's customers).

Valuation framework

MuniFin Group has implemented a framework for the arrangements, activities and procedures with regards to the Group's model risk management. The purpose of the model risk management framework is to ensure the effective management of model risk and mitigation of fair value uncertainty, as well as to ensure compliance with external and internal requirements. The Group ensures that all aspects of the lifecycle of valuation models (i.e. approval, design and development, testing and maintenance, monitoring and execution) are subject to effective governance, clear roles and responsibilities and effective internal control.

The Group manages and maintains a model inventory which provides a holistic view of all valuation models, their business purpose and characteristics as well as their applications and conditions for use. All approved valuation models within the model inventory are subject to annual review and re-approval by the Risk Management and Compliance Management Team.

The Finance Management Team acts as a valuation control group for MuniFin Group's fair values and is responsible for the final approval of the Group's fair values for financial reporting. The Finance Management Team monitors and controls MuniFin Group's valuation process and the performance of valuation models, decides on the necessary measures and reports to the Executive Management Team (*EMT*). The Finance Management Team assesses whether the valuation models and valuation process provide sufficiently accurate information to be used in financial reporting and, based on the information received, decides on possible adjustments to the values generated by the valuation process.

The Group has implemented an efficient control and performance monitoring framework with regards to its valuation models, which aims to ensure the accuracy and appropriateness of model output. Model performance monitoring consists of four main controls:

- Counterparty valuation control (*CVC*),
- Fair value explanation,
- Independent price verification (*IPV*) and
- Independent model validation.

Counterparty valuation control is performed daily by Risk Management with the purpose to assess any deviations in valuation model output compared to MuniFin Group's own earlier valuations and to counterparty valuations. The results of the assessment are reported monthly to the CFO and quarterly to the Finance Management Team. Fair value explanation process consists of a daily analysis and explanation of the changes in fair values by Risk Management and a monthly fair value explanation report to the CFO and quarterly to the Finance Management Team. The independent price verification is performed monthly as a part of MuniFin Group's IPV process by a third party service provider. The results of the control activities are reported monthly to the CFO and quarterly to the Finance Management Team. The independent model validation is performed annually for a subset of MuniFin Group's valuation models by a third-party service provider. The results of the model validation are reported to the Finance Management Team.

Transfers in the fair value hierarchy

MuniFin Group assesses the appropriateness and correctness of the categorisation with regards to the fair value hierarchy classification at initial recognition and at the end of each reporting period. This is to determine the initial classification of a level 1, 2 and 3 instrument and the subsequent potential transfers between levels within the fair value hierarchy. A transfer between the fair value hierarchies can occur for example when a previously assumed observed input requires an adjustment using an unobservable input. The procedure is the same for transfers into and out of the fair value levels. Transfers between the levels are considered to take place at the end of the quarter during which an event causes such a transfer or when circumstances change.

During 2023, transfers totaling EUR 71,534 thousand have been made between level 1 and level 2. During 2023, total of EUR 2,426 thousand were transferred from level 2 to level 3 financial instruments.

Level 3 transfers 2023 (EUR 1,000)	1 Jan 2023	Change in fair value in the income statement	Purchases and new contracts	Sales and matured contracts	Transfers into level 3	Transfers out of level 3	31 Dec 2023
Financial assets							
At fair value							
Mandatorily at fair value through profit or loss							
Loans and advances to the public and public sector entities	31,090	-3,609	-	-	-	-	27,482
Fair value through profit or loss							
Derivative contracts at fair value through profit or loss	14,880	-3,418	-	-2,998	-	-	8,464
Derivative contracts in hedge accounting	671	-	-	-	-	-671	0
Financial assets in total	**46,641**	**-7,026**	**-**	**-2,998**	**-**	**-671**	**35,946**
Financial liabilities							
At fair value							
Designated at fair value through profit or loss							
Liabilities to the public and public sector entities	152,227	3,983	-	-57,626	-	-	98,584
Debt securities issued	976,820	-6,020	-	-677,204	-	-	293,596
Fair value through profit or loss							
Derivative contracts at fair value through profit or loss	340,512	-11,412	-	-211,206	-	-	117,893
Derivative contracts in hedge accounting	6,001	808	8,738	-	654	-2,808	13,393
In fair value hedge accounting							
Amortised cost							
Debt securities issued	56,749	2,718	153,022	-	1,772	-29,792	184,468
Financial liabilities in total	**1,532,308**	**-9,923**	**161,760**	**-946,036**	**2,426**	**-32,601**	**707,935**
Level 3 financial assets and liabilities in total*	**1,578,949**	**-16,949**	**161,760**	**-949,034**	**2,426**	**-33,272**	**743,881**

* The Group recognises these gains and losses within the line item *Net income on financial instruments at fair value through profit or loss*. The fair value change due to changes in own credit risk of financial liabilities designated at fair value through profit or loss is recognised in the other comprehensive income.

During 2022, transfers totalling EUR 9,270 thousand were made between level 1 and level 2. There were no transfers from level 2 to level 3.

Level 3 transfers 2022 (EUR 1,000)	1 Jan 2022	Change in fair value in the income statement	Purchases and new contracts	Sales and matured contracts	Transfers into level 3	Transfers out of level 3	31 Dec 2022
Financial assets							
At fair value							
Mandatorily at fair value through profit or loss							
Loans and advances to the public and public sector entities	34,861	-3,649	-	-121	-	-	31,090
Fair value through profit or loss							
Derivative contracts at fair value through profit or loss	62,829	-42,509	687	-5,415	-	-713	14,880
Derivative contracts in hedge accounting	407	515	66	-	-	-317	671
Financial assets in total	**98,097**	**-45,643**	**753**	**-5,536**	**-**	**-1,030**	**46,641**
Financial liabilities							
At fair value							
Designated at fair value through profit or loss							
Liabilities to the public and public sector entities	263,793	-46,923	-	-	-	-64,643	152,227
Debt securities issued	1,759,569	-122,696	180,471	-796,670	-	-43,855	976,820
Fair value through profit or loss							
Derivative contracts at fair value through profit or loss	744,299	150,724	20,607	-569,309	-	-5,809	340,512
Derivative contracts in hedge accounting	25,690	-1,179	2,884	-133	-	-21,260	6,001
In fair value hedge accounting							
Amortised cost							
Debt securities issued	86,040	1,491	26,047	-3,066	-	-53,764	56,749
Financial liabilities in total	**2,879,390**	**-18,583**	**230,009**	**-1,369,177**	**-**	**-189,331**	**1,532,308**
Level 3 financial assets and liabilities in total	**2,977,487**	**-64,226**	**230,762**	**-1,374,713**	**-**	**-190,361**	**1,578,949**

Sensitivity analysis of unobservable inputs

Sensitivity analysis illustrates the impact of the reasonably possible assumptions on the fair value of financial instruments for which valuation is dependent on unobservable inputs. However, it is unlikely in practice that all unobservable inputs would simultaneously move to extremes of reasonably possible alternatives used in the sensitivity analysis. Hence, the impact of the sensitivity analysis disclosed in this Note is likely to be greater than the true uncertainty in the fair values at the financial statement date. Furthermore, the disclosure is neither predictive nor indicative of future movements in the fair value of financial instruments.

Although the Group believes that its estimates of fair value are appropriate, the use of different methodologies or assumptions could lead to different measurements of fair value. For fair value measurements on level 3, changing one or more of the assumptions to the reasonably possible alternative assumptions would have the following effects: as of 31 December 2023, these assumptions could have increased fair values by EUR 21.2 million (EUR 60.6 million) or decreased fair values by EUR 21.1 million (EUR 71.1 million).

Sensitivity analysis of significant unobservable inputs by instrument type (EUR 1,000)	Positive range of fair value 2023	Negative range of fair value 2023	Positive range of fair value 2022	Negative range of fair value 2022
Loans and advances to the public and public sector entities				
Loans	-26	-81	249	-273
Derivative contracts				
Equity-linked derivatives	668	-641	18,117	-22,052
FX-linked cross currency and interest rate derivatives	860	-970	834	-1,318
Other interest rate derivatives	9,975	-10,115	11,726	-11,860
Debt securities issued and Liabilities to the public and public sector entities				
Equity-linked liabilities	726	-590	16,927	-23,275
FX-linked liabilities	737	-650	834	-990
Other liabilities	8,310	-8,093	11,919	-11,327
Total	**21,250**	**-21,141**	**60,606**	**-71,095**

The behaviour of the fair value of the unobservable inputs on level 3 is not necessarily independent, and dynamic relationships often exist between the unobservable inputs and the observable inputs. Such relationships, where material to the fair value of a given instrument, are controlled via pricing models or valuation techniques. MuniFin Group uses stochastic models to generate a distribution of future cash flows of each financial instrument. The future cash flows are then discounted back to present to get the fair value of each financial instrument. The stochastic models used by the Group are Hull-White model and Dupire volatility model.

The unobservable inputs used by the Group are described next. The unobservable inputs are used only to the extent that no relevant observable inputs are available.

Correlation parameters

If the fair value of a financial instrument is impacted by more than one unobservable input, correlations describe the relationship between these different underlyings. For example for equity-linked instruments, correlation has a significant impact on fair value, if the underlying is dependent on more than one equity. For FX-linked cross currency and interest rate derivatives, correlations exist between FX rates of currencies, which impact the fair value of the financial instrument. If a high correlation exists between the unobservable inputs, it will lead to an increase in fair value. A low correlation between the unobservable inputs will lead to a decrease in fair value. MuniFin Group has financial instruments, in which correlation is a significant unobservable input, mainly in funding products and their hedging instruments.

Volatility (extrapolated or illiquid)

A financial instrument whose value is based on a stochastic model will typically require the volatility of the underlying instrument as an input. The Group uses Dupire local volatility model as its stochastic valuation model. For interest rate volatilities at-the-money implied volatility is used. For FX and equity components (both equity indices and single stock prices), a full volatility surface is used that includes quotes for different strikes and maturities. The Group uses implied volatility for the majority of the equity-linked structures. In some cases no liquid volatility surface exists. In these cases, a proxy volatility is typically used instead. The majority of the financial instruments, which use volatility as a significant unobservable input, are the Group's funding products and their hedging instruments.

Dividend yield

The main drivers influencing the fair value of equity-linked instruments are dividend yield and volatility of the underlying equities. Equity-linked instruments require a dividend parameter as an input to the fair value. The equity component is modelled using the Dupire local volatility model where the underlying equity prices are assumed to follow a random walk. Instruments that have dividend yield as a significant unobservable input are the Group's funding products and their hedging instruments.

Interest rates (extrapolated or illiquid)

The Group uses unobservable inputs in defining fair value of complex interest rate structures. The future cash flows and their fair value is determined by using forward rates and volatilities of the underlying interest rates using Hull-White stochastic model. Financial instruments whose payoffs are dependent on the value of complex interest rate structures are categorised on level 3. The majority of these instruments requiring extrapolated or illiquid interest rates as input are the Group's funding products and their hedging instruments.

The following table illustrates the effect that changing one or more of the assumptions in the unobservable input (reasonably possible alternative assumptions) could have on the valuations at the financial statement date.

Sensitivity analysis of unobservable inputs 31 Dec 2023 (EUR 1,000)	Fair value	Valuation technique	Unobservable input	Positive range of fair value	Negative range of fair value
Loans and advances to the public and public sector entities					
Loans	27,482	Stochastic model	Volatility – Extrapolated or Illiquid	-26	-81
Derivative contracts					
			Correlation parameters	7	-20
Equity-linked derivatives	-21,211	Stochastic model	Volatility – Extrapolated or Illiquid	627	-607
			Dividend yield	34	-14
			Correlation parameters	125	-111
FX-linked cross currency and interest rate derivatives	-244	Stochastic model	Volatility – Extrapolated or Illiquid	735	-859
			Interest rates – Extrapolated or Illiquid	0	0
			Correlation parameters	0	0
Other interest rate derivatives	-101,367	Stochastic model	Volatility – Extrapolated or Illiquid	9,267	-9,408
			Interest rates – Extrapolated or Illiquid	708	-708
Debt securities issued and Liabilities to the public and public sector entities					
			Correlation parameters	24	8
Equity-linked liabilities	79,794	Stochastic model	Volatility – Extrapolated or Illiquid	658	-562
			Dividend yield	44	-36
			Correlation parameters	80	-73
FX-linked liabilities	107,163	Stochastic model	Volatility – Extrapolated or Illiquid	657	-577
			Interest rates – Extrapolated or Illiquid	0	0
			Correlation parameters	2	-2
Other liabilities	389,692	Stochastic model	Volatility – Extrapolated or Illiquid	8,277	-8,060
			Interest rates – Extrapolated or Illiquid	31	-31
Total				**21,250**	**-21,141**

Sensitivity analysis of unobservable inputs 31 Dec 2022 (EUR 1,000)	Fair value	Valuation technique	Unobservable input	Positive range of fair value	Negative range of fair value
Loans and advances to the public and public sector entities					
Loans	31,090	Stochastic model	Volatility – Extrapolated or Illiquid	249	-273
Derivative contracts					
Equity-linked derivatives	-104,317	Stochastic model	Correlation parameters	-1,743	-1,906
			Volatility – Extrapolated or Illiquid	21,290	-17,708
			Dividend yield	-1,430	-2,438
FX-linked cross currency and interest rate derivatives	-120,294	Stochastic model	Correlation parameters	-11	-121
			Volatility – Extrapolated or Illiquid	845	-1,197
			Interest rates – Extrapolated or Illiquid	0	0
Other interest rate derivatives	-106,351	Stochastic model	Correlation parameters	80	14
			Volatility – Extrapolated or Illiquid	11,510	-11,736
			Interest rates – Extrapolated or Illiquid	136	-138
Debt securities issued and Liabilities to the public and public sector entities					
Equity-linked liabilities	676,238	Stochastic model	Correlation parameters	569	-194
			Volatility – Extrapolated or Illiquid	15,511	-22,611
			Dividend yield	847	-470
FX-linked liabilities	170,030	Stochastic model	Correlation parameters	-36	-133
			Volatility – Extrapolated or Illiquid	870	-857
			Interest rates – Extrapolated or Illiquid	0	0
Other liabilities	339,527	Stochastic model	Correlation parameters	0	0
			Volatility – Extrapolated or Illiquid	11,876	-11,285
			Interest rates – Extrapolated or Illiquid	43	-43
Total				**60,606**	**-71,095**

Day 1 gain or loss (EUR 1,000)	Jan–Dec 2023	Jan–Dec 2022	Jul–Dec/2023	Jul–Dec/2022
Opening balance in the beginning of the reporting period	-392	-236	-371	-216
Recognised gain in the income statement	-	498	-	265
Recognised loss in the income statement	-470	-470	-452	-470
Deferred gain or loss on new transactions	512	-184	473	29
Total at the end of the reporting period	**-350**	**-392**	**-350**	**-392**

Note 7. Cash and cash equivalents

31 Dec 2023 (EUR 1,000)	Total	Cash and cash equivalents	Expected credit losses
Cash	2	2	-
Central bank deposits payable on demand	0	0	-
Cash and balances with central banks	**2**	**2**	**-**
Loans and advances to credit institutions payable on demand	63,211	63,212	0
Total cash and cash equivalents	**63,214**	**63,214**	**0**

31 Dec 2022 (EUR 1,000)	Total	Cash and cash equivalents	Expected credit losses
Cash	2	2	-
Central bank deposits payable on demand	-	-	-
Cash and balances with central banks	**2**	**2**	**-**
Loans and advances to credit institutions payable on demand	48,622	48,622	0
Total cash and cash equivalents	**48,624**	**48,624**	**0**

Note 8. Derivative contracts

31 Dec 2023 (EUR 1,000)	Nominal value of underlying instrument	Fair value Positive	Fair value Negative
Derivative contracts in hedge accounting			
Interest rate derivatives			
Interest rate swaps	34,542,139	1,148,245	-1,581,581
, of which cleared by the central counterparty	*33,536,278*	*1,114,996*	*-1,563,069*
Currency derivatives			
Cross currency interest rate swaps	13,281,574	395,568	-633,792
Total derivative contracts in hedge accounting	**47,823,713**	**1,543,813**	**-2,215,373**
Derivative contracts at fair value through profit or loss			
Interest rate derivatives			
Interest rate swaps	19,711,573	257,271	-831,692
, of which cleared by the central counterparty	*12,850,600*	*173,241*	*-32,697*
Interest rate options	-	-	-
Currency derivatives			
Cross currency interest rate swaps	3,250,213	52,741	-203,865
Forward exchange contracts	3,890,874	2,919	-100,348
Equity derivatives	85,340	26	-21,237
Total derivative contracts at fair value through profit or loss	**26,938,000**	**312,957**	**-1,157,142**
Total derivative contracts	**74,761,713**	**1,856,769**	**-3,372,514**

Line item *Derivative contracts at fair value through profit or loss* contains all derivatives of the Group which are not included in hedge accounting, even if they are entered into for risk management purposes. The category contains derivative contracts used for hedging financial assets and liabilities designated at fair value through profit or loss, all derivative contracts with municipal sector and all derivative contracts hedging derivatives with municipal sector. In addition to these, the category contains derivative contracts used for hedging interest rate risk of the balance sheet, for which no hedged item has been specified.

Interest received or paid from derivative contracts is included in the statement of financial position line items *Accrued income and prepayments* and *Accrued expenses and deferred income.*

31 Dec 2022 (EUR 1,000)	Nominal value of underlying instrument	Fair value Positive	Fair value Negative
Derivative contracts in hedge accounting			
Interest rate derivatives			
Interest rate swaps	33,687,419	1,608,625	-2,279,032
, of which cleared by the central counterparty	*32,422,737*	*1,546,169*	*-2,240,748*
Currency derivatives			
Cross currency interest rate swaps	12,567,281	594,381	-774,553
Total derivative contracts in hedge accounting	**46,254,701**	**2,203,006**	**-3,053,586**
Derivative contracts at fair value through profit or loss			
Interest rate derivatives			
Interest rate swaps	18,272,893	411,500	-1,084,554
, of which cleared by the central counterparty	*11,417,640*	*320,535*	*-7,895*
Interest rate options	40,000	94	-94
Currency derivatives			
Cross currency interest rate swaps	3,983,481	81,658	-226,389
Forward exchange contracts	4,591,665	10,848	-147,174
Equity derivatives	732,900	-2	-104,314
Total derivative contracts at fair value through profit or loss	**27,620,939**	**504,097**	**-1,562,525**
Total derivative contracts	**73,875,640**	**2,707,103**	**-4,616,111**

Note 9. Changes in intangible and tangible assets

	Intangible assets	Tangible assets			
Jan–Dec 2023 (EUR 1,000)	Total	Real estate	Other tangible assets	Right-of-use assets	Total
Acquisition cost 1 Jan	28,074	299	7,230	9,818	17,347
+ Additions	940	-	7	8,013	8,020
– Disposals	-	-	-759	-2,425	-3,184
Acquisition cost 31 Dec	29,014	299	6,478	15,406	22,183
Accumulated depreciation and impairment charges 1 Jan	19,243	-	5,665	6,620	12,285
– Accumulated depreciation on disposals	-	-	-739	-2,090	-2,829
+ Depreciation according to plan	3,460	-	995	2,084	3,079
+ Impairment and reversals	-	-	-	-	-
Accumulated depreciation and impairment charges 31 Dec	22,703	-	5,920	6,614	12,535
Carrying amount 31 Dec	**6,311**	**299**	**557**	**8,792**	**9,648**

	Intangible assets	Tangible assets			
Jan–Dec 2022 (EUR 1,000)	Total	Real estate	Other tangible assets	Right-of-use assets	Total
Acquisition cost 1 Jan	39,841	299	8,585	9,335	18,219
+ Additions	3,988	-	16	614	630
– Disposals	-15,755	-	-1,371	-131	-1,502
Acquisition cost 31 Dec	28,074	299	7,230	9,818	17,347
Accumulated depreciation and impairment charges 1 Jan	27,545	-	5,835	4,893	10,728
– Accumulated depreciation on disposals	-710	-	-1,302	-112	-1,413
+ Depreciation according to plan	2,890	-	1,132	1,839	2,971
+ Impairment and reversals*	-10,482	-	-	-	-
Accumulated depreciation and impairment charges 31 Dec	19,243	-	5,665	6,620	12,285
Carrying amount 31 Dec	**8,831**	**299**	**1,565**	**3,198**	**5,062**

* The line item includes a non-recurring item of impairment of EUR -10,482 thousand on MuniFin's significant terminated IT system implementation.

Note 10. Credit risks of financial assets and other commitments

The following table presents exposures under expected credit loss calculations by asset groups and impairment stages.

Exposures by asset groups and impairment stages	Not credit-impaired				Credit-impaired		Total	
	Stage 1		Stage 2		Stage 3*			
31 Dec 2023 (EUR 1,000)	Gross carrying amount	12-month ECL	Gross carrying amount	Lifetime ECL	Gross carrying amount	Lifetime ECL	Gross carrying amount	Expected credit losses
Cash and balances with central banks at amortised cost	2	-	-	-	-	-	2	-
Loans and advances to credit institutions at amortised cost	9,187,071	-73	-	-	-	-	9,187,071	-73
Loans and advances to the public and public sector entities at amortised cost	28,859,061	-122	1,523,016	-1,872	140,146	-214	30,522,223	-2,207
Leased assets in Loans and advances to the public and public sector entities at amortised cost	1,420,162	-8	21,524	-21	-	-	1,441,686	-29
Debt securities at amortised cost	1,573,802	-1	1,152	0	-	-	1,574,954	-1
Debt securities at fair value through other comprehensive income	369,669	-42	-	-	-	-	369,669	-42
Cash collateral to CCPs in Other assets at amortised cost	1,048,412	-6	-	-	-	-	1,048,412	-6
Credit commitments (off-balance sheet)	3,017,822	-15	53,406	0	-	-	3,071,212	-15
Total	**45,476,002**	**-267**	**1,599,099**	**-1,894**	**140,146**	**-214**	**47,215,230**	**-2,375**

* The Group has collateral and guarantee arrangements that fully cover the stage 3 receivables as described in the Consolidated Financial Statements 2022 Note *2 Risk management principles and the Group's risk position* in Section *7. Credit risk*. The Group's management expects that all the stage 3 receivables will be recovered and no final credit loss will emerge. Stage 3 receivables include EUR 2,031 thousand (EUR 2,144 thousand) of originated credit impaired receivables (*Purchased or Originated Credit Impaired, POCI*). Expected credit losses for the POCI receivables amount to EUR 3 thousand (EUR 8 thousand).

Exposures by asset groups and impairment stages 31 Dec 2022 (EUR 1,000)	Not credit-impaired				Credit-impaired		Total	
	Stage 1		Stage 2		Stage 3			
	Gross carrying amount	12-month ECL	Gross carrying amount	Lifetime ECL	Gross carrying amount	Lifetime ECL	Gross carrying amount	Expected credit losses
Cash and balances with central banks at amortised cost	2	-	-	-	-	-	2	-
Loans and advances to credit institutions at amortised cost	9,625,488	-109	-	-	-	-	9,625,488	-109
Loans and advances to the public and public sector entities at amortised cost	27,277,326	-89	497,729	-662	6,690	-21	27,781,745	-772
Leased assets in Loans and advances to the public and public sector entities at amortised cost	1,283,297	-6	19,655	-22	142	0	1,303,094	-28
Debt securities at amortised cost	1,457,098	-1	-	-	-	-	1,457,098	-1
Debt securities at fair value through other comprehensive income	167,636	-44	-	-	-	-	167,636	-44
Cash collateral to CCPs in Other assets at amortised cost	1,219,541	-203	-	-	-	-	1,219,541	-203
Credit commitments (off-balance sheet)	2,447,573	-11	16,392	-2	-	-	2,463,964	-14
Total	**43,477,961**	**-464**	**533,776**	**-686**	**6,832**	**-21**	**44,018,569**	**-1,171**

The following table presents a summary of total changes and reconciliation of expected credit losses by impairment stages during the financial year.

Total expected credit losses by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2023	**-464**	**-686**	**-21**	**-1,171**	**44,018,569**
New assets originated or purchased	-60	-65	0	-126	9,306,770
Assets derecognised or repaid (excluding write-offs)	87	31	18	136	-6,108,899
Transfers to Stage 1	-1	88	-	87	87
Transfers to Stage 2	2	-40	-	-38	-38
Transfers to Stage 3	0	0	-65	-65	-65
Additional provision *(Management overlay)*	-	-625	-	-625	-625
Changes to contractual cash flows due to modifications not resulting in derecognition	-	-	-	-	-
Changes to models * and inputs ** used for ECL calculations	168	-596	-145	-573	-569
Write-offs	-	-	-	-	-
Recoveries	-	-	-	-	-
Total 31 Dec 2023	**-267**	**-1,894**	**-214**	**-2,375**	**47,215,230**
Expected credit losses, net change Jul–Dec 2023	**-28**	**-746**	**-210**	**-985**	

* Represents changes in the model.
** Represents changes to model parameters (e.g. GDP rates, unemployment rates)

MuniFin Group has updated in the first half of 2023 the probability of defaults according to the update cycle. In addition, macro scenarios were updated to take into account forward-looking information at the end of the financial year. At the same time, the recovery rates used in loss given default calculations as well as loss given default for certain customer segments were updated. The expected lossed increased by EUR 573 thousand due to the changes in models and parameters.

The Group has assessed the impact of rapidly increased interest rate environment on its receivables from customer financing and on credit risk. At the end of June 2023, the Group's management decided to record an additional discretionary provision of EUR 609 thousand based on a group-specific assessment as some customers may face challenges in the sufficiency of cash flows during the second half of 2023. At the end of the financial year 2023, the Group's management assessed again the need of additional discretionary provision and recognised an additional provision of EUR 16 thousand. Based on the Group's assessment some customers may face challenges in the sufficiency of cash flows during the first half of 2024, which may appear in increased payment delays and forbearances for MuniFin Group. The total amount of additional discretionary provision based on a group-specific assessment was EUR 625 thousand at the end of 2023. The additional discretionary provision relates to the balance sheet item *Loans and advances to the public and public sector entities*. The additional discretionary provision has not been allocated to the contract level.

MuniFin Group's total credit risk has still remained low, and the amount of ECL remains low. The rising interest rate levels and inflation weakened the housing sector customers' ability to pay, which showed a slight increase in payment delays, forbearance measures and in the weakening of creditworthiness. MuniFin Group's customer exposures have zero risk weight in the capital adequacy calculation as they are from Finnish municipalities, joint municipal authorities, wellbeing services counties, or involve a municipality, joint municipal authority, wellbeing services county's guarantee or a state deficiency guarantee supplementing the real estate collateral. The Group's management estimates that all receivables will be recovered in full and therefore no final credit loss will arise. On 31 December 2023, MuniFin Group had no guarantee receivables from the public sector (EUR 4 million) due to the insolvency of customers. Credit risk of the liquidity portfolio has remained on a good quality level and the average rating of debt securities in the portfolio was AA+ (AA+).

Total expected credit losses by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**-166**	**-578**	**-546**	**-1,289**	**43,092,161**
New assets originated or purchased	-361	357	-1	-5	17,324,241
Assets derecognised or repaid (excluding write-offs)	95	7	77	179	-16,397,777
Transfers to Stage 1	-1	496	-	496	496
Transfers to Stage 2	1	-575	18	-556	-556
Transfers to Stage 3	0	-	0	0	0
Additional provision *(Management overlay)*	-	-	430	430	430
Changes to contractual cash flows due to modifications not resulting in derecognition	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-32	-394	0	-426	-426
Write-offs	-	-	-	-	-
Recoveries	-	-	-	-	-
Total 31 Dec 2022	**-464**	**-686**	**-21**	**-1,171**	**44,018,568**
Expected credit losses, net change Jul–Dec 2022	**-223**	**834**	**247**	**858**	

The following tables present changes and reconciliation of expected credit losses by impairment stages and asset groups during the financial year.

Expected credit losses on Cash and balances with central banks at amortised cost by impairment stages	**Not credit-impaired**		**Credit-impaired**	**Total**	
	Stage 1	**Stage 2**	**Stage 3**		
(EUR 1,000)	**12-month ECL**	**Lifetime ECL**	**Lifetime ECL**	**ECL**	**Gross carrying amount**
Opening balance 1 Jan 2023	**-**	**-**	**-**	**-**	**2**
New assets originated or purchased	-	-	-	-	0
Assets derecognised or repaid (excluding write-offs)	-	-	-	-	0
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-	-	-	-	-
Total 31 Dec 2023	**-**	**-**	**-**	**-**	**2**
Expected credit losses, net change Jul–Dec 2023	**-**	**-**	**-**	**-**	

Expected credit losses on Cash and balances with central banks at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**0**	**-**	**-**	**0**	**8,399,045**
New assets originated or purchased	-	-	-	-	-
Assets derecognised or repaid (excluding write-offs)	0	-	-	0	-8,399,043
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-	-	-	-	-
Total 31 Dec 2022	**-**	**-**	**-**	**-**	**2**
Expected credit losses, net change Jul–Dec 2022	**0**	**-**	**-**	**0**	

Expected credit losses on Loans and advances to credit institutions at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2023	**-109**	**-**	**-**	**-109**	**9,625,488**
New assets originated or purchased	-4	-	-	-4	380,576
Assets derecognised or repaid (excluding write-offs)	46	-	-	46	-818,987
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-6	-	-	-6	-6
Total 31 Dec 2023	**-73**	**-**	**-**	**-73**	**9,187,071**
Expected credit losses, net change Jul–Dec 2023	**7**	**0**	**-**	**7**	

Expected credit losses on Loans and advances to credit institutions at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**-82**	**-**	**-**	**-82**	**1,417,310**
New assets originated or purchased	-85	-	-	-85	9,112,062
Assets derecognised or repaid (excluding write-offs)	62	-	-	62	-903,880
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-3	-	-	-3	-3
Total 31 Dec 2022	**-109**	**-**	**-**	**-109**	**9,625,488**
Expected credit losses, net change Jul–Dec 2022	**-9**	**-**	**-**	**-9**	

Expected credit losses on Loans and advances to the public and public sector entities at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2023	**-89**	**-662**	**-21**	**-772**	**27,781,745**
New assets originated or purchased	-20	-65	0	-85	4,320,154
Assets derecognised or repaid (excluding write-offs)	3	12	18	34	-1,578,291
Transfers to Stage 1	-1	87	-	86	86
Transfers to Stage 2	2	-38	-	-36	-36
Transfers to Stage 3	0	0	-65	-65	-65
Additional provision *(Management overlay)*	-	-625	-	-625	-625
Changes to contractual cash flows due to modifications not resulting in derecognition	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-18	-582	-145	-745	-745
Write-offs	-	-	-	-	-
Total 31 Dec 2023	**-122**	**-1,872**	**-214**	**-2,207**	**30,522,223**
Expected credit losses, net change Jul–Dec 2023	**-30**	**-732**	**-210**	**-972**	

Expected credit losses on Loans and advances to the public and public sector entities at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**-23**	**-578**	**-546**	**-1,147**	**27,805,752**
New assets originated or purchased	-42	357	-1	314	3,871,298
Assets derecognised or repaid (excluding write-offs)	2	4	77	84	-3,895,282
Transfers to Stage 1	-1	496	-	496	496
Transfers to Stage 2	0	-573	18	-554	-554
Transfers to Stage 3	0	-	0	0	0
Additional provision *(Management overlay)*	-	-	430	430	430
Changes to contractual cash flows due to modifications not resulting in derecognition	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-25	-370	0	-395	-395
Write-offs	-	-	-	-	-
Total 31 Dec 2022	**-89**	**-662**	**-21**	**-772**	**27,781,745**
Expected credit losses, net change Jul–Dec 2022	**-51**	**858**	**247**	**1,054**	

Expected credit losses on Leased assets in Loans and advances to the public and public sector entities at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2023	**-6**	**-22**	**0**	**-28**	**1,303,094**
New assets originated or purchased	-1	0	-	-1	212,400
Assets derecognised or repaid (excluding write-offs)	0	16	0	16	-73,791
Transfers to Stage 1	-	1	-	1	1
Transfers to Stage 2	0	-2	-	-2	-2
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-1	-14	0	-15	-15
Total 31 Dec 2023	**-8**	**-21**	**0**	**-29**	**1,441,686**
Expected credit losses, net change Jul–Dec 2023	**-1**	**-15**	**0**	**-16**	

Expected credit losses on Leased assets in Loans and advances to the public and public sector entities at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**-2**	**-**	**0**	**-2**	**1,334,146**
New assets originated or purchased	-5	0	0	-5	242,148
Assets derecognised or repaid (excluding write-offs)	2	-	-	2	-273,177
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	0	0	-	0	0
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-2	-22	-	-23	-23
Total 31 Dec 2022	**-6**	**-22**	**0**	**-28**	**1,303,094**
Expected credit losses, net change Jul–Dec 2022	**-5**	**-22**	**0**	**-27**	

Expected credit losses on Debt securities at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2023	**-1**	**-**	**-**	**-1**	**1,457,098**
New assets originated or purchased	-1	0	-	-1	1,574,954
Assets derecognised or repaid (excluding write-offs)	1	-	-	1	-1,457,098
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	0	-	-	0	0
Total 31 Dec 2023	**-1**	**0**	**-**	**-1**	**1,574,954**
Expected credit losses, net change Jul–Dec 2023	**0**	**0**	**-**	**0**	

Expected credit losses on Debt securities at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**0**	**0**	**-**	**0**	**1,088,888**
New assets originated or purchased	-1	-	-	-1	1,457,098
Assets derecognised or repaid (excluding write-offs)	0	0	-	0	-1,088,888
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-	-	-	-	-
Total 31 Dec 2022	**-1**	**-**	**-**	**-1**	**1,457,098**
Expected credit losses, net change Jul–Dec 2022	**-1**	**0**	**-**	**-1**	

Expected credit losses on Debt securities at fair value through other comprehensive income by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2023	**-44**	**-**	**-**	**-44**	**167,636**
New assets originated or purchased	-22	-	-	-22	267,084
Assets derecognised or repaid (excluding write-offs)	27	-	-	27	-65,051
Transfers to Stage 1	-	-	-	-	
Transfers to Stage 2	-	-	-	-	
Transfers to Stage 3	-	-	-	-	
Changes to models and inputs used for ECL calculations	-3	-	-	-3	
Total 31 Dec 2023	**-42**	**-**	**-**	**-42**	**369,669**
Expected credit losses, net change Jul–Dec 2023	**-2**	**0**	**0**	**-2**	

The loss allowance on debt instruments classified at fair value through comprehensive income is recognised in the fair value reserve. The accumulated loss allowance is recognised to the profit or loss upon derecognition of the assets. More details regarding presentation of allowance for expected credit losses is presented in the accounting policies in Note *1* in Section *9.4 Presentation of allowance for ECL in the statement of financial position* of the Consolidated Financial Statements 2022.

Expected credit losses on Debt securities at fair value through other comprehensive income by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**-41**	**-**	**-**	**-41**	**213,466**
New assets originated or purchased	-28	-	-	-28	52,770
Assets derecognised or repaid (excluding write-offs)	26	-	-	26	-98,599
Transfers to Stage 1	-	-	-	-	
Transfers to Stage 2	-	-	-	-	
Transfers to Stage 3	-	-	-	-	
Changes to models and inputs used for ECL calculations	-1	-	-	-1	
Total 31 Dec 2022	**-44**	**-**	**-**	**-44**	**167,636**
Expected credit losses, net change Jul–Dec 2022	**-3**	**-**	**-**	**-3**	

Expected credit losses on Cash collateral to CCPs in Other assets at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2023	**-203**	**-**	**-**	**-203**	**1,219,541**
New assets originated or purchased	-	-	-	-	45,000
Assets derecognised or repaid (excluding write-offs)	-	-	-	-	-216,326
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	197	-	-	197	197
Total 31 Dec 2023	**-6**	**-**	**-**	**-6**	**1,048,412**
Expected credit losses, net change Jul–Dec 2023	**2**	**-**	**-**	**2**	

Expected credit losses on Cash collateral to CCPs in Other assets at amortised cost by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**-13**	**-**	**-**	**-13**	**238,930**
New assets originated or purchased	-190	-	-	-190	980,611
Assets derecognised or repaid (excluding write-offs)	-	-	-	-	-
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-	-	-	-	-
Total 31 Dec 2022	**-203**	**-**	**-**	**-203**	**1,219,541**
Expected credit losses, net change Jul–Dec 2022	**-151**	**-**	**-**	**-151**	

Expected credit losses on Guarantee receivables from the public and public sector entities in Other assets by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2023	**-**	**-**	**-**	**-**	**-**
New assets originated or purchased	-	-	-	-	-
Assets derecognised or repaid (excluding write-offs)	-	-	-	-	-
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-	-	-	-	-
Recoveries	-	-	-	-	-
Total 31 Dec 2023	**-**	**-**	**-**	**-**	**-**
Expected credit losses, net change Jul–Dec 2023	**-**	**-**	**-**	**-**	

Expected credit losses on Guarantee receivables from the public and public sector entities in Other assets by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**-**	**-**	**-**	**-**	**1,752**
New assets originated or purchased	-	-	-	-	-
Assets derecognised or repaid (excluding write-offs)	-	-	-	-	-1,752
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-	-	-	-	-
Recoveries	-	-	-	-	-
Total 31 Dec 2022	**-**	**-**	**-**	**-**	**-**
Expected credit losses, net change Jul–Dec 2022	**-**	**-**	**-**	**-**	

Expected credit losses on Credit commitments (off-balance sheet) by impairment stages

	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2023	**-11**	**-2**	**-**	**-14**	**2,463,964**
New assets originated or purchased	-12	0	-	-12	2,506,600
Assets derecognised or repaid (excluding write-offs)	9	2	-	11	-1,899,352
Transfers to Stage 1	0	0	-	0	
Transfers to Stage 2	0	0	-	0	
Transfers to Stage 3	-	-	-	-	
Changes to models and inputs used for ECL calculations	0	0	-	0	
Total 31 Dec 2023	**-15**	**0**	**-**	**-15**	**3,071,212**
Expected credit losses, net change Jul–Dec 2023	**-3**	**0**	**-**	**-3**	

The loss allowance on binding credit commitments is recognised under *Other liabilities*. More details regarding presentation of allowance for expected credit losses is presented in the accounting policies in Note *1* in Section *9.4 Presentation of allowance for ECL in the statement of financial position* of the Consolidated Financial Statements 2022.

Expected credit losses on Credit commitments (off-balance sheet) by impairment stages	Not credit-impaired		Credit-impaired	Total	
	Stage 1	Stage 2	Stage 3		
(EUR 1,000)	12-month ECL	Lifetime ECL	Lifetime ECL	ECL	Gross carrying amount
Opening balance 1 Jan 2022	**-4**	**0**	**0**	**-4**	**2,592,873**
New assets originated or purchased	-9	0	-	-9	1,608,248
Assets derecognised or repaid (excluding write-offs)	3	2	0	5	-1,737,157
Transfers to Stage 1	-	-	-	-	
Transfers to Stage 2	0	-2	-	-2	
Transfers to Stage 3	-	-	-	-	
Changes to models and inputs used for ECL calculations	-1	-2	-	-4	
Total 31 Dec 2022	**-11**	**-2**	**-**	**-14**	**2,463,964**
Expected credit losses, net change Jul–Dec 2022	**-5**	**-2**	**0**	**-8**	

Forward-looking information

In the assessment of whether the credit risk of an instrument has significantly increased (*SICR*) and in the measurement of expected credit losses, forward-looking information and macroeconomic scenarios are included in the model. These macroeconomic projections cover a period of 3 years and as no reliable macroeconomic projections exceeding a three-year time horizon are available, forward-looking adjustment will be limited to a three-year period. Mainly three scenarios are used; base, optimistic and adverse. Scenarios include probability weights. The scenario probability weightings are as follows:

	31 Dec 2023			31 Dec 2022		
Scenario	**2024**	**2025**	**2026**	**2023**	**2024**	**2025**
Adverse	40%	40%	40%	30%	30%	30%
Base	50%	50%	50%	60%	60%	60%
Optimistic	10%	10%	10%	10%	10%	10%

MuniFin Group has identified key drivers of credit losses for each portfolio that share similar kinds of credit risk characteristics and estimated the relationship between macroeconomic variables and credit losses. The ECL model consists of the following macroeconomic variables for Finnish counterparties of financial assets: Finnish government long-term interest rates, the development of residential housing prices and unemployment rate. For non-Finnish financial assets, stress test scenarios published by the European Central Bank are employed in the model and scenario parameters. Each variable covers an estimate over a period of three years. The adjacent table presents the macroeconomic variables and their forecasts over the three-year forecast period.

		31 Dec 2023			31 Dec 2022		
Macroeconomic variables	**Scenario**	**2024**	**2025**	**2026**	**2023**	**2024**	**2025**
10Y Fin Government rate, %	Adverse	3.8	3.7	3.7	4.0	3.6	3.4
	Base	3.5	3.5	3.4	3.2	3.1	3.2
	Optimistic	3.3	3.2	3.2	2.2	1.9	1.8
Residential Real Estate (selling price, YoY change), %	Adverse	-13.0	-2.0	3.0	-13.0	0.0	2.0
	Base	-1.0	4.0	2.5	-2.0	2.0	1.5
	Optimistic	2.5	4.0	2.5	0.0	3.0	2.5
Unemployment rate, %	Adverse	9.9	9.6	8.5	9.5	9.0	8.5
	Base	7.7	7.4	7.0	7.4	7.3	6.8
	Optimistic	7.1	6.1	5.8	6.5	6.0	5.8

The rapid tightening of monetary policy and geopolitical tensions have weakened the global economic outlook. The Eurozone has already slipped into a low-growth phase, and growth is expected to remain very slow through 2024. Inflation is slowing down but is still projected to average above the ECB's 2 % target level next year. There remains a considerable amount of uncertainty related to inflation, including factors such as energy prices and significant wage increases. Monetary policy tightening has been felt more prominently in Finland, and the economic downturn is deeper than in the Eurozone as a whole. The economy is expected to experience a mild recession from H2/2023 to H1/2024. Finland's GDP is expected to contract 0.3% in 2024. Cyclical recovery along with investments in the green transition are seen to accelerate GDP growth to 2% in 2025, after which the economy converges to its long-term growth trajectory. Significant increases in unemployment are not expected, as several sectors continue to face a shortage of labor. Average yearly unemployment rate is expected to peak at 7.7% in 2024 and remain elevated above 7% in 2025–2026. The prices of owner-occupied apartments in major cities, on average, are expected to decrease by 7% in 2023. The recovery of the real estate market begins in 2024, but the annual average prices continue to decline slightly. The cooling economic conditions, a clear deceleration in inflation, and the already significant tightening of financial conditions justify the view that the ECB will not raise policy rates from their current levels. However, due to inflation uncertainty, interest rate cuts are expected to begin only around mid-2024 and continue moderately into 2025.

In comparison to the baseline scenario, the optimistic scenario envisions a less severe economic impact from high inflation and tightening financial conditions. In this scenario, the projected growth of the Finnish GDP is 1.3% in 2024 and 2.7% in 2025. The unemployment rate is expected to continue its gradual decline throughout the forecast period from 2024 to 2027. Consumer price inflation is forecasted to cool down to 2.0% in 2024 and remain just below 2% over the subsequent three years. Housing demand is projected to recover in 2024, with home prices expected to rise by 2.5% from the previous year. Home price inflation is anticipated to accelerate to 4.0% in 2025, followed by a moderation to a 2.5% level in annual price gains. Due to the faster-than-expected recovery in aggregate demand, the ECB is anticipated to lower interest rates more gradually than in the baseline scenario.

The adverse scenario depicts an outcome wherein monetary tightening ultimately instigates a synchronized downturn in the global economy. Both Finland and the entire Eurozone endure a profound recession that commenced in the latter half of 2023, persisting well into 2025. Unemployment experiences a substantial surge and maintains elevated levels throughout the forecast period. The contraction in aggregate demand exacerbates deflationary pressures in the economy, resulting in a more rapid cooling of inflation compared to the baseline scenario. Lower inflation, coupled with formidable economic headwinds, prompts an abrupt shift in monetary policy. The ECB initiates a series of multiple rate cuts in 2024 and continues to pursue monetary easing throughout 2025. The diminished demand in the housing market leads to a sharp decline in home prices. The prolonged global recession induces tensions in financial markets, causing wider risk premia in asset pricing. Poor economic performance and the mounting public debt significantly elevate the Finnish-German interest rate differential.

The following table presents the sensitivity of the expected credit losses to the forward-looking information assuming 100% weight for adverse scenario until 2024 (2023).

	31 Dec 2023			31 Dec 2022	
Sensitivity analysis (EUR 1,000)	**Weighted scenario**	**Adverse scenario (100%)**	**Excluding weighted scenario**	**Weighted scenario**	**Adverse scenario (100%)**
ECL	1,750	2,414	1,618	1,171	1,547
Proportion of the exposure in Stage 2 and 3	3.94%	5.10%	3.78%	1.27%	2.57%

The sensitivity analysis does not include the additional discretionary provisions (*management overlay*).

Non-performing and forborne exposures

Non-performing and forborne exposures refer to receivables that are more than 90 days past due, other receivables classified as risky and forborne exposures due to the customer's financial difficulties.

Non-performing and forborne exposures 31 Dec 2023 (EUR 1,000)	Performing exposures (gross)	Non-performing exposures (gross)	Total exposures (gross)	Total expected credit losses	Total exposures (net)
Over 90 days past due	-	7,491	7,491	-36	7,454
Unlikely to be paid	-	19,037	19,037	-59	18,978
Forborne exposures	377,463	113,832	491,295	-570	490,725
Total	**377,463**	**140,359**	**517,823**	**-666**	**517,157**

Non-performing and forborne exposures 31 Dec 2022 (EUR 1,000)	Performing exposures (gross)	Non-performing exposures (gross)	Total exposures (gross)	Total expected credit losses	Total exposures (net)
Over 90 days past due	-	4,087	4,087	-13	4,074
Unlikely to be paid	-	509	509	0	509
Forborne exposures	77,268	2,513	79,780	-478	79,303
Total	**77,268**	**7,110**	**84,377**	**-491**	**83,886**

Forbearance measures are concessions to original contractual payment terms agreed at the customers' initiative to help the customer through temporary payment difficulties. Performing forborne exposures include forborne exposures reclassified as performing during their probation period or forbearance measures made into a performing loan. Loan modifications due to reasons other than the customer's financial difficulties are not classified as forborne exposures. The Group considers a loan forborne when such concessions or modifications are provided as a result of the borrower's present or expected financial difficulties and the Group would not have agreed to them if the borrower had been financially healthy.

The COVID-19 pandemic affected the financial situation and liquidity of MuniFin Group's customers. The Group therefore offered concessions to the payment terms of loans to those customers whose finances had been temporarily affected by the pandemic. During 2023 there were no forbearances due to the COVID-19 pandemic and in 2022 there were only a few individual extensions of repayment holidays. The uncollected installments were mainly transferred to the end of the loan term to be paid in connection with the last installment. No lease concessions were granted to the Group's leasing customers.

Russia's invasion of Ukraine has had no direct impact on MuniFin Group's customers or receivables. The inflation and rising interest rate levels appeared, and may continue to appear as increased forbearance measures, payment delays and as a deterioration of the customers' creditworthiness.

Realised credit losses

The Group has not had any final realised credit losses during the financial year or the comparison year.

Note 11. Liabilities to credit institutions

(EUR 1,000)	31 Dec 2023	31 Dec 2022
Bilateral loans to credit institutions	129,878	88,183
Liabilities to credit institutions, payable on demand	2,177	-
TLTRO*	-	2,000,000
Received collateral on derivatives	81,640	244,440
Total	**213,695**	**2,332,623**

* MuniFin Group participated in the ECB's third series of targeted longer-term refinancing operations that is, the so-called TLTRO III operation in total of EUR 2,000 million. The interest rate until 23 June 2022 was determined based on the net lending review period expired on 31 December 2021. MuniFin Group met the net lending criteria for this period to the lower interest rate and recognised the interest with the -1% rate until 23 June 2022. After the special interest rate periods, the interest rate was determined as the average of the ECB overnight deposit rates to maturity. Additionally, the interest rate terms changed starting from 23 November 2022. Therefore, a new last interest rate period was determined, the interest rate of which is defined as the average of the ECB rates during that last interest rate period. The final interest rate was determined when the TLTRO III debt matured as a weighted average of the interest rates of all the different interest rate periods. During the period, the Group dediced to use call option and redeemed TLTRO III debt.

Although the interest rate for the TLTRO III debt described above has been favorable for MuniFin Group, it was assessed not to differ from the Group's other funding price to the extent that the Group would have received a government grant in accordance with IAS 20. Therefore, the Group has treated TLTRO III debt in its entirety as an IFRS 9 financial liability.

Note 12. Debt securities issued

	31 Dec 2023		31 Dec 2022	
(EUR 1,000)	Carrying amount	Nominal value	Carrying amount	Nominal value
Bonds	36,614,320	38,680,909	30,942,233	34,330,170
Other*	3,987,327	4,017,074	4,649,832	4,668,524
Total	**40,601,646**	**42,697,983**	**35,592,065**	**38,998,694**

* Line item contains short-term funding issued by MuniFin.

All funding issued by MuniFin is guaranteed by the Municipal Guarantee Board.

Benchmark issuances during the year 2023	Value date	Maturity date	Interest-%	Nominal value (1,000)	Currency
Fixed rate benchmark bond, issued under the MTN programme	18 Jan 2023	18 Jan 2028	2.875%	1,500,000	EUR
Fixed rate benchmark bond, issued under the MTN programme	22 Feb 2023	25 Sep 2028	3.000%	1,000,000	EUR
Fixed rate benchmark bond, issued under the MTN programme	26 Apr 2023	29 Jul 2030	3.125%	1,000,000	EUR
Fixed rate benchmark bond, issued under the MTN programme	13 Jun 2023	15 Dec 2027	4.125%	1,000,000	USD
Fixed rate benchmark bond, issued under the MTN programme	13 Oct 2023	13 Jan 2027	4.875%	1,250,000	USD

In the above table, the benchmark issuances are included by the settlement date. The offering circular is available in English on the website at www.munifin.fi/investor-relations.

Note 13. Provisions and other liabilities

(EUR 1,000)	31 Dec 2023	31 Dec 2022
Provisions		
Other provisions	-	446
Other liabilities		
Lease liabilities	8,837	3,269
Cash collateral taken from CCPs	392,173	570,922
Other	17,265	19,210
Total	**418,275**	**593,848**

Line item *Other provisions* related to a tax interpretation issue for which the Group requested a preliminary ruling and for which the Group received the decision of the Supreme Administrative Court during the first half of 2023. The provision has been reversed on the basis of the received decision.

	Other provisions	
(EUR 1,000)	Jan–Dec 2023	Jan–Dec 2022
Carrying amount at the beginning of the period	446	446
Increase in provisions	-	5,100
Unused amounts reversed	-446	-5,100
Carrying amount at the end of the period	**-**	**446**

During the financial year 2022, increase in provisions and unused amounts reversed related to the IT implementation project, which was terminated in 2022. Unused amounts reversed during the the financial year 2023 related to a tax interpretation issue for which the Group requested a preliminary ruling and for which the Group received the decision of the Supreme Administrative Court during the first half of 2023. The provision has been reversed on the basis of the received decision.

Note 14. Collateral given

Given collaterals on behalf of own liabilities and commitments (EUR 1,000)	31 Dec 2023	31 Dec 2022
Loans and advances to credit institutions to the counterparties of derivative contracts*	1,060,913	1,400,559
Loans and advances to credit institutions to the counterparties of repurchase agreements**	-	514
Loans and advances to credit institutions to the central bank***	35,152	31,745
Loans and advances to the public and public sector entities to the central bank***	4,598,718	3,676,627
Loans and advances to the public and public sector entities to the Municipal Guarantee Board****	12,701,070	12,101,459
Debt securities to the counterparties of repurchase agreements**	-	9,580
Debt securities to the central counterparty clearing	70,062	24,942
Other assets to the counterparties of derivative contracts*	1,048,412	1,219,541
Total	**19,514,327**	**18,464,967**

* MuniFin Group has pledged collateral to the counterparties of derivative contracts based on the CSA agreements of the derivative contracts (*ISDA/Credit Support Annex*).

** MuniFin Group has pledged collateral to the counterparties of repurchase agreements based on the General Master Repurchase Agreement (*GMRA*).

*** MuniFin is a monetary policy counterparty approved by the central bank (*Bank of Finland*) and for this purpose, collateral has been pledged to the central bank for possible operations related to this counterparty position.

**** MuniFin Group has pledged loans to the Municipal Guarantee Board. The Municipal Guarantee Board guarantees MunFin's funding and MuniFin places collateral for the Municipal Guarantee Board's guarantees as defined in the Act on the Municipal Guarantee Board.

Collateral given is presented at the carrying amounts of the financial statement date.

Note 15. Contingent assets and liabilities

The Group has no contingent assets or liabilities at 31 December 2023 or at the comparison date 31 December 2022.

Note 16. Off-balance-sheet commitments

(EUR 1,000)	31 Dec 2023	31 Dec 2022
Credit commitments	3,071,228	2,463,978
Total	**3,071,228**	**2,463,978**

Note 17. Related-party transactions

MuniFin Group's related parties include:

- MuniFin's shareholders whose ownership and corresponding voting rights in the Company exceed 20%.
- The key management personnel including the CEO, the Deputy to the CEO, other members of the Executive Management Team, members of the Board of Directors, the spouses, children and dependents of these persons and the children and dependents of these persons' spouses.
- Entities, which are directly or indirectly controlled or jointly controlled by the above-mentioned persons or where these persons have significant influence.
- MuniFin's related party is also its Subsidiary Financial Advisory Services Inspira Ltd.

The Group's operations are restricted by the Act on the Municipal Guarantee Board and the framework agreement concluded between MuniFin and the Municipal Guarantee Board, pursuant to which MuniFin may only grant loans to parties stipulated by law (municipalities, joint municipal authorities, corporations that are wholly owned by municipalities or under their control, wellbeing services counties and joint county authorities for wellbeing services, other units of wellbeing services counties that are wholly owned or under control of wellbeing services county administration and wellbeing services enterprises, and corporations designated by government authorities and engaged in the renting or production and maintenance of housing on social grounds).

The Group has carried out only employment-based remuneration transactions with the related party persons. The Group does not have loan or financial receivables from these related parties. Transactions with Inspira comprise fees related to administrative services, and advisory services MuniFin has purchased from Inspira.

There have been no material changes in the related party transactions after 30 June 2023.

Note 18. Events after the reporting period

The MuniFin's Board of Directors is not aware of any events having taken place after the end of the reporting period that would have a material effect on the Group's financial standing.

MuniFin (Municipality Finance Plc) is one of Finland's largest credit institutions. The owners of the company include Finnish municipalities, the public sector pension fund Keva and the State of Finland. MuniFin Group also includes the subsidiary company, Financial Advisory Services Inspira Ltd. The Group's balance sheet totals close to EUR 50 billion.

MuniFin's customers include municipalities, joint municipal authorities, wellbeing services counties, joint county authorities, corporate entities under the control of the above-mentioned organisations, and affordable social housing. Lending is used for environmentally and socially responsible investment targets such as public transportation, sustainable buildings, hospitals and healthcare centres, schools and day care centres, and homes for people with special needs.

MuniFin's customers are domestic, but the company operates in a completely global business environment. The company is an active Finnish bond issuer in international capital markets and the first Finnish green and social bond issuer. The funding is exclusively guaranteed by the Municipal Guarantee Board.

Read more: www.munifin.fi

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