10 February 2023 at 1:00 pm (EET)

Municipality Finance Financial Statements Bulletin

1 January–31 December 2022

MuniFin

In brief:

MuniFin Group in 2022

- The Group's net operating profit excluding unrealised fair value changes amounted to EUR 170 million (EUR 213 million). As expected, it decreased from the comparison year's exceptionally good result and was 20.0% lower than in the year before (8.0% growth in 2021). This drop was influenced by the change in credit terms applied in late 2021 for the benefit of the Group's customers. The Group's net interest income totalled EUR 241 million (EUR 280 million) in January–December. Costs in the financial year amounted to EUR 73 million (EUR 72 million). Costs excluding non-recurring items totalled EUR 69 million (EUR 61 million] and making the figure 12.2% greater than in the previous year. The costs increased the most in fees collected by authorities.

- The net operating profit amounted to EUR 215 million (EUR 240 million). Unrealised fair value changes amounted to EUR 45 million (EUR 27 million) in the financial year.

- The Group's leverage ratio was 11.6% (12.8%) at the end of December. The reduction in the leverage ratio is mostly explained by the Group redeeming its only AT1 capital loan in April, which decreased Tier 1 capital by EUR 347 million.

- At the end of December, the Group's CET1 capital ratio was very strong at 97.6% (95.0%). CET1 capital ratio exceeded the total requirement of 13.8% by over seven times, with capital buffers accounted for. The repayment of the AT1 capital loan decreased Tier 1 and total capital ratio to 97.6% (118.4%), bringing them currently on a par with the CET1 capital ratio.

- Russia's invasion of Ukraine has not had a significant negative effect on the Group's operations. Despite the market turbulence, the Group continued to acquire funding without interruption during the year. Because of the uncertainty arising from the war and the inflation outlook, the Group has nevertheless maintained larger than normal liquidity buffers as a precaution. The market interest rates that have risen due to the accelerating inflation have had a positive effect on the Group's net interest income.

- Long-term customer financing (long-term loans and leased assets) excluding fair value changes totalled EUR 30,660 million (EUR 29,063 million) at the end of December and saw an increase of 5.5% (5.6%). Long-term customer financing decreased by 0.2% (4.3%) due to the unrealised fair value changes. New long-term customer financing in January–December amounted to EUR 4,375 million (EUR 3,671 million). Short-term customer financing increased by 33.8% (previous year's drop was 16.9%) and reached EUR 1,457 million (EUR 1,089 million).

- Of all long-term customer financing, the amount of green finance aimed at environmentally sustainable investments totalled EUR 3,251 million (EUR 2,328 million) and the amount of social finance aimed at investments promoting equality and communality EUR 1,734 million (EUR 1,161 million) at the end of December. Green and social finance have been extremely well received by customers, and the total amount of this financing increased by 42.9% (46.9%) from the previous year.

- In 2022, new long-term funding reached EUR 8,827 million (EUR 9,395 million). At the end of December, the total funding was EUR 40,210 million (EUR 40,712 million), of which long-term funding made up EUR 35,560 million (EUR 36,893 million). The amount of total funding decreased due to the growth in unrealised fair value changes which was caused by the increase on the market rates.

- The Group's total liquidity is very strong, and it was EUR 11,506 million (EUR 12,222 million) at the end of the financial year. The Liquidity Coverage Ratio (*LCR*) stood at 257% (335%) and the Net Stable Funding Ratio (*NSFR*) at 120% (124%) at the end of the year.

- The Board of Directors proposes to the Annual General Meeting to be held in spring 2023 a dividend of EUR 1.73 per share for 2022, totalling EUR 67,580,370.54. The total dividend payment in 2022 was EUR 40,235,711.94.

- Outlook for 2023: The Group expects its net operating profit excluding unrealised fair value changes to remain at the same level as in the previous year. 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 2023*.

Comparison figures deriving from the income statement and figures describing the change during the financial year are based on figures reported for the corresponding period in 2021. Comparison figures deriving from the balance sheet and other cross-sectional items are based on the figures of 31 December 2021 unless otherwise stated.

Key figures (Group)

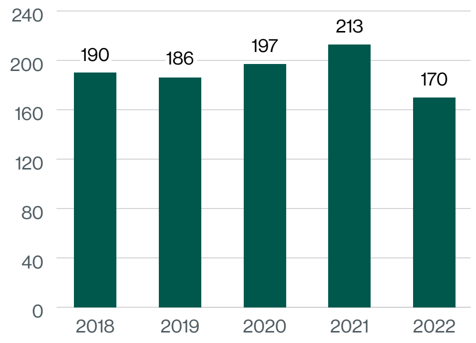
	Jan–Dec 2022	Jan–Dec 2021	Change, %
Net operating profit excluding unrealised fair value changes (EUR million)*	170	213	-20.0
Net operating profit (EUR million)*	215	240	-10.3
Net interest income (EUR million)*	241	280	-13.9
New long-term customer financing (EUR million)*	4,375	3,671	19.2
New long-term funding (EUR million)*	8,827	9,395	-6.0

	31 Dec 2022	31 Dec 2021	Change, %
Long-term customer financing (EUR million)*	29,144	29,214	-0.2
Balance sheet total (EUR million)	47,736	46,360	3.0
CET1 capital (EUR million)	1,482	1,408	5.2
Tier 1 capital (EUR million)	1,482	1,756	-15.6
Total own funds (EUR million)	1,482	1,756	-15.6
CET1 capital ratio, %	97.6	95.0	2.7
Tier 1 capital ratio, %	97.6	118.4	-17.6
Total capital ratio, %	97.6	118.4	-17.6
Leverage ratio, %	11.6	12.8	-9.5
Return on equity (*ROE*), %*	9.9	10.7	-7.9
Cost-to-income ratio*	0.2	0.2	10.1
Personnel	175	164	6.7

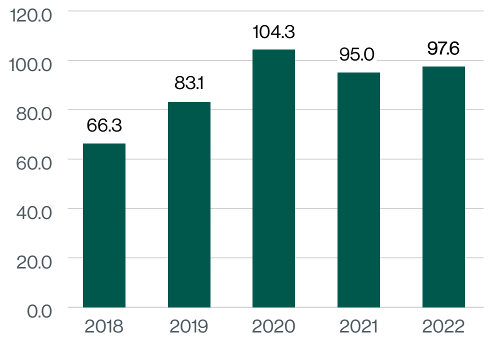
** Alternative performance measure.*

The calculation formulas for all key figures can be found on pages 40–47. All figures presented in the Financial Statements Bulletin are those of MuniFin Group, unless otherwise stated.

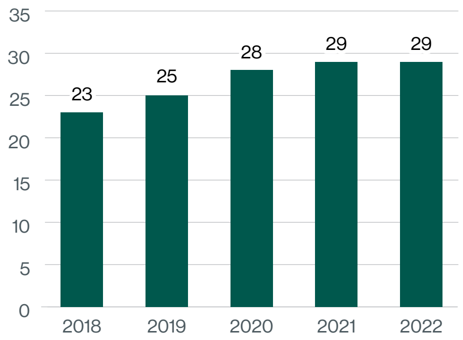
Net operating profit excluding unrealised fair value changes, EUR million*



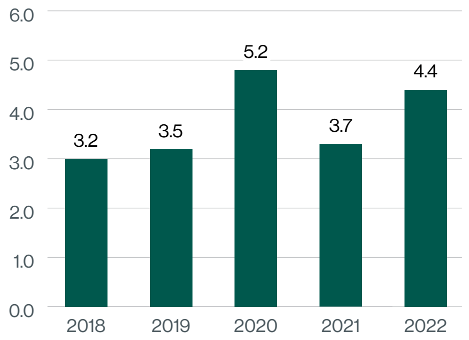
CET1 capital ratio, %



Long-term customer financing, EUR billion*



New long-term customer financing, EUR billion*



** Alternative performance measure.*

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Comment on the 2022 financial year by President and CEO Esa Kallio

Finland's geopolitical and geoeconomical position upended in early 2022. Russia's war of aggression against Ukraine exacerbated inflation and hampered the availability of raw materials. Russian gas cut-offs plunged Europe into an energy crisis and sent energy prices soaring. This made collateral requirements in the electricity markets spiral, causing energy companies to face a liquidity crunch.

In October, the European Commission approved an aid scheme that allows MuniFin to finance Finnish municipality-owned energy companies under the EU State Aid Temporary Crisis Framework. This subsidised loan and guarantee scheme was designed to help cover the liquidity needs arising from the increased collateral requirements in the electricity derivatives market. In December, the scheme was extended to provide municipal energy companies' other financing needs arising from potential crisis situations. Offering financing for the energy sector is our contribution to safeguarding the energy sector's performance and Finland's security of supply.

In 2022, the demand for our financing was slightly lower than expected. In the municipal sector, customers had less demand for finance because their income was higher than expected due to various non-recurring items, such as the central government's pandemic recovery measures and funds they acquired from the sale of their health and social services properties before the reform took effect. Tax cuts related to the

reform will not be fully implemented until 2024, which also affected the demand for financing. In the housing sector, the materials shortage and the rising cost of raw materials slowed down construction projects. The volatile market situation also resulted in longer processing times for interest subsidy loan decisions.

Hospital districts and joint municipal authorities sought funding more actively than we had expected, wanting to dispel uncertainty around the financing of their long-term investments and secure necessary funding on time before the health and social services reform entered into force.

The Act on the Municipal Guarantee Board was amended in the spring of 2022, allowing MuniFin also to finance new investments by the wellbeing services counties. However, the Municipal Guarantee Board set a limit to the amount of finance MuniFin can grant to wellbeing services counties, as wellbeing services counties are not members of the Municipal Guarantee Board and are not liable for the guarantees for MuniFin's funding. In 2023, we can finance the long-term investments of wellbeing services counties by EUR 400 million and grant them up to EUR 900 million in short-term financing. Our estimate is that wellbeing services counties will have considerably larger financing needs than the limit allocated to us. The limit set by the Municipal Guarantee Board only applies to new financing granted by MuniFin.

The economic and geopolitical upheaval of 2022 has not had immediate, significant effects on MuniFin's profitability. As expected, our result was lower in 2022 than in 2021 mostly due to planned changes in pricing, but also due to some unexpected expenses. For example, our contribution to the Single Resolution Fund in 2022 shot up by almost 40% from the previous year even though our risk position remained unchanged. On the other hand, rising interest rates boosted our profitability towards the end of the year.

Our funding remained stable even under the exceptional circumstances of 2022, and we continued to enjoy strong investor demand. We kept our liquidity at a high level throughout the year to ensure the availability of financing for our customers in all conditions.

The past year was again marked by general economic uncertainty, even after the exceptional uncertainty of the COVID years. In these uncertain times, our role in ensuring our customers' operations and acting as our customers' trusted partner has grown even more important. I wish to thank our customers for their confidence and forward-facing collaboration and our staff for their wonderful work and commitment to our shared goal.

Esa Kallio
President and CEO
Municipality Finance Plc

Contents

MuniFin Group's Financial Statements Bulletin

1 January–31 December 2022

MuniFin

Operating environment in 2022

The outlook in world economy changed dramatically when Russia invaded Ukraine in February 2022. The economic sanctions imposed by Western countries and Russia's reaction to them reflected heavily on trade with Russia and the price of both energy and raw materials. During the year, cost pressures spread to consumer prices across the board and further accelerated inflation, which had already started picking up speed in the previous year. In many countries, inflation reached its highest level in almost 40 years. Confidence in the economy dimmed especially in Europe, where countries had to rapidly reduce their dependence on Russian fossil fuels. In addition to concerns related to the availability of energy, the outlook in Europe was also shadowed by security policy risks and the refugee crisis brought on by the war.

Despite the rapidly rising cost of living, Finland's economic growth remained stronger than expected, especially in the first half of the year. Lifted COVID restrictions, the release of pent-up household demand and the gradual clearing of supply chain bottlenecks all boosted GDP growth. Towards the end of the year, however, diminishing consumer buying power and rapid interest rate hikes began to cool off the economy significantly.

Before the Russian invasion, central banks had been underestimating the risks associated with persistent inflation, so they did not start tightening their monetary policy properly until in the spring and summer of 2022. Because the monetary policy was tightened belatedly, it had to be done in quick and long strides. The US Federal Reserve has raised its key interest rate by more than four percentage points since March 2022, taking it to a targeted range between 4.25% and 4.5%. The European Central Bank (*ECB*) waited until July to start its interest rate hikes, but then raised its deposit facility rate by 2.5 percentage points in the second half of 2022, taking it from -0.5% to 2.0%. The ECB also tightened the conditions of its targeted longer-term refinancing operations (*TLTRO*) that provide financing to credit institutions.

The effects of Russia's war against Ukraine hit the Finnish economy slower than feared. Although Finland's trade balance sunk into deficit in the spring when Russian trade dried up and the terms of trade weakened, domestic demand still sustained positive growth. The employment situation remained surprisingly strong throughout the year. In the second half of the year, however, the surging cost of food, energy and housing started to significantly erode consumers' confidence and purchasing power. In the housing market, prices and the number of sales both took a downward turn.

The persistent inflation and the sharp U-turn in monetary policy set the tone in the interest rate markets in 2022. The 12-month Euribor rate rose from the -0.5% of the beginning of the year by almost 3.8 percentage points to 3.3%. Long-term interest rates also saw a rapid rise. Germany's 10-year bond yield went up from -0.2% to 2.6%, while Finland's corresponding rate went from 0.1% to 3.1%.

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. The counties can also independently seek short-term funding.

In terms of financing, the legislation adopted in the summer of 2021 allows MuniFin to continue to act as a lender and counterparty to the loans and other liabilities that were transferred to the counties at the start of 2023. These totalled about four billion euros. MuniFin's financing contracts and other commitments were transferred automatically from hospital districts and special care districts to the wellbeing services counties on 1 January 2023, whereas the transfer of financing contracts and other commitments from joint municipality authorities and voluntary joint municipal authorities for health and social services to the wellbeing services counties required a separate decision whereby the counties accepted these commitments.

The amendments to the Act on the Municipal Guarantee Board passed by the Finnish Parliament in April 2022 allow MuniFin to also finance new investments and other new financing needs by the wellbeing services counties.

In January 2022, the Finnish Financial Supervisory Authority (*FIN-FSA*) decided that like the central government and municipalities, wellbeing services counties will also fall in the zero-risk category in the capital adequacy regulation of credit institutions. This decision simplifies the counties' financing arrangements because it means that government guarantees are not required.

At this stage, 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 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 is EUR 400 million. MuniFin estimates the wellbeing services counties' financing needs and government-authorised borrowing powers in 2023 to be considerably larger than the limit.

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

The long-term financial effects of the health and social services reform remain difficult to estimate. MuniFin's financing volumes will be affected by the wellbeing services counties' future level of investment, the limits set by the MGB and the fact that the operating expenses of the wellbeing services counties are covered from the central government's budget. In MuniFin's current financing operations, lending related to health and social services does not play such a role that changes in it would have a material impact on the Group's financial position in the near future.

Information on the Group results

CONSOLIDATED INCOME STATEMENT (EUR million)	1–12/2022	1–12/2021	Change, %	7–12/2022	7–12/2021	Change, %
Net interest income	241	280	-13.9	119	142	-15.9
Other income	2	4	-48.8	1	1	-10.0
Income excluding unrealised fair value changes	**243**	**285**	**-14.5**	**120**	**143**	**-15.8**
Commission expenses	-6	-5	9.1	-3	-3	4.8
Personnel expenses	-19	-18	6.4	-10	-9	11.9
Other items in administrative expenses	-19	-17	8.9	-9	-8	10.0
Depreciation and impairment on tangible and intangible assets	-10	-16	-35.7	-3	-13	-78.5
Other operating expenses	-20	-16	27.0	-1	-5	-82.9
Costs	**-73**	**-72**	**2.1**	**-25**	**-38**	**-33.4**
Credit loss and impairments on financial assets	0	0	<-100	1	0	<-100
Net operating profit excluding unrealised fair value changes	**170**	**213**	**-20.0**	**96**	**105**	**-8.7**
Unrealised fair value changes	45	27	67.1	28	7	305.2
Net operating profit	**215**	**240**	**-10.3**	**124**	**112**	**11.0**
Income tax expense	-43	-48	-10.5	-24	-23	6.1
Profit for the period	**172**	**192**	**-10.2**	**101**	**90**	**12.2**

The sum of individual results may differ from the displayed total due 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 2022. The Group's net operating profit excluding unrealised fair value changes shrank by 20.0% and totalled EUR 170 million (EUR 213 million). Income excluding unrealised fair value changes was EUR 243 million (EUR 285 million) and shrank by 14.5%.

In 2021, MuniFin decided to change the credit terms of negative interest rates in its long-term customer loans, enabled by the change in the banking regulation. This change began to gradually lower customers' loan expenses as of October 2021. Non-recurring expenses from an IT project terminated in 2022 have been recorded in the results of 2021 and 2022. The result for 2022 was weakened by the growth in fees collected by authorities. The COVID pandemic and Russia's invasion of Ukraine only had a minor effect on the results both in the reporting period and in the comparison period. The increased market rate levels, as a result of accelerated inflation, had a positive overall impact on the Group's net interest income.

Net interest income totalled EUR 241 million (EUR 280 million) in January–December 2022. Net interest income was positively affected by growing business volumes and the continued low cost of funding, as well as the positive effect that rising market interest rates have had on interest income through equity.

On 1 April, the Group redeemed its only AT1 capital loan (EUR 350 million), included in its Tier 1 capital. The Group's net interest income does not recognise the interest expenses of EUR 4 million (EUR 16 million) of the AT1 capital instrument for the financial year 2022, as the capital loan is treated as an equity instrument in the consolidated accounts. The interest expenses of the capital loan are treated similarly to dividend distribution; that is, as a decrease in retained earnings under equity upon realisation of interest payment on an annual basis.

Other income fell from the previous year to EUR 2 million (EUR 4 million). Other income includes commission income, net income from foreign exchange transactions, net income on financial assets at fair value through other comprehensive income, and other operating income. In addition, the turnover of MuniFin's subsidiary company, Financial Advisory Services Inspira, is included in other income. At 0.9% (1.6%), 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 73 million (EUR 72 million), rising by 2.1% from the year before. Costs were negatively affected by the discontinuation of a major IT project for a loan lifecycle management system, which the Group launched in late 2019. The project was terminated in spring 2022, and a total of EUR 5 million (EUR 10.5 million) of non-recurring expenses were recorded in depreciation and impairment on tangible and intangible assets. The termination did not have an effect on customer business. Expenses were also increased by higher fees collected by authorities; especially the higher contribution to the Single Resolution Fund, which grew by 36.3% to EUR 9 million (EUR 7 million).

Commission expenses totalled EUR 6 million (EUR 5 million) and consisted primarily of paid guarantee fees, custody fees and funding programme update fees.

Administrative expenses reached EUR 37 million (EUR 35 million) and grew by 7.6% (5.2%). Of this, personnel expenses comprised EUR 19 million (EUR 18 million) and other administrative expenses EUR 19 million (EUR 17 million). Employee numbers grew during the financial year, and the average number of employees in the Group was 172 (162).

Other items in administrative expenses grew by 8.9% (11.6%) during the financial year. The growth is mainly due to the increased costs of maintaining and developing information systems. The improved COVID situation has also slightly increased travelling expenses and other types of running costs.

During the financial year, depreciation and impairment of tangible and intangible assets reached EUR 10 million (EUR 16 million). The termination of the aforementioned IT project was reflected in the amount of depreciation and impairment, both in 2022 and 2021.

Other operating expenses increased by 27.0% (6.6%) to EUR 20 million (EUR 16 million). Of these, fees collected by authorities comprised EUR 12 million (EUR 9 million), increasing by 26.6% (23.0%) from the comparison period. The growth in fees was mainly due to the higher contribution to the Single Resolution Fund as described above. These fees excluded, other operating expenses totalled EUR 8 million (EUR 6 million), growing by 27.6% (-10.3%).

The amount of expected credit losses (*ECL*), calculated according to IFRS 9, amounted to EUR 0.1 million (EUR -0.1 million). MuniFin Group continued in 2022 its IT and model development for the calculation of expected credit losses and finished it during the second half of the year. With the development, changes have been made to the assessment criteria for significant increase in credit risk (*SICR*), probability of default (*PD*) and loss given default (*LGD*). Hence, there was no need for the additional discretionary provision of EUR 0.9 million recognised at the end of 2021 and increased in June 2022, and the Group's management decided to remove the provision at the end of 2022. In addition, macro scenarios were updated at the end of financial year to take into account forward-looking information.

The Group's overall credit risk position has remained low. According to the management's assessment, all receivables from customers will be fully recovered. The receivables are from Finnish municipalities, joint municipal authorities or wellbeing services counties, or accompanied by a securing municipal, joint municipal authority or wellbeing services counties guarantee or a state deficiency guarantee supplementing real estate collateral, and therefore no final credit losses will arise. During the Group's history of more than 30 years, it has never recognised any final credit losses in its customer financing.

At the end 2022, the Group had a total of EUR 4 million (EUR 19 million) of guarantee receivables from public sector entities due to customer insolvency, which is less than 0.01% (0.06%) of total customer exposure. Non-performing exposures were EUR 7 million (EUR 128 million). The credit risk of the liquidity portfolio has remained at a low level, its average credit rating being AA+ (AA+).

The Group's profit and unrealised fair value changes

The Group's net operating profit was EUR 215 million (EUR 240 million). Unrealised fair value changes improved the Group's net operating profit by EUR 45 million (EUR 27 million). In January–December, net income from hedge accounting amounted to EUR 36 million (EUR 5 million) and unrealised net income from securities transactions to EUR 8 million (EUR 22 million).

The Group's effective tax rate during the financial year was 20.0% (20.1%). Taxes in the consolidated income statement amounted to EUR 43 million (EUR 48 million). After taxes, the Group's profit for the financial year was EUR 172 million (EUR 192 million). The Group's full-year return on equity (*ROE*) was 9.9% (10.7%). Excluding unrealised fair value changes, the ROE was 7.8% (9.6%).

The Group's other comprehensive income includes unrealised fair value changes of EUR -21 million (EUR -3 million). During the financial year, the most significant item affecting the other comprehensive income was the cost-of-hedging, totalling EUR -15 million (EUR -3 million). The net change in fair value due to changes in own credit risk on financial liabilities designated at fair value through profit or loss amounted to EUR -0.2 million (EUR 0.4 million).

On the whole, unrealised fair value changes net of deferred tax affected the Group's equity by EUR 19 million (EUR 19 million) and CET1 capital net of deferred tax in capital adequacy by EUR 16 million (EUR 19 million). The cumulative effect of unrealised fair value changes on the Group's own funds in capital adequacy calculations was EUR 47 million (EUR 31 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, MuniFin Group uses derivatives to financially 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. 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.

Parent Company's result

MuniFin's net interest income at year-end was EUR 237 million (EUR 264 million), and its net operating profit stood at EUR 211 million (EUR 223 million). The profit after appropriations and taxes was EUR 138 million (EUR 137 million). In April 2022, MuniFin redeemed its AT1 capital loan of face value at EUR 350 million included in Additional Tier 1 capital in capital adequacy calculation. The interest expenses of this loan for 2022 totalled EUR 4 million (EUR 16 million). In the Parent Company, the AT1 capital loan had been recorded under the balance sheet item *Subordinated liabilities*.

Subsidiary Inspira

In 2022, the turnover of MuniFin's subsidiary company, Financial Advisory Services Inspira Ltd, was EUR 1.6 million (EUR 1.7 million), and its net operating profit amounted to EUR 0.0 million (EUR 0.1 million).

MuniFin Group's results in July–December

The Group's net operating profit excluding unrealised fair value changes was EUR 96 million (EUR 105 million) during the second half of the year 2022, which was 9% lower than year previous. The net interest income was EUR 119 million (EUR 142 million). The net interest income shrank thanks to the change in the credit terms applied in late 2021 for the benefit of MuniFin's customers. Costs in July–December were EUR 25 million (EUR 38 million). Costs excluding the non-recurring item related to the terminated IT project grew by 10.7% and were EUR 30 million (EUR 27 million). Unrealised fair value changes increased the net operating profit by EUR 28 million (EUR 7 million). Net operating profit for July–December was EUR 124 million (EUR 112 million).

Compared to the first half of the year, net operating profit excluding unrealised fair value changes for July–December grew by 29%. Net interest income was slightly lower than in the first half of the year. Costs in July–December were 47% lower than in the first half of the year. The difference is partially explained by the fact that the stability fee to the Single Resolution Fund for the entire year is recorded already as an expense at the beginning of the year. Also, the allocation of the non-recurring item in costs in different halves of the year explains the difference. The profit-increasing effect of the unrealised fair value changes was EUR 12 million higher than in January–June 2022. Net operating profit for July-December was 38% higher than net operating profit in the first half of the year.

Information on the Consolidated Statement of Financial Position

CONSOLIDATED STATEMENT OF FINANCIAL POSITION (EUR million)	31 Dec 2022	31 Dec 2021	Change, %
Cash and balances with central banks	0	8,399	-100.0
Loans and advances to credit institutions	9,625	1,417	>100
Loans and advances to the public and public sector entities	29,144	29,214	-0.2
Debt securities	4,787	4,841	-1.1
Derivative contracts	2,707	2,000	35.4
Other items included in the assets	1,473	489	>100
Total assets	**47,736**	**46,360**	**3.0**
Liabilities to credit institutions	2,333	2,801	-16.7
Liabilities to the public and public sector entities	2,530	3,325	-23.9
Debt securities issued	35,592	35,328	0.7
Derivative contracts	4,616	2,224	>100
Other items included in the liabilities	1,052	821	28.2
Total equity	1,614	1,862	-13.3
Total liabilities and equity	**47,736**	**46,360**	**3.0**

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

MuniFin Group's consolidated statement of financial position totalled EUR 47,736 million (EUR 46,360 million) and saw a growth of 3.0% (5.3%). Loans and advances to credit institutions increased substantially in 2022 because the central bank deposits previously recorded under *Cash and balances with central banks* have been made as overnight deposits since September 2022 and are now recorded under *Loans and advances to credit institutions*. Loans and advances to the public and public sector entities increased during the year, but their amount in the consolidated statement of financial position decreased due to unrealised changes in fair value caused by the rising interest rates. The increase in total assets was mainly due to fair value changes in derivative contracts and cash collateral to central counterparties included in other items. In liabilities, the largest change is due to fair value changes in derivative contracts.

At the end of 2022, the Group's equity stood at EUR 1,614 million (EUR 1,862 million). The comparison figure includes the AT1 capital loan of EUR 347 million, redeemed in April 2022. With the AT1 capital loan redemption considered, the Group's equity grew by 6.6%. The profit of the financial year increased the Group's equity, but on the other hand, the fair value reserve of investments, own credit revaluation reserve and the cost-of-hedging reserve decreased it by EUR 17 million. In the consolidated accounts, interest expenses amounting to EUR 13 million (EUR 13 million) net of deferred tax on the AT1 capital instrument were deducted from the equity upon the realisation of the interest payment in April, as were the dividends of EUR 40 million (EUR 20 million) for the 2021 financial year, paid to MuniFin's shareholders in April 2022.

The Parent Company's balance sheet at the end of the year was EUR 47,736 million (EUR 46,359 million).

Financing and other services for customers

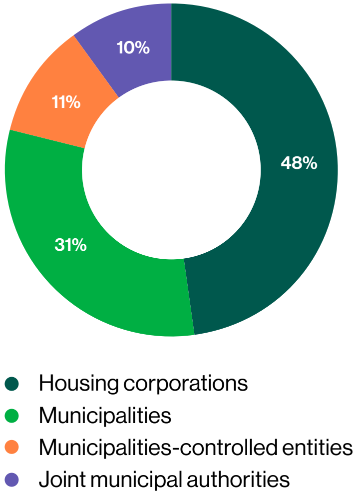
MuniFin Group's customers include municipalities, joint municipal authorities, wellbeing services counties, joint county authorities for wellbeing services, corporate entities under their control, and non-profit housing organisations and non-profit housing projects nominated by the Housing Finance and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

When Russia attacked Ukraine in February 2022, the Group's customers faced an operating environment that was turbulent in a whole new way, even compared to the exceptional circumstances of the pandemic years. Characteristic of this upended operating environment in terms of the economy were accelerating inflation, rising interest rates and preparation for the growing energy crisis.

Despite the general uncertainty, the Group's business developed steadily. Even though the unstable situation made customers more cautious in acquiring finance, the Group was able to further solidify its market position among its customer groups. In 2022, the demand for the Group's services was affected by Finland's health and social services reform, which was to be fully implemented in the beginning of 2023 and required the Group's customers to make preparations. Joint municipal authorities and hospital districts prepared for future investments by acquiring finance especially in early 2022. The Group's own operations were also marked by preparations for the transfer of 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. At the beginning of 2023, about four billion euros' worth of MuniFin's loans and other commitments were transferred to the wellbeing services counties.

In October, the European Commission approved a subsidised loan and guarantee scheme that allows MuniFin to finance Finnish municipal energy companies under the EU State Aid Temporary Crisis Framework. This arrangement ensures the continuity of municipal energy companies' operations and strengthens Finland's security of supply, and financing under the scheme can only be used towards collateral requirements in the electricity derivatives market. MuniFin's customers had little demand for this type of financing during 2022. In December, the Commission authorised the continuation of this aid scheme until the end of 2023, extending its scope to also cover other financing needs arising from possible energy crisis situations in energy companies, such as higher liquidity requirements related to working capital financing and investments.

Long-term loan portfolio by customer type 31 Dec 2022, %



The amount of finance granted grew by 19.2% (-28.8%) compared to the previous year. New long-term customer financing totalled EUR 4,375 million (EUR 3,671 million), of which EUR 4,074 million (EUR 3,275 million) consisted of loans and EUR 301 million (EUR 395 million) of leased assets. Long-term customer financing at year-end amounted to EUR 29,144 million (EUR 29,214 million), of which long-term loan portfolio totalled EUR 27,841 million (EUR 27,880 million) and leased assets EUR 1,303 million (EUR 1,334 million). Long-term customer financing (loans and leased assets) excluding unrealised fair value changes was at the end of December EUR 30,660 million (EUR 29,063 million), and it grew by 5.5% (5.6%). Short-term customer financing (commercial papers to municipalities and municipal companies) totalled EUR 1,457 million (EUR 1,089 million) at the end of 2022.

MuniFin's subsidiary company Inspira specialises in financial advisory services for the municipal sector. In 2022, Inspira's turnover was EUR 1.6 million (EUR 1.7 million). The most popular services were services that help analyse the financial effects of the health and social services reform as well as services for planning the finances and investments of the new wellbeing services counties.

Partner in building sustainable finance solutions
MuniFin Group's vision is to be the best financing partner for its customers. In 2022, the Group continued to invest in developing its service processes and offering even more extensive sustainable solutions for its customers. The Group started to provide short-term customer financing in the form of commercial papers to municipalities and municipal companies on a real-time digital service platform in the spring and piloted the platform to also include long-term financing in the second half of the year. The digital service makes the process easier for customers and increases the transparency of pricing.

MuniFin Group supports and encourages its customers to manage their finances in a sustainable way and to make sustainable investment decisions. Through its advisory services, MuniFin's subsidiary company Inspira assists municipalities and wellbeing services counties in analysing their finances, planning their investments and reorganising their holdings or service production, for example. The Group also offers training for its digital services and economic reports to support decision-making.

The Group offers its customers green and social finance for their sustainable investments. Green finance is aimed at environmentally friendly investments that produce clear and measurable environmental benefits, whereas social finance is aimed at investments that produce widespread social benefits.

The demand for the Group's sustainable finance products was strong in 2022, especially for green finance. The Group updated its Green Bond Framework, which sets the criteria for finance granting, project evaluation and reporting. Thanks to the updates, the evaluation criteria are now more transparent and ambitious, and the evaluation process is more straightforward.

At the end of 2022, the Group's long-term customer financing portfolio included 248 green and 76 social projects. The amount of green finance aimed at environmentally sustainable investments totalled EUR 3,251 million (EUR 2,328 million) and the amount of social finance aimed at investments promoting equality and communality EUR 1,734 million (EUR 1,161 million) at the end of December. The impacts of sustainable finance are discussed in more detail in the separate Green and Social Impact Reports.

The Group uses green and social finance to encourage its customers to make environmentally and socially sustainable investments. A margin discount is granted for eligible projects, which encourages customers to assess the impacts of their investments more extensively and make choices that are more sustainable for the environment and society.

In 2022, the Group organised an event series entitled '*Climate & municipalities*', sharing practical experiences and examples of climate investments by municipalities and housing sector organisations. The Group was also preparing for an ESG application, which enables municipal sector customers to monitor and compare their ESG indicators.

The Group continued the work to measure the emissions of both its own operations and the projects that it finances in 2022. The goal of this work is to systematically reduce the Group's own carbon footprint, offer customers more support with emission reductions and better manage the climate and environmental risks related to the Group's operations. The Group also invested in improving the assessment of the ESG risks related to its operations and customers. K

Funding and liquidity management

MuniFin Group's funding strategy is to diversify its funding sources to ensure access to funding under all market conditions. This long-standing strategy has proved highly successful during the upheaval of monetary and security policies: the Group had strong access to capital markets throughout the year, and the average cost of funding remained at a low level.

MuniFin Group acquires its funding primarily from the international capital markets as standardised issuances under debt programmes. The Group issued three benchmark bonds in 2022: two denominated in euros and one in US dollars. All three were met with strong demand. The Group also made several increases 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 pounds sterling and Norwegian krone but reduced its volume in the Japanese Uridashi market.

In 2022, new long-term funding was EUR 8,827 million (EUR 9,395 million). A total of 180 (208) funding arrangements were made in 13 (13) different currencies. The Group uses derivatives to hedge against market risks related to its funding issuances.

At the end of 2022, the Group's total funding amounted to EUR 40,210 million (EUR 40,712 million), of which the ECP programme totalled EUR 4,650 million (EUR 3,819 million). Of total funding, 48.5% (49.0%) were denominated in euros and 51.5% (51.0%) 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 2022, the Group issued a highly successful green bond that was many times oversubscribed despite the challenging market backdrop. As many as 80% of the participating investors were dedicated ESG investors. For the second time in a row, Environmental Finance chose MuniFin as the winner of the highly competitive '*Green Bond of the Year*' award in the local authority or municipality category. The Group did not issue a social bond in 2022.

Russia's invasion of Ukraine has made it necessary to revise MuniFin Group's liquidity planning in order to ensure financing for its customers. The Group's long-term risk appetite framework specifies that total liquidity must be enough to cover uninterrupted business with no additional funding for a survival horizon of at least 12 months, but the Group has increased its liquidity substantially above this limit because of the unusual political and market situation. With the amount held at the end of the year, the Group could uphold all its commitments with no additional funding for 15 months (15 months).

Due to the general market uncertainty, the Group increased during 2022 its average allocation in investments in central bank deposits. At the end of 2022, the Group's total liquidity stood at EUR 11,506 million (EUR 12,222 million). Of this, central bank deposits totalled EUR 8,144 million (EUR 8,435 million) and investments in liquid, low-risk securities EUR 3,330 million (EUR 3,753 million), with the average credit rating of AA+ (AA+) and average maturity of 2.6 years (2.6 years). In addition to this, money market deposits in credit institutions totalled EUR 32 million (EUR 34 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 service provider changed in 2022. 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 are evaluated using ten different ESG themes and the end result is an ESG score in scale 0–10, in which 10 is the best score.

At the end of 2022, the Group's liquidity investments had an average ESG score of 7.65 on a scale of 0 to 10, above the benchmark index of 7.43. The Group held a total of EUR 498 million (EUR 456 million) in direct socially responsible investments (*SRIs*), which is 15.0% (12.1%) of all the Group's investments in securities. The ratio of sustainable investments was higher than the market benchmark of 8,1% (5.0%). The ratio of socially responsible investments to the Group's own green and social funding was 14.5% (15.6%). K

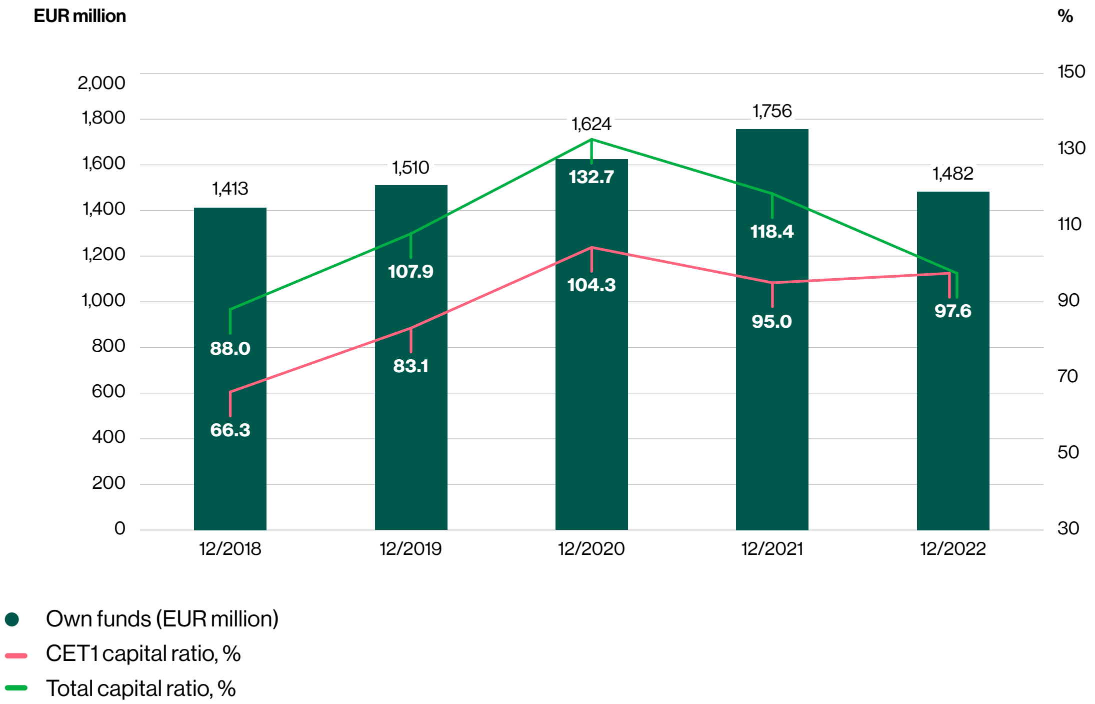
MuniFin's credit ratings

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 CET1 capital ratio was 97.6% (95.0%), which corresponds to its Tier 1 capital ratio and total capital ratio at the end of December 2022 (118.4%) because the Group only had CET1 capital at the time. The total capital ratio fell due to the redemption of the AT1 capital loan in April 2022, which reduced the total capital ratio at the end of the year by 23.0 percentage points. The Group's CET1 capital ratio is over seven times the required minimum, taking capital buffers into account.

CONSOLIDATED OWN FUNDS (EUR 1,000)	31 Dec 2022	31 Dec 2021
Common Equity Tier 1 before regulatory adjustments	1,546,129	1,464,442
Regulatory adjustments to Common Equity Tier 1	-64,519	-56,172
Common Equity Tier 1 (*CET1*)	**1,481,610**	**1,408,270**
Additional Tier 1 capital before regulatory adjustments	-	347,454
Regulatory adjustments to Additional Tier 1 capital	-	-
Additional Tier 1 capital (*AT1*)	**-**	**347,454**
Tier 1 capital (*T1*)	**1,481,610**	**1,755,723**
Tier 2 capital before regulatory adjustments	-	-
Regulatory adjustments to Tier 2 capital	-	-
Tier 2 capital (*T2*)	**-**	**-**
Total own funds	**1,481,610**	**1,755,723**

At the end of the year, the Group's CET1 capital totalled EUR 1,482 million (EUR 1,408 million). The Group no longer had any Additional Tier 1 instruments at the end of the financial year, and its CET1 capital was therefore equal to its Tier 1 capital, EUR 1,482 million (EUR 1,756 million). The redemption of the AT1 capital loan diminished the Group's Tier 1 capital by EUR 347 million. The Group had no Tier 2 capital. The Group's own funds totalled EUR 1,482 million (EUR 1,756 million).

The CET1 capital includes profit for the financial year. The 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)*.

CONSOLIDATED MINIMUM REQUIREMENT FOR OWN FUNDS (1 000 €)	31 Dec 2022		31 Dec 2021	
	Capital requirement	Risk exposure amount	Capital requirement	Risk exposure amount
Credit and counterparty risk, standardised approach	**41,727**	**521,592**	**42,524**	**531,547**
Exposures to central governments or central banks	-	0	-	0
Exposures to regional governments or local authorities	419	5,240	451	5,634
Exposures to public sector entities	639	7,983	705	8,807
Exposures to multilateral development banks	-	0	-	0
Exposures to institutions	26,800	335,004	23,422	292,771
Exposures to corporates	3,297	41,210	6,038	75,471
Exposures in the form of covered bonds	8,723	109,041	9,734	121,670
Other items	1,849	23,113	2,176	27,194
Market risk	**-**	**-**	**-**	**-**
Credit valuation adjustment risk (CVA VaR), standard method	**37,644**	**470,552**	**39,549**	**494,362**
Operational risk, basic indicator approach	**42,071**	**525,892**	**36,527**	**456,587**
Total	**121,443**	**1,518,036**	**118,600**	**1,482,496**

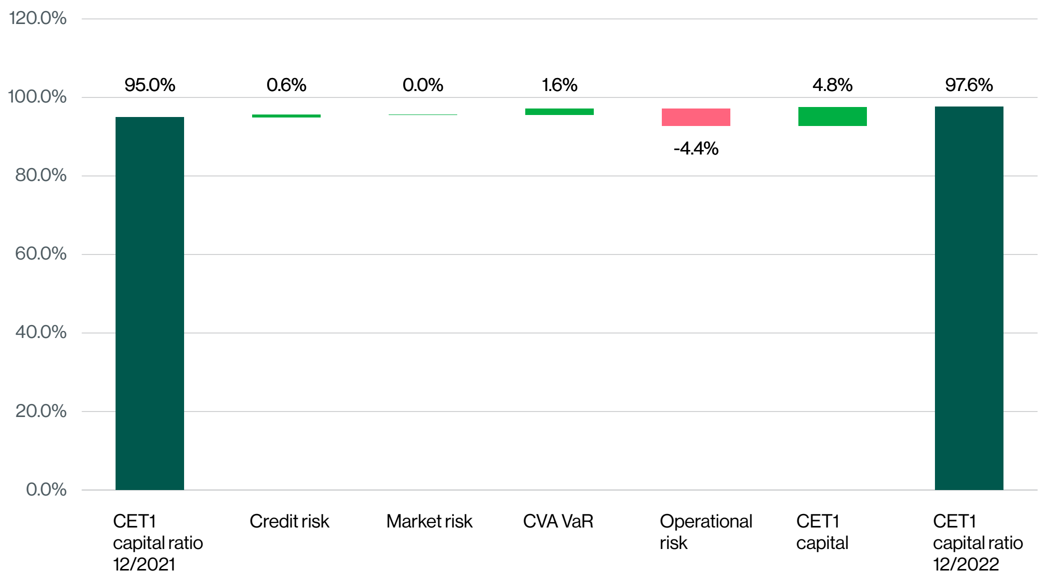
The capital requirement for counterparty risk is EUR 5,640 thousand (EUR 4,727 thousand).

The Group's total risk exposure amount increased by 2.4% from the end of 2021, totalling EUR 1,518 million (EUR 1,482 million) at the end of the financial year.

The risk exposure amount for credit and counterparty credit risk decreased by EUR 10 million from the end of 2021. 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 471 million (EUR 494 million). The risk exposure amount of operational risk was EUR 526 million (EUR 457 million), and the growth was due to the increase in profit indicators at the end of 2022.

MuniFin Group publishes a separate Pillar III Disclosure Report on capital adequacy, risk management and remuneration on week 10. The Report is available in English on MuniFin's website.

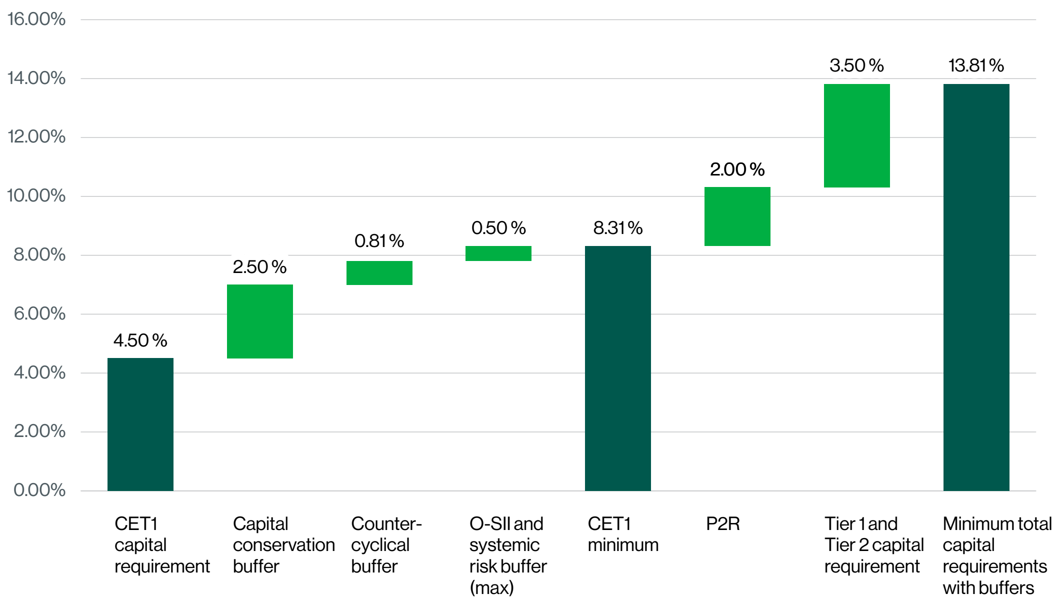
CET1 capital ratio changes, %



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% and, for MuniFin Group, the additional capital requirement for other systemically important credit institutions *(O-SII)* is 0.5%. At the end of June 2022, the Finnish Financial Supervisory Authority (*FIN-FSA*) gave its annual decision on the O-SII buffers and kept MuniFin Group's buffer unchanged at 0.5%. The FIN-FSA has not imposed a systemic risk buffer for MuniFin Group. The systemic risk buffer and the O-SII buffer are parallel buffers, of which only the greater is applied.

Group's minimum capital requirements and capital buffers, %



In December 2022, the FIN-FSA decided not to impose a countercyclical capital buffer requirement, which is decided on a quarterly basis. For MuniFin Group, the credit institution-specific countercyclical capital buffer requirement that is imposed based on the geographical distribution of exposures is 0.8% (0.1%). The Group therefore has a minimum requirement of 8.3% (7.6%) for its CET1 capital ratio and 11.8% (11.1%) 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 decreased by 0.25 percentage points during the financial year. Including this P2R requirement, the total SREP capital requirement ratio *(TSCR)* was 10% (10.25%) at the end of the year.

The minimum level of total capital ratio was 13.8% (13.4%) 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 11.6% (12.8%). MuniFin fulfils the CRR II definition of a public development credit institution and may therefore deduct all credit receivables from municipalities and the central government in the calculation of its leverage ratio. The amount of credit receivables from municipalities and the central government was EUR 31,853 million (EUR 31,568 million) at the end of the year. The reduced leverage ratio is explained by the redemption of the AT1 loan, which reduced the amount of the Group's own funds. The minimum required leverage ratio is 3%.

At the end of the year, MuniFin Group's liquidity coverage ratio (*LCR*) was 256.7% (334.9%) and its net stable funding ratio (*NSFR*) was 120.3% (123.6%). 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 will take 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 multiple times the MREL requirement, and there is no present need for MuniFin to issue Tier 3 instruments.

Changes in banking regulation

During the financial year, MuniFin Group prepared for the implementation of the European Commission's delegated regulation (2016/2251) regarding the use of securities as initial margin in over-the-counter derivatives, which will enter into force in phases. The initial margin requirement became binding for MuniFin in September 2022, and MuniFin reached the readiness to use securities for this purpose by the end of the month.

In 2022, the Group also developed its disclosure of ESG risks and prepared to disclose them in accordance with CRR Article 449a, while taking into account the requirements of the technical standard EBA/ITS/2022/01 of the European Banking Authority. This information is available in a separate Pillar III Disclosure Report, published in English on week 10 on MuniFin's website.

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. The Group will specify its impact assessments later as it prepares for the CRR III's entry into force.

In November 2022, the European Parliament approved the Corporate Sustainability Reporting Directive (*CSRD*) proposed by the Commission in April 2021. MuniFin Group will prepare over the next few years for CSRD-compliant sustainability reporting, which will be adopted for the financial year 2025. K

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 MuniFin to keep both its capital quantity and quality as well as its 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 exceptional 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 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 its 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 2022, the Group's CET1 leverage ratio was 11.6%. 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 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.

The MuniFin Board of Directors has made a dividend policy proposal to the Annual General Meeting (*AGM*). The policy proposal is published in full as an appendix to the notice of the AGM. The proposed dividend policy is for MuniFin to pay 30–60% of the Group's financial year's profit in dividends. Dividend distribution must not jeopardize MuniFin's solvency, liquidity or its ability to meet the commitments.

When drafting the dividend proposal and deciding on the distribution of profits one should take into account factors that affect the Group's capital position on a broad spectrum, including the following:

- 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 instrument not recognised in PnL.

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 MuniFin 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.

The Group's risk position

There were no material changes in MuniFin Group's risk position during 2022, and risks remained within the risk appetite limits set by the Board of Directors. Russia's invasion of Ukraine has had little effect on the Group's financial position and results. Despite the market turbulence, the Group's funding continued in the usual manner during the year. Because of the uncertainty arising from the war and the inflation outlook, the Group has nevertheless maintained larger than normal liquidity buffers as a precaution. Russia's invasion of Ukraine 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 operational environment, the Group's risk position remained stable and at a low level during the reporting period. Unrealised fair value changes of financial instruments caused typical earnings volatility during the year. 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 is exposed to credit risks as part of its business. Due to the nature of its customer base, credit risks are low. The Group's credit risks emerge almost exclusively from customer financing, the 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 (real estate collateral and guarantees received) and the exemptions set out in CRR II Article 400 related to the calculation of large exposures, MuniFin Group is not exposed to customer risk in its customer financing referred in the regulation, 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 0.1 million (EUR -0.1 million) recognised in the income statement for the financial year. The amount of forborne loans was EUR 80 million (EUR 88 million), while non-performing exposures amounted to EUR 7 million (EUR 128 million) at the end of the year. For these non-performing exposures, MuniFin has absolute guarantees by municipalities 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 0.02% (0.4%) 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. Eight 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 -25 million with least favourable scenario being a decrease of 200 basis points in the whole interest curve (at the end of 2021, the least favourable scenario was a rise of 50 basis points in the whole interest curve, EUR 0 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 rise of 200 basis points in the whole interest curve, when EVE was EUR -34 million (at the end of 2021, the least favourable scenario was a rise of 50 basis points in the whole interest curve, EUR -13 million).

MuniFin Group's foreign exchange *(FX)* risk is hedged 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. The Group has no significant open FX positions. In practice, a small temporary exchange rate risk may arise due to collateral management in the clearing of derivatives by central counterparties. This exchange rate 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 reporting period, unrealised fair value changes of financial instruments caused typical earnings volatility for the Group. 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. 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 turbulent markets.

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 revised its calculation method for the survival horizon in 2022, and the figure stood at 15 months (15 months) at the end of the year, calculated with the new method. The Group's liquidity remained good, with the liquidity coverage ratio (*LCR*) being 256.7% (334.9%) at the end of the year. The availability of long-term funding is monitored via the net stable funding ratio (*NSFR*), which stood at 120.3% (123.6%) at the end of the year. The availability of funding remained good throughout the year, and the Group issued EUR 8,827 million (EUR 9,395 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 during 2022. The Group's operating practices have changed with remote work arrangements, but the Group's business operations have continued normally.

ESG risks include environmental, social and governance risks. There have been no material changes in ESG risks during the year. According to the Group's estimate, it is currently not exposed to any substantial social or governance risks, and environmental and climate risks are also unlikely to manifest substantially in the short term. In the medium and long term, climate risks may nevertheless have an adverse economic effect on the Group's customers. In 2022, the Group made substantial investments into building its environmental and climate risk framework in line with regulatory requirements and feedback received from the ECB. This work will continue in 2023 and 2024.

MuniFin Group took part in the ECB's climate stress test in the first half of 2022. The results were published in July. The stress test concluded that the Group's potential exposure to transition risks caused by climate change is lower than the average of all participating banks. During the financial year 2022, the Group continued to further develop its ESG risk management. More information related to the Group's ESG risks is published in a Pillar III Disclosure Report, which is available on week 10 in English on MuniFin's website. K

MuniFin

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.

Upon the publication of the Annual Report, MuniFin Group also publishes a Corporate Governance Statement on its website, pursuant to chapter 7, section 7 of the Finnish Securities Market Act. The statement is separate from the Annual Report and 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 during the reporting period.

General meeting

The Annual General Meeting (*AGM*) of MuniFin was held on 24 March 2022. The AGM confirmed the Financial Statements for 2021 and discharged the members of the Board of Directors, the CEO and the Deputy to the CEO from liability for the financial year 2021. In addition, in accordance with the proposal of the Board of Directors, the AGM decided on a dividend payment of EUR 1.03 per share, totalling EUR 40,235,711.94. The amount of distributable funds on the Group's balance sheet on 31 December 2021 was EUR 267,949,619.07.

Based on the proposal of the Shareholders' Nomination Committee, the AGM decided to appoint eight Board members for the 2022–2023 term, lasting from the 2022 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 addition, the meeting re-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 decided, based on the proposal of the Shareholders' Nomination Committee, that the Committee will be supplemented by a fifth member representing the municipal sector. MuniFin's three largest shareholders – public sector pension provider Keva, State of Finland and the City of Helsinki – as well as the Association of Finnish Local and Regional Authorities have each nominated one member to the Committee. The fifth member will be appointed by a joint decision between the next five largest shareholders.

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 24 March 2022 regarding the members to be elected for the term that began at the end of the 2022 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, Vivi Marttila, Tuomo Mäkinen, Minna Smedsten, Denis Strandell and Leena Vainiomäki. 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), Vivi Marttila, 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 Tuomo Mäkinen. In the Remuneration Committee, the Board selected Kari Laukkanen (Chair), Leena Vainiomäki and Maaria Eriksson.

From the 2021 AGM to the 2022 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, Leena Vainiomäki and Kimmo Viertola. Viertola was not available for the Board's 2022–2023 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 2022, MuniFin Group had 175 (164) employees, of which 165 (153) worked for the Parent Company. Salaries and remuneration paid across the Group amounted to EUR 15.5 million (EUR 14.6 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 publishes a Pillar III Disclosure Report on capital adequacy, risk management and remuneration, which is available on week 10 in English on MuniFin's website.

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 operations, way of working and IT systems and that the risks associated with the operations are adequately managed. K

Events after the reporting period

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

Outlook for 2023

The economic outlook has deteriorated markedly in all MuniFin's main economic areas. In the United States, the main reason for the slowdown in growth is the rapidly tightening monetary policy, and in the euro area, the energy crisis and the surge in the cost of living. In China, the growth outlook is weighed down by the country's COVID situation and property sector crisis. The euro area is expected to slide into a recession in early 2023, but the downturn in economy is projected to be relatively short-lived and shallow because businesses have adjusted to the energy crisis faster than expected, and many households still have some extra savings accumulated during the pandemic.

Inflation continues to pose the biggest challenge in global macroeconomy. The fastest rise in consumer prices is likely to calm down during the coming winter months, but it may take a few years for inflation to return to the central banks' target level. Interest rate hikes will probably continue throughout the first half of 2023, other contractive monetary policy measures for much longer. Central bank key interest rates are predicted to rise to about 5% in the United States and over 3% in the euro area.

The Finnish economy is also sinking into a mild recession as real incomes are being eroded and businesses are more cautious in their investment decisions. The outlook has deteriorated especially in retail business and construction. General economic uncertainty and rising interest rates are a difficult combination for the housing market. Trends in building permits indeed suggest that the number of residential building projects will fall clearly in 2023.

It is to be expected that the cooling economic cycle will eventually also affect the labour market: employment growth will halt, and the unemployment rate will turn to a moderate rise. However, many sectors are currently facing such extensive labour shortages that strong growth in unemployment seems unlikely.

Finland's public finances will continue to show a significant deficit in the coming years. Due to new cost pressures, especially the central government will run into much more debt than was previously estimated. Municipal finances, however, are looking exceptionally strong in 2023. Municipalities will not bear the full burden of the tax cuts introduced by the health and social services reform until in 2024, but they will experience the relief of their health and social services spending being eliminated immediately at the start of 2023. Thanks to the temporary tax benefit, the financial position of Finnish municipalities is expected to show a surplus of more than EUR 1 billion. The main uncertainties in municipal finances stem from the general economic development, the energy crisis and the yet unknown true cost of municipalities' new responsibilities, such as the local government pilots on employment and the extension of compulsory education.

Considering the above-mentioned circumstances, the Group expects its net operating profit excluding unrealised fair value changes to be at the same level as in the previous year. 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. K

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

Municipality Finance Plc has distributable funds of EUR 365,774,616.34, of which the profit for the financial year totalled EUR 138,060,709.21.

The Board of Directors proposes to the Annual General Meeting that EUR 1.73 per share be paid in dividend, totalling EUR 67,580,370.54.

MuniFin's profit for the financial year was very good. The Board of Directors considers the payment of this dividend to be well justified. MuniFin clearly fulfils 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. In the Board's opinion, the proposed distribution of profits does not place the fulfilment of the capital requirements or the Company's liquidity in jeopardy or the proposal does not conflict with the binding legislation.

Dividends will be paid to shareholders who are recorded in the Company's list of shareholders on 4 April 2023. The Board of Directors proposes that the dividends be paid on 13 April 2023.

Helsinki, 10 February 2023
Municipality Finance Plc
Board of Directors

Further information:
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Harri Luhtala, CFO, tel. +358 50 592 9454

The Group's development

	Jan–Dec 2022	Jan–Dec 2021	Jan–Dec 2020	Jan–Dec 2019	Jan–Dec 2018
Turnover (EUR million)	759	535	532	718	714
Net interest income (EUR million)*	241	280	254	240	236
% of turnover	31.8	52.4	47.7	33.5	33.1
Net operating profit (EUR million)*	215	240	194	131	190
% of turnover	28.3	44.8	36.5	18.3	26.6
Unrealised fair value changes (EUR million)*	45	27	-3	-54	0
Net operating profit excluding unrealised fair value changes (EUR million)*	170	213	197	186	190
Cost-to-income ratio*	0.2	0.2	0.2	0.3	0.2
Cost-to-income ratio excluding unrealised fair value changes*	0.3	0.2	0.2	0.2	0.2
New long-term customer financing (EUR million)*	4,375	3,671	5,157	3,486	3,226
New long-term funding (EUR million)*	8,827	9,395	10,966	7,385	7,436

	31 Dec 2022	31 Dec 2021	31 Dec 2020	31 Dec 2019	31 Dec 2018
Return on equity (*ROE*), %*	9.9	10.7	9.4	6.8	10.8
Return on equity (*ROE*) excluding unrealised fair value changes, %*	7.8	9.6	9.6	9.6	10.7
Return on assets (*ROA*), %*	0.4	0.4	0.4	0.3	0.4
Return on assets (*ROA*) excluding unrealised fair value changes, %*	0.3	0.4	0.4	0.4	0.4
Long-term customer financing (EUR million)*	29,144	29,214	28,022	24,798	22,968
Total funding (EUR million)*	40,210	40,712	38,139	33,929	30,856
Equity (EUR million)	1,614	1,862	1,705	1,594	1,486
Total balance sheet (EUR million)	47,736	46,360	44,042	38,934	35,677
Total liquidity (EUR million)*	11,506	12,222	10,089	9,882	8,722
Liquidity Coverage Ratio (*LCR*), %	256.7	334.9	264.4	430.2	176.7
Net Stable Funding Ratio (*NSFR*), %	120.3	123.6	116.4	116.3	-
Equity ratio, %*	3.4	4.0	3.9	4.1	4.2
CET1 capital (EUR million)	1,482	1,408	1,277	1,162	1,065
Tier 1 capital (EUR million)	1,482	1,756	1,624	1,510	1,413
Total own funds (EUR million)	1,482	1,756	1,624	1,510	1,413
CET1 capital ratio, %	97.6	95.0	104.3	83.1	66.3
Tier 1 capital ratio, %	97.6	118.4	132.7	107.9	88.0
Total capital ratio, %	97.6	118.4	132.7	107.9	88.0
Leverage ratio, %**	11.6	12.8	3.9	4.0	4.1
Personnel	175	164	165	167	151

** 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 and the central government in the calculation of leverage ratio. CRR II Regulation entered into force in June 2021.*

The calculation formulas for all key figures can be found on pages 40–47. All figures presented in this 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*).

ALTERNATIVE PERFORMANCE MEASURE EUR million	DEFINITION / EXPLANATION	RECONCILIATION	1 Jan–31 Dec 2022	1 Jan–31 Dec 2021
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)	712	504
		interest and similar expense	-471	-223
		Net interest income	**241**	**280**
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.	Net income from securities transactions, unrealised fair value changes	8	22
		Net income from hedge accounting	36	5
		Unrealised fair value changes	**45**	**27**
Net operating profit	Net operating profit describes the Group's operating profit before taxes.	**Net operating profit**	**215**	**240**
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	215	240
		- Unrealised fair value changes	45	27
		Net operating profit excluding unrealised fair value changes	**170**	**213**
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	241	280
		Commission income	2	2
		Net income from securities and foreign exchange transactions	8	24
		Net income on financial assets at fair value through other comprehensive income	0	-
		Net income from hedge accounting	36	5
		Other operating income	0	0
		Income	**288**	**311**

ALTERNATIVE PERFORMANCE MEASURE EUR million	DEFINITION / EXPLANATION	RECONCILIATION	1 Jan–31 Dec 2022	1 Jan–31 Dec 2021
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	288	311
		- Unrealised fair value changes	45	27
		Income excluding unrealised fair value changes	**243**	**285**
Other income	Other income includes all other income of the Group except net interest income and unrealised fair value changes of net income from securities transactions and hedge accounting.	Commission income	2	2
		Net income from securities transactions, realised	0	1
		Net income from foreign exchange transactions	0	1
		Net income on financial assets at fair value through other comprehensive income	0	-
		Other operating income	0	0
		Other income	**2**	**4**
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	6	5
		Administrative expenses	37	35
		Depreciation and impairment on tangible and intangible assets	10	16
		Other operating expenses	20	16
		Costs	**73**	**72**
Costs excluding the non-recurring item	Costs excluding the non-recurring item reflects the amount of costs comparable between financial periods.	Costs	73	72
		Non-recurring item (expenses on terminated IT system implementation)	-5	-10
		Costs excluding the non-recurring item	**69**	**61**
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)	68	66
		÷ Income (incl. Net commission income)	283	306
		Cost-to-income ratio	**0.2**	**0.2**

ALTERNATIVE PERFORMANCE MEASURE EUR million	DEFINITION / EXPLANATION	RECONCILIATION	1 Jan–31 Dec 2022	1 Jan–31 Dec 2021
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)	68	66
		÷ (Income (incl. Net commission income)	283	306
		- Unrealised fair value changes)	45	27
		Cost-to-income ratio excluding unrealised fair value changes	**0.3**	**0.2**
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	45	27
		Taxes related to the unrealised fair value changes through PnL	-9	-5
		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	0	0
		Net change in Cost-of-Hedging, net of tax	-12	-2
		Net change in fair value of financial assets at fair value through other comprehensive income, net of tax	-5	-1
		The effect of unrealised fair value changes on other comprehensive income and equity net of tax	**19**	**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	4,074	3,275
		New leased assets	301	396
		New long-term customer financing	**4,375**	**3,671**
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**	**8,827**	**9,395**

ALTERNATIVE PERFORMANCE MEASURE EUR million	DEFINITION / EXPLANATION	RECONCILIATION	31 Dec 2022	31 Dec 2021
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	215	240
		- Taxes)	-43	-48
		÷ Equity and non-controlling interest (average of values at the beginning and end of the period)) x100	1,738	1,783
		Return on Equity *(ROE)*, %	**9.9%**	**10.7%**
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	170	213
		- Taxes)	-34	-43
		÷ Equity and non-controlling interest (average of values at the beginning and end of the period)) x100	1,738	1,783
		Return on Equity *(ROE)* excluding unrealised fair value changes, %	**7.8%**	**9.6%**
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	215	240
		- Taxes)	-43	-48
		÷ Average balance sheet total (average of values at the beginning and end of the period)) x100	47,048	45,201
		Return on Assets *(ROA)*, %	**0.4%**	**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	170	213
		- Taxes)	-34	-43
		÷ Average balance sheet total (average of values at the beginning and end of the period)) x100	47,048	45,201
		Return on Assets *(ROA)* excluding unrealised fair value changes, %	**0.3%**	**0.4%**
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	1,614	1,862
		÷ Balance sheet total) x100	47,736	46,360
		Equity ratio, %	**3.4%**	**4,0%**
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	29,144	29,214
		- Leasing	1,303	1,334
		Long-term loan portfolio	**27,841**	**27,880**
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	29,144	29,214
		Long-term customer financing	**29,144**	**29,214**

ALTERNATIVE PERFORMANCE MEASURE EUR million	DEFINITION / EXPLANATION	RECONCILIATION	31 Dec 2022	31 Dec 2021
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	29,144	29,214
		- Unrealised fair value changes	1,516	-151
		Long-term customer financing excluding unrealised fair value changes	**30,660**	**29,063**
Short-term customer financing	Key indicator used in management reporting to describe MuniFin Group's business volume.	Debt securities, commercial papers (municipalities and municipal companies)	1,457	1,089
		Short-term customer financing	**1,457**	**1,089**
Total funding	Key indicator used in management reporting to describe MuniFin Group's funding volume.	Liabilities to credit institutions	2,333	2,801
		Liabilities to the public and public sector entities	2,530	3,325
		Debt securities issued	35,592	35,328
		Total	**40,454**	**41,453**
		- CSA collateral (received)	-244	-741
		Total funding	**40,210**	**40,712**
Long-term funding	Key indicator used in management reporting to describe MuniFin Group's funding volume.	Total funding	40,210	40,712
		- Short-term issued funding (*ECP*)	-4,650	-3,819
		Long-term funding	**35,560**	**36,893**
Total liquidity	Key indicator used in management reporting to describe MuniFin Group's liquidity position.	Debt securities	4,787	4,841
		- Short-term customer financing	-1,457	-1,089
		Shares and participations	-	-
		Investments in securities total	**3,330**	**3,753**
		Cash and balances with central banks	-	8,399
		Other deposits	8,176	70
		Other investments total	**8,176**	**8,469**
		Total liquidity	**11,506**	**12,222**
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	498	456
		÷Green and social funding) x100	3,430	2,930
		Ratio of socially responsible investments to MuniFin Group's own green and social funding	**14.5%**	**15.6%**

OTHER MEASURES EUR million	DEFINITION	RECONCILIATION	1 Jan–31 Dec 2022	1 Jan–31 Dec 2021
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)	712	504
		Commission income	2	2
		Net income from securities and foreign exchange transactions	8	24
		Net income on financial assets at fair value through other comprehensive income	0	-
		Net income from hedge accounting	36	5
		Other operating income	0	0
		Turnover	**759**	**535**

			31 Dec 2022	31 Dec 2021
Liquidity Coverage Ratio *(LCR)*, %	Defined in CRR.	(Liquid assets	10,882	11,564
		÷ (Liquidity outflows - liquidity inflows in a stress situation)) x100	4,240	3,453
		Liquidity Coverage Ratio *(LCR)*, %	**256.7%**	**334.9%**
Net Stable Funding Ratio *(NSFR)*, %	Defined in CRR.	(Available Stable Funding (*ASF*)	31,966	33,638
		÷ Required Stable Funding (*RSF*)) x100	26,583	27,221
		Net Stable Funding Ratio *(NSFR)*, %	**120.3%**	**123.6%**
CET1 capital ratio, %	Defined in CRR.	(Common Equity Tier 1 (*CET1*) capital	1,482	1,408
		÷ Risk exposure amount) x100	1,518	1,482
		CET1 capital ratio, %	**97.6%**	**95.0%**

OTHER MEASURES EUR million	DEFINITION	RECONCILIATION	1 Jan–31 Dec 2022	1 Jan–31 Dec 2021
Tier 1 capital ratio, %	Defined in CRR.	(Tier 1 capital	1,482	1,756
		÷ Risk exposure amount) x100	1,518	1,482
		Tier 1 capital ratio, %	**97.6%**	**118.4%**
Total capital ratio, %	Defined in CRR.	(Total own funds	1,482	1,756
		÷ Risk exposure amount) x100	1,518	1,482
		Total capital ratio, %	**97.6%**	**118.4%**
Leverage ratio, %	Defined in CRR.	(Tier 1 capital	1,482	1,756
		÷ Total exposure) x100	12,779	13,716
		Leverage ratio, %	**11.6%**	**12.8%**

MuniFin Group's Financial Statements Bulletin

Tables

MuniFin

Municipality Finance Plc • Financial Statements Bulletin 2022

Consolidated Income Statement

(EUR 1,000)	Note	Jan–Dec 2022	Jan–Dec 2021	Jul–Dec 2022	Jul–Dec 2021
Interest and similar income	(2)	711,740	503,536	470,788	246,964
Interest and similar expense	(2)	-470,585	-223,339	-351,349	-104,958
Net interest income		**241,155**	**280,197**	**119,439**	**142,006**
Commission income		2,302	2,126	1,127	1,227
Commission expense		-5,517	-5,056	-2,756	-2,630
Net income from securities and foreign exchange transactions	(3)	8,140	24,095	5,184	6,947
Net income on financial assets at fair value through other comprehensive income		-149	-	-149	-
Net income from hedge accounting	(4)	36,444	4,823	23,255	-64
Other operating income		90	95	24	19
Administrative expenses		-37,361	-34,722	-18,758	-16,910
Depreciation and impairment on tangible and intangible assets		-10,423	-16,208	-2,874	-13,355
Other operating expenses		-19,774	-15,568	-858	-5,008
Credit loss and impairments on financial assets		118	-104	858	-42
Net operating profit		**215,024**	**239,678**	**124,492**	**112,190**
Income tax expense		-43,023	-48,073	-23,894	-22,512
Profit for the period		**172,001**	**191,605**	**100,598**	**89,678**

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

Consolidated Statement of Comprehensive Income

(EUR 1,000)	Note	Jan–Dec 2022	Jan–Dec 2021	Jul–Dec 2022	Jul–Dec 2021
Profit for the period		172,001	191,605	100,598	89,678
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		-184	400	30,168	4,601
Net change in Cost-of-Hedging		-15,166	-2,504	11,810	-4,579
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		-5,961	-672	-1,686	-377
Net change in expected credit loss of financial assets at fair value through other comprehensive income	(10)	3	0	3	-4
Taxes related to components of other comprehensive income		4,262	555	-8,059	72
Total components of other comprehensive income		-17,046	-2,222	32,235	-288
Total comprehensive income for the period		**154,955**	**189,383**	**132,833**	**89,390**

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

Consolidated Statement of Financial Position

(EUR 1,000)	Note	31 Dec 2022	31 Dec 2021
Assets			
Cash and balances with central banks	(7)	2	8,399,045
Loans and advances to credit institutions		9,625,488	1,417,310
Loans and advances to the public and public sector entities		29,144,361	29,214,043
Debt securities		4,786,768	4,841,428
Shares and participations		-	-
Derivative contracts	(8)	2,707,103	1,999,676
Intangible assets	(9)	8,831	12,296
Tangible assets	(9)	5,062	7,491
Other assets		1,234,810	256,117
Accrued income and prepayments		223,104	212,655
Deferred tax assets		763	-
Total assets	**(5, 6)**	**47,736,293**	**46,360,060**

(EUR 1,000)	Note	31 Dec 2022	31 Dec 2021
Liabilities and equity			
Liabilities			
Liabilities to credit institutions	(11)	2,332,623	2,801,016
Liabilities to the public and public sector entities		2,529,585	3,324,685
Debt securities issued	(12)	35,592,065	35,327,525
Derivative contracts	(8)	4,616,111	2,224,294
Provisions and other liabilities	(13)	593,848	349,331
Accrued expenses and deferred income		166,635	181,732
Deferred tax liabilities		291,717	289,887
Total liabilities	**(5, 6)**	**46,122,584**	**44,498,470**
Equity			
Share capital		42,583	42,583
Reserve fund		277	277
Fair value reserve of investments		-4,457	309
Own credit revaluation reserve		-83	64
Cost-of-Hedging reserve		1,488	13,621
Reserve for invested non-restricted equity		40,366	40,366
Retained earnings		1,533,535	1,416,916
Total equity attributable to Parent Company equity holders		**1,613,709**	**1,514,136**
Other equity instruments issued	**(14)**	**-**	**347,454**
Total equity		**1,613,709**	**1,861,590**
Total liabilities and equity		**47,736,293**	**46,360,060**

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 2020	**42,583**	**277**	**847**	**-255**	**15,624**	**40,366**	**1,258,224**	**1,357,666**	**347,454**	**1,705,120**
Interest paid on Additional Tier 1 capital instrument	-	-	-	-	-	-	-12,600	-12,600	-	-12,600
Dividends paid for 2020	-	-	-	-	-	-	-20,313	-20,313	-	-20,313
Profit for the financial year	-	-	-	-	-	-	191,605	191,605	-	191,605
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	-	-	-	320	-	-	-	320	-	320
Net change in Cost-of-Hedging	-	-	-	-	-2,004	-	-	-2,004	-	-2,004
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	-	-	-538	-	-	-	-	-538	-	-538
Net change in expected credit loss of financial assets at fair value through other comprehensive income	-	-	0	-	-	-	-	0	-	0
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**

(EUR 1,000)	Total equity attributable to Parent Company equity holders								Other equity instruments issued	Total equity
	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		
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 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**

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

Consolidated Statement of Cash Flows

(EUR 1,000)	1 Jan–31 Dec 2022	1 Jan–31 Dec 2021
Cash flow from operating activities	**-7,975,442**	**2,750,437**
Net change in long-term funding	2,063,033	3,085,073
Net change in short-term funding	1,103,027	-354,008
Net change in long-term loans	-1,637,350	-1,580,112
Net change in short-term loans	-368,992	224,130
Net change in investments	-7,919,967	667,724
Net change in collaterals	-1,332,255	480,083
Interest on assets	97,307	16,875
Interest on liabilities	93,906	221,595
Other income	54,080	74,355
Payments of operating expenses	-61,490	-88,798
Taxes paid	-66,742	3,518
Cash flow from investing activities	**-3,550**	**-7,747**
Acquisition of tangible assets	-16	-3
Proceeds from sale of tangible assets	149	226
Acquisition of intangible assets	-3,684	-7,970
Cash flow from financing activities	**-407,887**	**-37,866**
Redemption of AT1 capital instrument	-350,000	-
Paid interest on AT1 capital instrument	-15,750	-15,750
Dividend paid	-40,236	-20,313
Total cash flow from leases	-1,902	-1,803
Change in cash and cash equivalents	**-8,386,879**	**2,704,824**
Cash and cash equivalents at 1 Jan	**8,435,504**	**5,730,680**
Cash and cash equivalents at 31 Dec	**48,624**	**8,435,504**

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

Notes to the Financial Statements Bulletin

MuniFin

Note 1. Accounting policies

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 2021 (Note *1*). No significant changes have been made to the accounting policies compared to the Consolidated Financial Statements 2021.

The Financial Statements Bulletin is based on the audited 2022 Financial Statements. The Auditor's Report has been issued on 10 February 2023.

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 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 items *Net income from securities and foreign exchange transactions* and *Net income from hedge accounting* 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.*

Management judgement related to the expected credit losses

The measurement of impairment losses under IFRS 9 across all categories of financial assets requires judgement, in particular, with the estimation of 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 grading 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 finished ECL IT and model development during the second half of the year 2022. With the development, changes have been made to the assessment criteria for significant increase in credit risk (*SICR*), and to the models of probability of default (*PD*) and loss given default (*LGD*). Because of this, the Group recorded an additional discretionary provision (*management overlay*) at the end of 2021 to take into account IT and model changes that will take place in 2022. The amount of additional discretionary provision was increased at the end of June 2022. The additional discretionary provision based on a group-specific assessment and decided by the Group's management, was EUR 916 thousand. Since the IT and model development has been completed in the second half of 2022, the additional discretionary provision based on the group-specific assessment was removed. The additional provision was recognised under the balance sheet item *Loans and advances to the public and public sector entities*. The additional provision was not allocated to contract level. In addition, macro scenarios were updated to take into account forward-looking information.

Management judgement related to Russia's invasion of Ukraine

MuniFin Group has used management judgement in the preparation of this Financial Statements Bulletin regarding the possible impacts on Russia's invasion of Ukraine on the Group's business and risks. Russia's invasion of Ukraine has had little effect on the Group's financial position and results, as MuniFin Group has no exposures to Russia or Ukraine. In the first half of 2022, the interest rate and inflation environment turned to a sharp increase and economic growth declined due to Russia's invasion of Ukraine. Despite the market turbulence, the Group's funding continued in the usual manner during the year and the Group had strong access to capital markets throughout the year. Because of the uncertainty arising from the war and the inflation outlook, the Group has nevertheless maintained larger than normal liquidity buffers as a precaution. Russia's invasion of Ukraine 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.

Note 2. Interest income and expense

(EUR 1,000)	Jan–Dec 2022 Interest and similar income	Jan–Dec 2022 Interest and similar expense	Jan–Dec 2022 Net	Jan–Dec 2021 Interest and similar income	Jan–Dec 2021 Interest and similar expense	Jan–Dec 2021 Net
Assets						
Amortised cost						
Cash and balances with central banks	30,304	-26,828	3,475	-	-38,619	-38,619
Loans and advances to credit institutions	8,290	-8,346	-56	46	-7,845	-7,800
Loans and advances to the public and public sector entities	220,905	-	220,905	188,484	-	188,484
Debt securities	5,345	-3,206	2,140	9	-5,335	-5,326
Other assets	8,019	-	8,019	1,121	-	1,121
Fair value through other comprehensive income						
Debt securities	9	-	9	-	-589	-589
Designated at fair value through profit or loss						
Loans and advances to the public and public sector entities	348	-	348	236	-	236
Debt securities	9,436	-	9,436	8,422	-	8,422
Mandatorily at fair value through profit or loss						
Loans and advances to the public and public sector entities	827	-	827	933	-	933
Debt securities	-	-	-	-	-	-
Fair value through profit or loss						
Derivative contracts at fair value through profit or loss	92,225	-87,665	4,560	76,104	-99,734	-23,630
Derivative contracts in hedge accounting	-34,804	-	-34,804	-93,724	-	-93,724
Leased assets	10,177	-	10,177	6,366	-	6,366
Interest on non-financial other assets	6	-	6	8	-	8
Interest on assets	**351,089**	**-126,045**	**225,044**	**188,005**	**-152,123**	**35,883**
, of which interest income/expense according to the effective interest method	*272,863*	*-38,380*		*189,660*	*-52,389*	

MuniFin

(EUR 1,000)	Jan–Dec 2022 Interest and similar income	Jan–Dec 2022 Interest and similar expense	Jan–Dec 2022 Net	Jan–Dec 2021 Interest and similar income	Jan–Dec 2021 Interest and similar expense	Jan–Dec 2021 Net
Liabilities						
Amortised cost						
Liabilities to credit institutions	11,575	-12,570	-995	20,118	-949	19,169
Liabilities to the public and public sector entities	-	-44,838	-44,838	-	-51,503	-51,503
Debt securities issued	778	-263,148	-262,370	1,711	-219,984	-218,273
Provisions and other liabilities	-	-4,286	-4,286	-	-2,181	-2,181
Designated at fair value through profit or loss						
Liabilities to credit institutions	-	-54	-54	-	-30	-30
Liabilities to the public and public sector entities	-	-34,195	-34,195	-	-32,726	-32,726
Debt securities issued	-	-157,748	-157,748	14	-78,466	-78,452
Fair value through profit or loss						
Derivative contracts at fair value through profit or loss	348,298	-139,384	208,915	293,688	-96,628	197,061
Derivative contracts in hedge accounting	-	311,682	311,682	-	411,252	411,252
Interest on liabilities	**360,651**	**-344,540**	**16,111**	**315,531**	**-71,216**	**244,315**
, of which interest income/expense according to the effective interest method	*12,353*	*-324,841*		*21,829*	*-274,618*	
Total interest income and expense	**711,740**	**-470,585**	**241,155**	**503,536**	**-223,339**	**280,197**

Interest income on stage 3 financial assets in the expected credit loss (*ECL*) calculations totalled EUR 743 thousand (EUR 951 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 51 thousand (EUR 70 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 consists of interest paid on central bank deposits and interest on loans and advances to credit institutions of interest on cash collateral receivables. Interest expenses on debt securities consists of interest paid on short-term lending. Negative interest arises on debt securities at fair value through other comprehensive income due to the premium / discount amortisation of debt securities and commercial papers. Interest expenses on derivative contracts at fair value through profit or loss consist of negative interest income on derivative contracts that are not included in hedge accounting. 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 consists of interest received on cash collateral liabilities as well as on TLTRO III debt and interest income on debt securities issued consists 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*.

(EUR 1,000)	Jul–Dec 2022 Interest and similar income	Jul–Dec 2022 Interest and similar expense	Jul–Dec 2022 Net	Jul–Dec 2021 Interest and similar income	Jul–Dec 2021 Interest and similar expense	Jul–Dec 2021 Net
Assets						
Amortised cost						
Cash and balances with central banks	30,304	-3,234	27,070	-	-20,306	-20,306
Loans and advances to credit institutions	8,254	-4,524	3,730	19	-3,787	-3,768
Loans and advances to the public and public sector entities	145,105	-	145,105	93,091	-	93,091
Debt securities	5,337	-721	4,616	1	-2,767	-2,766
Other assets	6,833	-	6,833	811	-	811
Fair value through other comprehensive income						
Debt securities	9	174	183	-	-259	-259
Designated at fair value through profit or loss						
Loans and advances to the public and public sector entities	174	-	174	-373	-	-373
Debt securities	6,245	-	6,245	3,842	-	3,842
Mandatorily at fair value through profit or loss						
Loans and advances to the public and public sector entities	404	-	404	511	-	511
Debt securities	-	-	-	-	-	-
Fair value through profit or loss						
Derivative contracts at fair value through profit or loss	58,125	-44,283	13,842	38,286	-48,837	-10,551
Derivative contracts in hedge accounting	12,807	-	12,807	-48,249	-	-48,249
Leased assets	5,930	-	5,930	3,386	-	3,386
Interest on non-financial other assets	2	-	2	5	-	5
Interest on assets	**279,530**	**-52,588**	**226,942**	**91,329**	**-75,956**	**15,374**
, of which interest income/expense according to the effective interest method	*195,833*	*-8,305*		*93,922*	*-27,119*	

(EUR 1,000)	Jul–Dec 2022 Interest and similar income	Interest and similar expense	Net	Jul–Dec 2021 Interest and similar income	Interest and similar expense	Net
Liabilities						
Amortised cost						
Liabilities to credit institutions	-654	-10,223	-10,877	11,953	-566	11,388
Liabilities to the public and public sector entities	-	-24,430	-24,430	-	-23,463	-23,463
Debt securities issued	15	-134,099	-134,084	1,105	-96,500	-95,395
Provisions and other liabilities	-	-2,434	-2,434	-	-985	-985
Designated at fair value through profit or loss						
Liabilities to credit institutions	-	-27	-27	-	-23	-23
Liabilities to the public and public sector entities	-	-17,648	-17,648	-	-16,514	-16,514
Debt securities issued	-	-127,038	-127,038	-	-41,074	-41,074
Fair value through profit or loss						
Derivative contracts at fair value through profit or loss	191,897	-72,550	119,347	142,577	-52,526	90,051
Derivative contracts in hedge accounting	-	89,687	89,687	-	202,646	202,646
Interest on liabilities	**191,258**	**-298,761**	**-107,503**	**155,635**	**-29,002**	**126,633**
, of which interest income/expense according to the effective interest method	*-639*	*-171,185*		*13,058*	*-121,512*	
Total interest income and expense	**470,788**	**-351,349**	**119,439**	**246,964**	**-104,958**	**142,006**

Municipality Finance Plc • Financial Statements Bulletin 2022

Note 3. Net income from securities and foreign exchange transactions

NET INCOME FROM SECURITIES AND FOREIGN EXCHANGE TRANSACTIONS (EUR 1,000)	Jan–Dec 2022			Jul–Dec 2022		
	Capital gains and losses (net)	Change in fair value	Total	Capital gains and losses (net)	Change in fair value	Total
Financial assets						
Designated at fair value through profit or loss	-	-245,535	-245,535	-	-99,134	-99,134
Mandatorily at fair value through profit or loss	-	-976	-976	-	1,308	1,308
Financial liabilities						
Designated at fair value through profit or loss	-	559,318	559,318	-	-7,744	-7,744
Derivative contracts at fair value through profit or loss	205	-304,568	-304,363	205	110,935	111,140
Day 1 gain or loss	-	-156	-156	-	-176	-176
Total net income from securities transactions	**205**	**8,083**	**8,288**	**205**	**5,188**	**5,393**
Net income from foreign exchange transactions	**-11,124**	**10,976**	**-148**	**-15,256**	**15,047**	**-209**
Total	**-10,918**	**19,058**	**8,140**	**-15,051**	**20,235**	**5,184**

Net income from securities transactions 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. Net income from foreign exchange transactions includes unrealised and realised translation differences for all items denominated in foreign currencies.

NET INCOME FROM SECURITIES AND FOREIGN EXCHANGE TRANSACTIONS (EUR 1,000)	Jan–Dec 2021 Capital gains and losses (net)	Jan–Dec 2021 Change in fair value	Jan–Dec 2021 Total	Jul–Dec 2021 Capital gains and losses (net)	Jul–Dec 2021 Change in fair value	Jul–Dec 2021 Total
Financial assets						
Designated at fair value through profit or loss	-	-50,402	-50,402	-	-34,618	-34,618
Mandatorily at fair value through profit or loss	-23	-2,532	-2,554	-	-1,101	-1,101
Financial liabilities						
Designated at fair value through profit or loss	-	279,431	279,431	-	222,226	222,226
Derivative contracts at fair value through profit or loss	910	-204,471	-203,560	-335	-179,173	-179,508
Day 1 gain or loss	-	-208	-208	-	-250	-250
Total net income from securities transactions	**888**	**21,819**	**22,707**	**-335**	**7,084**	**6,748**
Net income from foreign exchange transactions	**53**	**1,336**	**1,388**	**38**	**160**	**198**
Total	**940**	**23,155**	**24,095**	**-297**	**7,244**	**6,947**

FINANCIAL ASSETS AND LIABILITIES DESIGNATED AT FAIR VALUE THROUGH PROFIT OR LOSS (EUR 1,000)	Nominal value 31 Dec 2022	Carrying amount 31 Dec 2022	Nominal value 31 Dec 2021	Carrying amount 31 Dec 2021
Financial assets				
Loans and advances to the public and public sector entities	30,000	28,432	30,000	38,941
Debt securities	3,355,906	3,162,034	3,484,223	3,539,074
Total financial assets *	**3,385,906**	**3,190,465**	**3,514,223**	**3,578,015**
Financial liabilities				
Liabilities to credit institutions	5,000	3,291	5,000	4,787
Liabilities to the public sector entitities	1,495,567	1,318,658	1,445,202	1,548,394
Debt securities issued	11,505,250	10,842,676	10,680,831	10,008,299
Total financial liabilities	**13,005,818**	**12,164,626**	**12,131,032**	**11,561,479**

* 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 2022 and 31 Dec 2021.

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**

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 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 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 NET INCOME FROM SECURITIES TRANSACTIONS (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**

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 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 from securities transactions*.

MuniFin Group applies the income approach of IFRS 13 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 2021	1 Jan 2021	Fair value change recognised in the income statement Jan–Dec 2021	, of which due to credit risk	, of which due to market risk	Fair value change recognised in the income statement Jul–Dec 2021	, of which due to credit risk	, of which due to market risk
Financial assets								
Loans and advances to the public and public sector entities	-769	-	-769	13	-782	-10,651	69	-10,720
Debt securities	20,226	69,859	-49,633	4,434	-54,067	-23,966	3,275	-27,241
Total financial assets	**19,457**	**69,859**	**-50,402**	**4,446**	**-54,849**	**-34,618**	**3,344**	**-37,962**

CHANGE IN FAIR VALUE OF FINANCIAL LIABILITIES DESIGNATED AT FAIR VALUE THROUGH PROFIT OR LOSS (EUR 1,000)	31 Dec 2021	1 Jan 2021	Fair value change recognised in the income statement Jan–Dec 2021	Change in own credit risk recognised in the other comprehensive income Jan–Dec 2021	Total fair value change in Jan–Dec 2021	Fair value change recognised in the income statement Jul–Dec 2021	Change in own credit risk recognised in the other comprehensive income Jul–Dec 2021	Total fair value change in Jul–Dec 2021
Financial liabilities								
Liabilities to credit institutions	187	418	-231	26	-205	-12	26	14
Liabilities to the public sector entitities	-152,113	-244,146	92,032	1,729	93,761	38,480	1,794	40,274
Debt securities issued	573,054	385,424	187,630	-1,356	186,274	183,758	2,781	186,539
Total financial liabilities	**421,127**	**141,696**	**279,431**	**400**	**279,831**	**222,226**	**4,601**	**226,827**

NET CHANGE IN FAIR VALUE IN NET INCOME FROM SECURITIES TRANSACTIONS (EUR 1,000)	Cumulative change in fair value 31 Dec 2021	Fair value change recognised in the income statement Jan–Dec 2021	Fair value change recognised in the income statement Jul–Dec 2021
Financial liabilities designated at fair value through profit or loss	421,127	279,431	222,226
Derivative contracts at fair value through profit or loss hedging financial liabilities	-435,559	-267,712	-216,947
Net change in fair value	**-14,432**	**11,719**	**5,279**

Note 4. Hedge accounting

The interest rate and foreign exchange rate risk 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 rate and long-term reference rates are swapped to floating interest rates with shorter terms.

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 2021 (Note *1*) in Section *10. Hedge Accounting*.

In the following table, the hedged assets and liabilities are presented according to 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 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 end of the financial year, in addition to the fair value change of the hedged risk and the hedging instrument during the financial year. The figures presented in the table do not include the change in fair value due to foreign exchange differences of hedging instruments and the hedged items, which are recognised in the income statement under *Net income from securities and foreign exchange transactions*. Due to the above mentioned reason, the total amount of the hedging instruments does not correspond to the fair value presented in Note *8 Derivative contracts* 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 from hedge accounting*. The ineffective portion of the hedging relationship is thus shown on this line in the income statement.

In accordance with the market practice and IFRS 13 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 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 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 2022 (EUR 1,000)

HEDGED ITEM	Hedging instruments	Gains/losses attributable to the hedged risk: Hedged items	Gains/losses attributable to the hedged risk: 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**

HEDGE ACCOUNTING 31 Dec 2021 (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	12,577,902	12,725,453	12,598,775	126,678	-
Loans and advances to the public and public sector entities – Leased assets	243,432	242,936	-	242,936	-
Total assets	**12,869,504**	**12,968,390**	**12,598,775**	**369,615**	**-**
Liabilities					
Liabilities to credit institutions	50,000	55,120	-	55,120	-
Liabilities to the public and public sector entities	1,504,060	1,776,291	-	1,737,750	38,541
Debt securities issued	24,714,983	24,852,845	-	12,207,796	12,645,049
Total liabilities	**26,269,043**	**26,684,256**	**-**	**14,000,666**	**12,683,589**

VALUE OF HEDGED RISK (EUR 1,000)	31 Dec 2021	1 Jan 2021	Recognised in the income statement Jan–Dec 2021	Recognised in the income statement Jul–Dec 2021
Assets				
IAS 39 portfolio hedge accounting				
Loans and advances to the public and public sector entities	122,505	464,688	-342,182	-136,156
Derivative contracts in hedge accounting	-78,911	-428,083	349,171	142,147
Accumulated fair value accrual from the termination of hedge accounting	218	47	170	187
IAS 39 portfolio hedge accounting, net	**43,812**	**36,653**	**7,159**	**6,179**
IFRS 9 fair value hedge accounting				
Loans and advances to the public and public sector entities	25,414	41,424	-16,010	-4,915
Derivative contracts in hedge accounting	-25,669	-42,044	16,375	5,088
IFRS 9 Fair value hedge accounting, net	**-255**	**-620**	**365**	**174**
Liabilities				
IFRS 9 fair value hedge accounting				
Liabilities to credit institutions	-5,120	-13,800	8,681	-1,078
Liabilities to the public and public sector entities	-340,433	-481,546	141,113	46,279
Debt securities issued	-171,028	-859,986	688,958	308,383
Derivative contracts in hedge accounting	500,306	1,340,456	-840,150	-359,719
IFRS 9 fair value hedge accounting, net	**-16,275**	**-14,876**	**-1,399**	**-6,135**
IBOR reform related compensations	-3,343	-2,041	-1,302	-282
Total hedge accounting	**23,938**	**19,116**	**4,822**	**-64**

HEDGING IMPACT ON EQUITY (EUR 1,000)	31 Dec 2021	1 Jan 2021	Impact on Cost-of-Hedging reserve
Cost-of-Hedging			
Derivative contracts in hedge accounting	13,621	15,624	-2,004
Total	**13,621**	**15,624**	**-2,004**

EFFECTIVENESS OF HEDGE ACCOUNTING 31 Dec 2021 (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	122,505	-78,911	43,594
IFRS 9 fair value hedge accounting				
Structured lending	Interest rate derivatives	25,908	-25,880	28
Fixed rate and revisable rate leased assets	Interest rate derivatives	-495	211	-283
Assets total		**147,919**	**-104,580**	**43,339**
Liabilities				
IFRS 9 fair value hedge accounting				
Financial liabilities denominated in EUR	Interest rate derivatives	-435,365	426,733	-8,633
Financial liabilities denominated in foreign currencies	Currency derivatives (Cross currency interest rate swaps) Interest rate derivatives	-81,215	73,573	-7,642
Liabilities total		**-516,581**	**500,306**	**-16,275**

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Note 5. Financial assets and liabilities

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
Shares and participations	-	-	-	-	-	-	-
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.

FINANCIAL ASSETS 31 Dec 2021 (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	8,399,045	-	-	-	-	8,399,045	8,399,045
Loans and advances to credit institutions	1,417,310	-	-	-	-	1,417,310	1,417,310
Loans and advances to the public and public sector entities *	28,048,688	-	38,941	35,204	-	28,122,834	30,301,783
Debt securities	1,088,888	213,466	3,539,074	-	-	4,841,428	4,841,792
Shares and participations	-	-	-	-	-	-	-
Derivative contracts at fair value through profit or loss	-	-	-	-	761,023	761,023	761,023
Derivative contracts in hedge accounting	-	-	-	-	1,238,653	1,238,653	1,238,653
Other assets **	238,930	-	-	-	-	238,930	238,930
Total	**39,192,861**	**213,466**	**3,578,015**	**35,204**	**1,999,676**	**45,019,222**	**47,198,536**

* Line item includes EUR 242,936 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 2021 (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	2,796,230	4,787	-	2,801,016	2,800,913
Liabilities to the public and public sector entities	1,776,291	1,548,394	-	3,324,685	3,344,334
Debt securities issued	25,319,226	10,008,299	-	35,327,525	35,434,600
Derivative contracts at fair value through profit or loss	-	-	1,114,003	1,114,003	1,114,003
Derivative contracts in hedge accounting	-	-	1,110,291	1,110,291	1,110,291
Provisions and other liabilities *	337,823	-	-	337,823	337,823
Total	**30,229,570**	**11,561,479**	**2,224,294**	**44,015,343**	**44,141,965**

* Line item includes EUR 333,295 thousand of cash collateral received from central counterparties and EUR 4,528 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.

RECLASSIFICATION OF 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

* 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.

RECLASSIFICATION OF FINANCIAL ASSETS (EUR 1,000)	Original measurement category under IAS 39	New measurement category under IFRS 9	Fair value 31 Dec 2021	Fair value gain or loss for the financial year	EIR determined as at 1 Jan 2018	Interest revenue recognised Jan–Dec 2021	Interest revenue recognised during Jul–Dec 2021
Loans and advances to the public and public sector entities	Fair value option	Amortised cost	99,253	-1,589	0.14%	422	70

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
This level 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 2022 (EUR 1,000)		Fair value			
	Carrying amount	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**

* MuniFin Group's fixed-rate benchmark bond issuances are presented on level 2 due the fact that 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 2021 (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	213,466	172,717	40,748	-	213,466
Designated at fair value through profit or loss					
Loans and advances to the public and public sector entities	38,941	-	38,941	-	38,941
Debt securities	3,539,074	3,451,809	87,265	-	3,539,074
Mandatorily at fair value through profit or loss					
Loans and advances to the public and public sector entities	35,204	-	344	34,861	35,204
Fair value through profit or loss					
Derivative contracts at fair value through profit or loss	761,023	-	698,194	62,829	761,023
Derivative contracts in hedge accounting	1,238,653	-	1,238,246	407	1,238,653
Total at fair value	**5,826,360**	**3,624,526**	**2,103,737**	**98,097**	**5,826,360**
In fair value hedge accounting					
Amortised cost					
Loans and advances to the public and public sector entities	12,968,390	-	13,749,511	-	13,749,511
Total in fair value hedge accounting	**12,968,390**	**-**	**13,749,511**	**-**	**13,749,511**
At amortised cost					
Cash and balances with central banks	8,399,045	8,399,045	-	-	8,399,045
Loans and advances to credit institutions	1,417,310	106,734	1,310,576	-	1,417,310
Loans and advances to the public and public sector entities	15,080,299	-	16,478,128	-	16,478,128
Debt securities	1,088,888	-	1,089,253	-	1,089,253
Other assets	238,930	-	238,930	-	238,930
Total at amortised cost	**26,224,472**	**8,505,779**	**19,116,886**	**-**	**27,622,665**
Total financial assets	**45,019,222**	**12,130,305**	**34,970,134**	**98,097**	**47,198,536**

FINANCIAL LIABILITIES 31 Dec 2021 (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	4,787	-	4,787	-	4,787
Liabilities to the public and public sector entities	1,548,394	-	1,284,601	263,793	1,548,394
Debt securities issued	10,008,299	-	8,248,729	1,759,569	10,008,299
Fair value through profit or loss					
Derivative contracts at fair value through profit or loss	1,114,003	-	369,705	744,299	1,114,003
Derivative contracts in hedge accounting	1,110,291	-	1,084,602	25,690	1,110,291
Total at fair value	**13,785,774**	**-**	**10,992,423**	**2,793,350**	**13,785,774**
In fair value hedge accounting					
Amortised cost					
Liabilities to credit institutions	55,120	-	55,016	-	55,016
Liabilities to the public and public sector entities	1,776,291	-	1,795,941	-	1,795,941
Debt securities issued	24,852,845	-	24,873,880	86,040	24,959,920
Total in fair value hedge accounting	**26,684,256**	**-**	**26,724,837**	**86,040**	**26,810,877**
At amortised cost					
Liabilities to credit institutions	2,741,110	-	2,741,110	-	2,741,110
Debt securities issued	466,381	-	466,381	-	466,381
Provisions and other liabilities	337,823	-	337,823	-	337,823
Total at amortised cost	**3,545,314**	**-**	**3,545,314**	**-**	**3,545,314**
Total financial liabilities	**44,015,343**	**-**	**41,262,574**	**2,879,390**	**44,141,965**

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 value of a certain types of instruments. The choice of base model 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.

The 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*).

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 EMT.

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 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 (*CVC*) 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 2022, transfers totaling EUR 9,270 thousand have been made between level 1 and level 2. During 2022, 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**

* The Group recognises these gains and losses within the line items *Net income from securities and foreign exchange transactions* and *Net income from hedge accounting*.
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.

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 2022, these assumptions could have increased fair values by EUR 60.6 million or decreased fair values by EUR 71.1 million. As of 31 December 2021, these assumptions could have increased fair values by EUR 60.3 million or decreased fair values by EUR 59.6 million.

SENSITIVITY ANALYSIS OF SIGNIFICANT UNOBSERVABLE INPUTS BY INSTRUMENT TYPE (EUR 1,000)	Positive range of fair value 2022	Negative range of fair value 2022	Positive range of fair value 2021	Negative range of fair value 2021
Loans and advances to the public and public sector entities				
Loans	249	-273	133	-84
Derivative contracts				
Equity-linked derivatives	18,117	-22,052	18,864	-11,446
FX-linked cross currency and interest rate derivatives	834	-1,318	2,644	-1,537
Other interest rate derivatives	11,726	-11,860	13,173	-13,344
Debt securities issued and Liabilities to the public and public sector entities				
Equity-linked liabilities	16,927	-23,275	12,350	-18,115
FX-linked liabilities	834	-990	704	-2,233
Other liabilities	11,919	-11,327	12,412	-12,810
Total	**60,606**	**-71,095**	**60,279**	**-59,570**

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 the 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 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 2022	Jan–Dec 2021	Jul–Dec 2022	Jun–Dec 2021
Opening balance in the beginning of the reporting period	-236	-29	-216	14
Recognised gain in the income statement	498	412	265	412
Recognised loss in the income statement	-470	-711	-470	-609
Deferred gain or loss on new transactions	-184	91	29	-54
Total at the end of the reporting period	**-392**	**-236**	**-392**	**-236**

Transfers in the fair value hierarchy and sensitivity analysis 2021

During 2021, transfers totaling EUR 50,127 thousand have been made between level 1 and level 2. During 2021, there were no transfers from level 2 to level 3.

LEVEL 3 TRANSFERS 2021 (EUR 1,000)	1 Jan 2021	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 2021
Financial assets							
At fair value							
Mandatorily at fair value through profit or loss							
Loans and advances to the public and public sector entities	43,735	-4,878	-	-3,997	-	-	34,861
Shares and participations	27	-	-	-27	-	-	-
Fair value through profit or loss							
Derivative contracts at fair value through profit or loss	79,452	-14,590	604	-2,636	-	-	62,829
Derivative contracts in hedge accounting	572	-366	317	-	-	-117	407
Financial assets in total	**123,787**	**-19,834**	**921**	**-6,660**	**-**	**-117**	**98,097**
Financial liabilities							
At fair value							
Designated at fair value through profit or loss							
Liabilities to the public and public sector entities	224,413	-8,408	47,787	-	-	-	263,793
Debt securities issued	2,125,714	-144,658	762,861	-975,731	-	-8,617	1,759,569
Fair value through profit or loss							
Derivative contracts at fair value through profit or loss	646,293	136,055	38,581	-76,252	-	-378	744,299
Derivative contracts in hedge accounting	24,391	6,797	450	-	-	-5,948	25,690
In fair value hedge accounting							
Amortised cost							
Debt securities issued	94,048	-1,802	27,162	-	-	-33,368	86,040
Financial liabilities in total	**3,114,859**	**-12,015**	**876,840**	**-1,051,984**	**-**	**-48,310**	**2,879,390**
Level 3 financial assets and liabilities in total	**3,238,646**	**-31,849**	**877,761**	**-1,058,644**	**-**	**-48,427**	**2,977,487**

SENSITIVITY ANALYSIS OF UNOBSERVABLE INPUTS 31 Dec 2021 (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	34,861	Stochastic model	Volatility – Extrapolated or Illiquid	133	-84
Derivative contracts					
			Correlation parameters	759	653
Equity-linked derivatives	-37,319	Stochastic model	Volatility – Extrapolated or Illiquid	17,551	-11,504
			Dividend yield	554	-595
			Correlation parameters	498	-353
FX-linked cross currency and interest rate derivatives	-647,461	Stochastic model	Volatility – Extrapolated or Illiquid	2,145	-1,183
			Interest rates – Extrapolated or Illiquid	1	-1
			Correlation parameters	7	0
Other interest rate derivatives	-21,972	Stochastic model	Volatility – Extrapolated or Illiquid	12,870	-13,048
			Interest rates – Extrapolated or Illiquid	296	-296
Debt securities issued and Liabilities to the public and public sector entities					
			Correlation parameters	229	-149
Equity-linked liabilities	741,554	Stochastic model	Volatility – Extrapolated or Illiquid	11,455	-16,829
			Dividend yield	666	-1,137
			Correlation parameters	17	-123
FX-linked liabilities	785,053	Stochastic model	Volatility – Extrapolated or Illiquid	677	-2,099
			Interest rates – Extrapolated or Illiquid	11	-11
			Correlation parameters	1	0
Other liabilities	582,795	Stochastic model	Volatility – Extrapolated or Illiquid	12,313	-12,711
			Interest rates – Extrapolated or Illiquid	98	-98
Total				**60,279**	**-59,570**

Note 7. Cash and cash equivalents

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**	**0**
Loans and advances to credit institutions payable on demand	48,622	48,622	0
Total cash and cash equivalents	**48,624**	**48,624**	**0**

31 Dec 2021 (EUR 1,000)	Total	Cash and cash equivalents	Expected credit losses
Cash	2	2	-
Central bank deposits payable on demand	8,399,043	8,399,043	0
Cash and balances with central banks	**8,399,045**	**8,399,045**	**0**
Loans and advances to credit institutions payable on demand	36,458	36,459	0
Total cash and cash equivalents	**8,435,503**	**8,435,504**	**0**

Note 8. Derivative contracts

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**

Line item *Derivative contracts at fair value through profit or loss* contain 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 municipalities and all derivative contracts hedging derivatives with municipalities. 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 2021 (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	32,607,387	756,203	-384,289
, of which cleared by the central counterparty	*31,014,295*	*682,416*	*-308,205*
Currency derivatives			
Cross currency interest rate swaps	12,616,756	482,450	-726,003
Total derivative contracts in hedge accounting	**45,224,143**	**1,238,653**	**-1,110,291**
Derivative contracts at fair value through profit or loss			
Interest rate derivatives			
Interest rate swaps	16,475,777	475,940	-357,092
, of which cleared by the central counterparty	*9,814,584*	*46,821*	*-163,327*
Interest rate options	40,000	101	-101
Currency derivatives			
Cross currency interest rate swaps	4,516,786	133,656	-718,888
Forward exchange contracts	3,354,738	150,723	-
Equity derivatives	816,109	604	-37,922
Total derivative contracts at fair value through profit or loss	**25,203,409**	**761,023**	**-1,114,003**
Total derivative contracts	**70,427,552**	**1,999,676**	**-2,224,294**

Note 9. Changes in intangible and tangible assets

	Intangible assets	Tangible assets			
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.

	Intangible assets	Tangible assets			
2021 (EUR 1,000)	Total	Real estate	Other tangible assets	Right-of-use assets	Total
Acquisition cost 1 Jan	31,630	299	8,950	9,152	18,401
+ Additions	8,660	-	3	212	215
– Disposals	-449	-	-367	-29	-396
Acquisition cost 31 Dec	39,841	299	8,585	9,335	18,219
Accumulated depreciation 1 Jan	14,283	-	4,840	3,197	8,037
– Accumulated depreciation on disposals	-	-	-226	-29	-255
+ Depreciation according to plan	2,780	-	1,221	1,725	2,946
+ Impairment *	10,482	-	-	-	-
Accumulated depreciation and impairment charges 31 Dec	27,545	-	5,835	4,893	10,728
Carrying amount 31 Dec	**12,296**	**299**	**2,751**	**4,442**	**7,491**

* The line item includes a non-recurring item of impairment of EUR 10,482 thousand on MuniFin Group's significant on-going 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 2022 (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	9,625,488	-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
Guarantee receivables from the public and public sector entities in Other assets	-	-	-	-	-	-	-	-
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 Group has collateral and guarantee arrangements that fully cover the stage 3 receivables as described in the Consolidated Financial Statements 2021 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 2,144 thousand (EUR 2,345 thousand) of originated credit impaired receivables (*Purchased or Originated Credit Impaired, POCI*). Expected credit losses for the POCI receivables amount to EUR 8 thousand (EUR 7 thousand).

EXPOSURES BY ASSET GROUPS AND IMPAIRMENT STAGES

31 Dec 2021 (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	8,399,045	0	-	-	-	-	8,399,045	0
Loans and advances to credit institutions at amortised cost	1,417,310	-82	-	-	-	-	1,417,310	-82
Loans and advances to the public and public sector entities at amortised cost	27,457,506	-23	220,730	-578	127,517	-546	27,805,752	-1,147
Leased assets in Loans and advances to the public and public sector entities at amortised cost	1,333,987	-2	-	-	159	-	1,334,146	-2
Debt securities at amortised cost	1,079,338	0	9,550	0	-	-	1,088,888	0
Debt securities at fair value through other comprehensive income	213,466	-41	-	-	-	-	213,466	-41
Cash collateral to CCPs in Other assets at amortised cost	238,930	-13	-	-	-	-	238,930	-13
Guarantee receivables from the public and public sector entities in Other assets	1,752	-	-	-	-	-	1,752	-
Credit commitments (off-balance sheet)	2,585,201	-4	3,167	0	4,506	0	2,592,873	-4
Total	**42,726,533**	**-166**	**233,447**	**-578**	**132,182**	**-546**	**43,092,161**	**-1,289**

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 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**	

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

MuniFin Group finished ECL IT and model development during the second half of the year 2022. With the development, changes have been made to the assessment criteria for significant increase in credit risk (*SICR*), probability of default (*PD*) and loss given default (*LGD*). In addition, macro scenarios were updated to take into account forward-looking information at the end of the financial year. Expected credit losses increased by EUR 426 thousand due to the changes in models and parameters.

The Group recorded an additional discretionary provision (*management overlay*) at the end of 2021 to take into account IT and model changes that will take place in 2022. The amount of additional discretionary provision was increased at the end of June 2022. The additional discreationary provision based on a group-specific assessment and decided by the Group's management was EUR 916 thousand. Since the IT and model development has been completed in the second half of the 2022, the additional dicreationary provision based on the group-specific assessment was removed. The addiotional provision was recognised under the balance sheet item *Loans and advances to the public and public sector entities*. The additional provision was not allocated to contract level.

MuniFin Group's total credit risk has still remained low and the amount of ECL remains low. Municipalities' tax development was positive during 2022. The year 2023 is estimated to be remarkably strong for the local government finances, despite the weakened economic outlook, as the tax revenue-cutting effect of the health and social services reform will only be seen in full impact on 2024. During 2022, the ongoing energy crisis, rising interest rates and inflation have not yet had a significant effect on MuniFin Group's customers' ability to pay or creditworthiness. MuniFin Group's customer exposures have zero risk weight in the capital adequacy calculation because they are from Finnish municipalities, joint municipal authorities or wellbeing services counties, or involve a municipal, joint municipal authority or wellbeing services counties 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 2022, MuniFin Group has total of EUR 4 million (EUR 19 million) in guarantee receivables from the public sector due to the insolvency of customers. Credit risk of the liquidity portfolio has remained on a good quality level with the average rating of 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 2021	**-126**	**-835**	**-224**	**-1,184**	**39,717,750**
New assets originated or purchased	-41	56	-13	3	9,637,333
Assets derecognised or repaid (excluding write-offs)	46	101	55	203	-6,262,613
Transfers to Stage 1	0	18	-	18	18
Transfers to Stage 2	0	-203	60	-143	-143
Transfers to Stage 3	-	1	-1	1	1
Additional provision (*Management overlay*)	-	340	-430	-90	-90
Changes to contractual cash flows due to modifications not resulting in derecognition	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-46	-56	6	-96	-94
Write-offs	-	-	-	-	-
Recoveries	-	-	-	-	-
Total 31 Dec 2021	**-166**	**-578**	**-546**	**-1,289**	**43,092,161**
Expected credit losses, net change Jul–Dec 2021	**20**	**313**	**-376**	**-42**	

In 2021, MuniFin Group made changes to macro scenarios and loss given default parameters in expected credit loss calculations, which increased ECL by EUR 96 thousand. There were no changes in the ECL model.

At the end of 2021, MuniFin Group recorded an additional discretionary provision (*management overlay*) of EUR 430 thousand to take into account ECL model changes that will take place in 2022. The assessment of the need for additional provision was based on the fact that the MuniFin Group's management estimated that due to the model changes, part of the exposures would transfer to stage 2 in the expected credit loss calculations when ECL is calculated for the lifetime of the contract instead of a 12-month ECL, or in some cases LGD would increase.

In addition, model changes were expected to have an effect on the amount of ECL in stage 3. Since the IT and model development has been completed in the second half of the 2022, the additional dicreationary provision based on the group-specific assessment was removed in financial year 2022. The additional provision related to the balance sheet line item *Loans and advances to the public and public sector entities*. The additional provision was not allocated to contract level.

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 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 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 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 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 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 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**	

The loss allowance on debt instruments classified at fair value through fair value reserve is recognised in the fair value reserve. The accumulated loss allowance is recognised to the profit or loss upon derecognition of the assets.

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 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 2022	**-4**	**0**	**0**	**-4**	**2,592,873**
New assets originated or purchased	-9	0	-	-9	1,608,254
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**	

The loss allowance on binding credit commitments is recognised under *Other liabilities*.

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 2021	**0**	**-**	**-**	**0**	**5,565,801**
New assets originated or purchased	0	-	-	0	2,833,244
Assets derecognised or repaid (excluding write-offs)	0	-	-	0	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 2021	**0**	**-**	**-**	**0**	**8,399,045**
Expected credit losses, net change Jul–Dec 2021	**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 2021	**-43**	**-**	**-**	**-43**	**1,841,853**
New assets originated or purchased	-10	-	-	-10	353,939
Assets derecognised or repaid (excluding write-offs)	14	-	-	14	-778,439
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-43	-	-	-43	-43
Total 31 Dec 2021	**-82**	**-**	**-**	**-82**	**1,417,310**
Expected credit losses, net change Jul–Dec 2021	**13**	**-**	**-**	**13**	

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 2021	**-30**	**-835**	**-224**	**-1,089**	**26,886,947**
New assets originated or purchased	-11	56	-13	33	3,238,833
Assets derecognised or repaid (excluding write-offs)	10	101	55	167	-2,319,771
Transfers to Stage 1	0	18	-	18	18
Transfers to Stage 2	0	-203	60	-143	-143
Transfers to Stage 3	-	1	-1	1	1
Additional provision (*Management overlay*)	-	340	-430	-90	-90
Changes to contractual cash flows due to modifications not resulting in derecognition	-	-	-	-	-
Changes to models and inputs used for ECL calculations	7	-56	6	-44	-44
Write-offs	-	-	-	-	-
Total 31 Dec 2021	**-23**	**-578**	**-546**	**-1,147**	**27,805,752**
Expected credit losses, net change Jul–Dec 2021	**0**	**313**	**-376**	**-62**	

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 2021	**-2**	**0**	**0**	**-2**	**1,090,940**
New assets originated or purchased	0	-	-	0	310,062
Assets derecognised or repaid (excluding write-offs)	0	-	0	0	-66,857
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	1	-	0	1	1
Total 31 Dec 2021	**-2**	**0**	**0**	**-2**	**1,334,146**
Expected credit losses, net change Jul–Dec 2021	**0**	**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 2021	**0**	**0**	**-**	**0**	**1,310,305**
New assets originated or purchased	0	0	-	0	1,088,888
Assets derecognised or repaid (excluding write-offs)	0	0	-	0	-1,310,305
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-	-	-	-	-
Total 31 Dec 2021	**0**	**0**	**-**	**0**	**1,088,888**
Expected credit losses, net change Jul–Dec 2021	**0**	**0**	**-**	**0**	

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 2021	**-42**	**-**	**-**	**-42**	**423,050**
New assets originated or purchased	-16	-	-	-16	28,176
Assets derecognised or repaid (excluding write-offs)	19	-	-	19	-237,760
Transfers to Stage 1	-	-	-	-	
Transfers to Stage 2	-	-	-	-	
Transfers to Stage 3	-	-	-	-	
Changes to models and inputs used for ECL calculations	-2	-	-	-2	
Total 31 Dec 2021	**-41**	**-**	**-**	**-41**	**213,466**
Expected credit losses, net change Jul–Dec 2021	**4**	**-**	**-**	**4**	

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 2021	**-4**	**-**	**-**	**-4**	**243,269**
New assets originated or purchased	-1	-	-	-1	22,942
Assets derecognised or repaid (excluding write-offs)	0	-	-	0	-27,272
Transfers to Stage 1	-	-	-	-	-
Transfers to Stage 2	-	-	-	-	-
Transfers to Stage 3	-	-	-	-	-
Changes to models and inputs used for ECL calculations	-8	-	-	-8	-8
Total 31 Dec 2021	**-13**	**-**	**-**	**-13**	**238,930**
Expected credit losses, net change Jul–Dec 2021	**4**	**-**	**-**	**4**	

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 2021	**-**	**-**	**-**	**-**	**1,606**
New assets originated or purchased	-	-	-	-	145
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 2021	**-**	**-**	**-**	**-**	**1,752**
Expected credit losses, net change Jul–Dec 2021	**-**	**-**	**-**	**-**	

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 2021	**-4**	**0**	**0**	**-4**	**2,353,978**
New assets originated or purchased	-2	0	-	-2	1,761,104
Assets derecognised or repaid (excluding write-offs)	3	-	0	3	-1,522,209
Transfers to Stage 1	-	-	-	-	
Transfers to Stage 2	-	-	-	-	
Transfers to Stage 3	-	0	0	0	
Changes to models and inputs used for ECL calculations	0	-	0	0	
Total 31 Dec 2021	**-4**	**0**	**0**	**-4**	**2,592,873**
Expected credit losses, net change Jul–Dec 2021	**0**	**0**	**0**	**0**	

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 2022			31 Dec 2021		
SCENARIO	2023	2024	2025	2022	2023	2024
Adverse	30%	30%	30%	40%	40%	40%
Base	60%	60%	60%	50%	50%	40%
Optimistic	10%	10%	10%	10%	10%	20%

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. 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 2022			31 Dec 2021		
MACROECONOMIC VARIABLES	**Scenario**	**2023**	**2024**	**2025**	**2022**	**2023**	**2024**
10Y Fin Government rate, %	Adverse	4.0	3.6	3.4	1.2	0.5	0.3
	Base	3.2	3.1	3.2	0.3	0.6	0.8
	Optimistic	2.2	1.9	1.8	0.8	1.1	1.2
Residential Real Estate (selling price, YoY change), %	Adverse	-13.0	0.0	2.0	-8.0	-7.0	-2.0
	Base	-2.0	2.0	1.5	-2.0	-3.0	-1.4
	Optimistic	0.0	3.0	2.5	3.5	3.0	1.5
Unemployment rate, %	Adverse	9.5	9.0	8.5	8.7	9.2	8.5
	Base	7.4	7.3	6.8	6.9	6.5	6.3
	Optimistic	6.5	6.0	5.8	6.5	6.0	5.8

The Russian invasion of Ukraine has fundamentally changed the outlook of the Finnish economy. Not only has consumer confidence weakened, but business expectations have also taken a clear downward turn. Despite the challenging outlook, however, the Finnish economy is facing the future from a better position than it did when the COVID-19 pandemic hit. The service sector has revitalised after COVID restrictions were lifted, and employment rate is still at its highest level since early 1990's. The growth outlook is nevertheless bound to deteriorate because of rising living costs and rapidly tightening monetary policy. MuniFin Group expects output to contract 0.5% in 2023. From 2024 onwards, the economy will gradually converge back to its long-term growth path and the annual pace of expansion is around 1.5%. Unemployment is expected to rise above 7% in 2023–2024. Unemployment rate returns to a moderately declining trend from 2025 onwards. In the near term, high energy and food prices continue to contribute to inflationary pressures. In the base scenario, Finnish consumer prices rise 6.7% in 2022. Annual CPI inflation is expected to decline to 4.0% in 2023 and stabilise around 2% in 2024–2026. To make sure that future inflation expectations remain well anchored, the European Central Bank (*ECB*) is expected to continue raising interest rates in the first half of 2023. The pace of monetary tightening slows down, however, as cost pressures gradually ease off. On the national level, higher interest rates mitigate households' home buying intentions. Home prices cease to rise in 2022 and they are expected to contract 2.0% in 2023. For the rest of the projection period, the annual increase in home prices is expected to settle around 1.5–2.0%.

Compared to the base scenario, MuniFin Group's upside (optimistic) scenario factors in the economic impact of the war in Ukraine to be less severe and inflationary pressures to ease somewhat quicker. As a result, the Finnish GDP would grow faster in the subsequent two years (1.0% in 2023 and 2.5% in 2024). In the upside scenario, unemployment rate continues its slow decline during the whole projection period. Consumer price inflation accelerates to 6.0% in 2022 but cools down back to 2.5% already in 2023. Despite rising interest rates, relatively steady housing demand prevents home prices from contracting in 2023. Thereafter, consumer and home prices rise at about 2.0–3.0% pace in 2024–2026. As inflation starts declining sooner, in the optimistic scenario the ECB raises interest rates less in 2023 than in the base scenario. As a result, market interest rates also rise more slowly.

MuniFin Group's downside (adverse) scenario represents a deeply stagflationary outcome where the war in Ukraine leads to more persistent inflation and a contracting real economy. Economic recession continues well into 2024. Unemployment rises more and remains high much longer than in the base scenario. Rising energy and food prices trigger a wage inflation spiral, making it harder for the ECB to get future inflation expectations under control. The ECB is forced to raise interest rates much higher than in the base case, deepening the contraction in GDP. CPI inflation remains well above ECB's target through 2024. Lack of demand in the housing market leads to a sharp decline in home prices. Prolonged global recession creates tensions in financial markets, giving rise to wider risk premia in asset pricing.

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 2022		31 Dec 2021	
SENSITIVITY ANALYSIS (EUR 1,000)	**Weighted scenario**	**Adverse scenario (100%)**	**Weighted scenario**	**Adverse scenario (100%)**
ECL	1,171	1,547	859	1,150
Proportion of the exposure in Stage 2 and 3	1.27%	2.57%	0.86%	1.15%

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 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**

NON-PERFORMING AND FORBORNE EXPOSURES 31 Dec 2021 (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	-	16,813	16,813	-82	16,731
Unlikely to be paid	-	85,559	85,559	-8	85,551
Forborne exposures	61,862	25,849	87,711	-238	87,473
Total	**61,862**	**128,221**	**190,083**	**-328**	**189,755**

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. Only a few individual repayment holidays have been extended during 2022 and 2021. 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.

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 2022	31 Dec 2021
Bilateral loans to credit institutions	88,183	59,906
TLTRO *	2,000,000	2,000,000
Received collateral on derivatives	244,440	741,110
Total	**2,332,623**	**2,801,016**

* In September 2020, MuniFin participated in the third series of targeted longer-term refinancing operations that is, the so-called TLTRO III operation (No. 5) with EUR 1.25 billion. In June 2021, MuniFin participated in TLTRO III operation (No. 8) with EUR 750 million. According to the terms of the TLTRO III operation, if eligible net lending is positive during the reference period (1 March 2020–31 March 2021) the interest rate for TLTRO III debt is 0.5% lower than the average deposit facility rate for borrowings between 24 June 2020 and 23 June 2021. This would equate to an all-in rate of -1%. On 10 December 2020, the ECB issued an update to the terms and conditions so that the low-interest period was extended from 24 June 2021 to 23 June 2022, if the conditions for net lending were met in the reference period from 1 October 2020 to 31 December 2021.

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 will be determined when the TLTRO III debt matures as a weighted average of the interest rates of all the different interest rate periods.

Although the interest rate for the TLTRO III debt described above is favorable for MuniFin Group, it is 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 treats TLTRO III debt in its entirety as an IFRS 9 financial liability.

Note 12. Debt securities issued

	31 Dec 2022		31 Dec 2021	
(EUR 1,000)	Carrying amount	Nominal value	Carrying amount	Nominal value
Bonds	30,942,233	34,330,170	31,508,271	32,041,076
Other *	4,649,832	4,668,524	3,819,254	3,820,738
Total	**35,592,065**	**38,998,694**	**35,327,525**	**35,861,814**

* 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 2022	Value date	Maturity date	Interest-%	Nominal value (1,000)	Currency
Fixed rate benchmark bond, issued under the MTN programme	25 Jan 2022	25 Feb 2032	0.250%	1,000,000	EUR
Fixed rate benchmark bond, issued under the MTN programme	17 May 2022	17 May 2029	1.500%	500,000	EUR
Fixed rate benchmark bond, issued under the MTN programme	24 Aug 2022	24 Aug 2027	3.250%	1,000,000	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 2022	31 Dec 2021
Provisions		
Restructuring provision	-	-
Other provisions	446	446
Other liabilities		
Lease liabilities	3,269	4,528
Cash collateral taken from CCPs	570,922	333,295
Other	19,210	11,062
Total	**593,848**	**349,331**

Line item *Other provisions* relates to a tax interpretation issue for which the Group requested a preliminary ruling and for which the Group is waiting for the final decision of the Supreme Administrative Court.

	Restructuring provision		Other provisions	
(EUR 1,000)	2022	2021	2022	2021
Carrying amount 1 Jan	-	562	446	-
Increase in provisions	-	-	5,100	446
Provisions used	-	-562	-5,100	-
Carrying amount 31 Dec	**-**	**-**	**446**	**446**

During the financial year 2021, the restructuring provision related to the reorganisation of the Group's operations in financial year 2020 was fully used. Increase in provisions and provisions used during the financial year 2022 was related to the terminated IT project.

Note 14. Capital instruments

31 Dec 2022 (EUR 1,000)	Currency	Nominal value	Carrying amount	Interest rate	Earliest repayment
AT1 capital instrument	EUR	-	-	-	-
Total		**-**	**-**		

31 Dec 2021 (EUR 1,000)	Currency	Nominal value	Carrying amount	Interest rate	Earliest repayment
AT1 capital instrument	EUR	350,000	347,454	Fixed	1 Apr 2022
Total		**350,000**	**347,454**		

MuniFin redeemed its EUR 350 million Perpetual Fixed rate Resettable Additional Tier 1 Securities originally issued on 1 October 2015. The redemption date was 1 April 2022, which is the first repayment date of the Securities in accordance with the terms and conditions thereof. The Securities were redeemed at 100% of the aggregate nominal amount together with accrued and unpaid interest until the redemption date.

Instrument's terms and conditions:
The capital instrument issued by the Parent Company is an unsecured debenture loan included under Additional Tier 1 capital, with special terms designed to fulfil the requirements set for so-called AT1 capital loans in the Capital Requirements Regulation (EU 575/2013). The loan does not have a maturity date. Interest on the loan may only be paid out of distributable funds in accordance with the terms set in the Capital Requirements Regulation, and MuniFin will decide whether interest will be paid on the interest payment date. The cancellation of interest payments is final, and unpaid interest will not be added to the loan capital. The loan capital will be written off if the proportion of MuniFin's Common Equity Tier 1 (*CET1*) capital to risk-weighted assets falls below 5.125%. MuniFin may decide to reinstate the written off loan capital partially or entirely if the Capital Requirements Regulation permits this based on an improvement in MuniFin's finances. MuniFin has the right but not the obligation to repay the loan on 1 April 2022 or, after that, annually on the interest payment date, as long as the buyback is approved in advance by the regulatory authority. The regulatory authority may authorise the repayment of the loan also for particular reasons, for example if legislation or regulatory practice should change in such a way that MuniFin loses the right to deduct the interest in full, or if MuniFin should be forced to make the additional payments mentioned in the loan terms. The authorities may also permit repayment of the loan if the loan's official classification changes in such a way that the loan would be likely to be excluded from MuniFin's own funds, or if it is reclassified as lower-value funds. The loan capital, interest payments and other repayments shall take lower priority than all other higher-level debts in case of MuniFin's dissolution or bankruptcy. AT1 capital loan is recognised in equity in the Consolidated Financial Statements. In Parent Company's Financial Statements AT1 capital loan is recognised under balance sheet item *Subordinated liabilities.*

Note 15. Collateral given

GIVEN COLLATERALS ON BEHALF OF OWN LIABILITIES AND COMMITMENTS (EUR 1,000)	31 Dec 2022	31 Dec 2021
Loans and advances to credit institutions to the counterparties of derivative contracts *	1,400,559	1,310,576
Loans and advances to credit institutions to the counterparties of repurchase agreements **	514	-
Loans and advances to credit institutions to the central bank ***	31,745	35,984
Loans and advances to the public and public sector entities to the central bank ***	3,676,627	4,716,147
Loans and advances to the public and public sector entities to the Municipal Guarantee Board ****	12,101,459	11,474,101
Debt securities to the counterparties of repurchase agreements **	9,580	-
Debt securities to the central counterparty	24,942	-
Other assets to the counterparties of derivative contracts *	1,219,541	238,930
Total	**18,464,967**	**17,775,738**

* 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 Agreements (*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 shown in the table to the Municipal Guarantee Board. The Municipal Guarantee Board guarantees MuniFin'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 16. Contingent assets and liabilities

The Group has no contingent assets or liabilities at 31 Dec 2022. Previously, the accrued interest on AT1 capital instrument, issued by the Parent Company, comprised contingent liability at the reporting date. The contingent liability was realised as a deduction of equity once the Parent Company decided on the payment of interest. AT1 capital instrument was redeemed at 1 April 2022. At 31 December 2021, MuniFin had a contingent liability of EUR 9,459 thousand.

Note 17. Off-balance-sheet commitments

(EUR 1,000)	31 Dec 2022	31 Dec 2021
Credit commitments	2,463,978	2,592,877
Total	**2,463,978**	**2,592,877**

Note 18. 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 2022.

Note 19. Events after the reporting period

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 Company is owned by Finnish municipalities, the public sector pension fund Keva and the Republic of Finland. MuniFin Group also includes the subsidiary company, Financial Advisory Services Inspira Ltd. The Group's balance sheet totals close to EUR 48 billion.

MuniFin builds a better and more sustainable future with its customers. MuniFin's customers include municipalities, joint municipal authorities, wellbeing services counties, corporate entities under their control, and non-profit organisations nominated by the Housing Finance and Development Centre of Finland (*ARA*). 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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