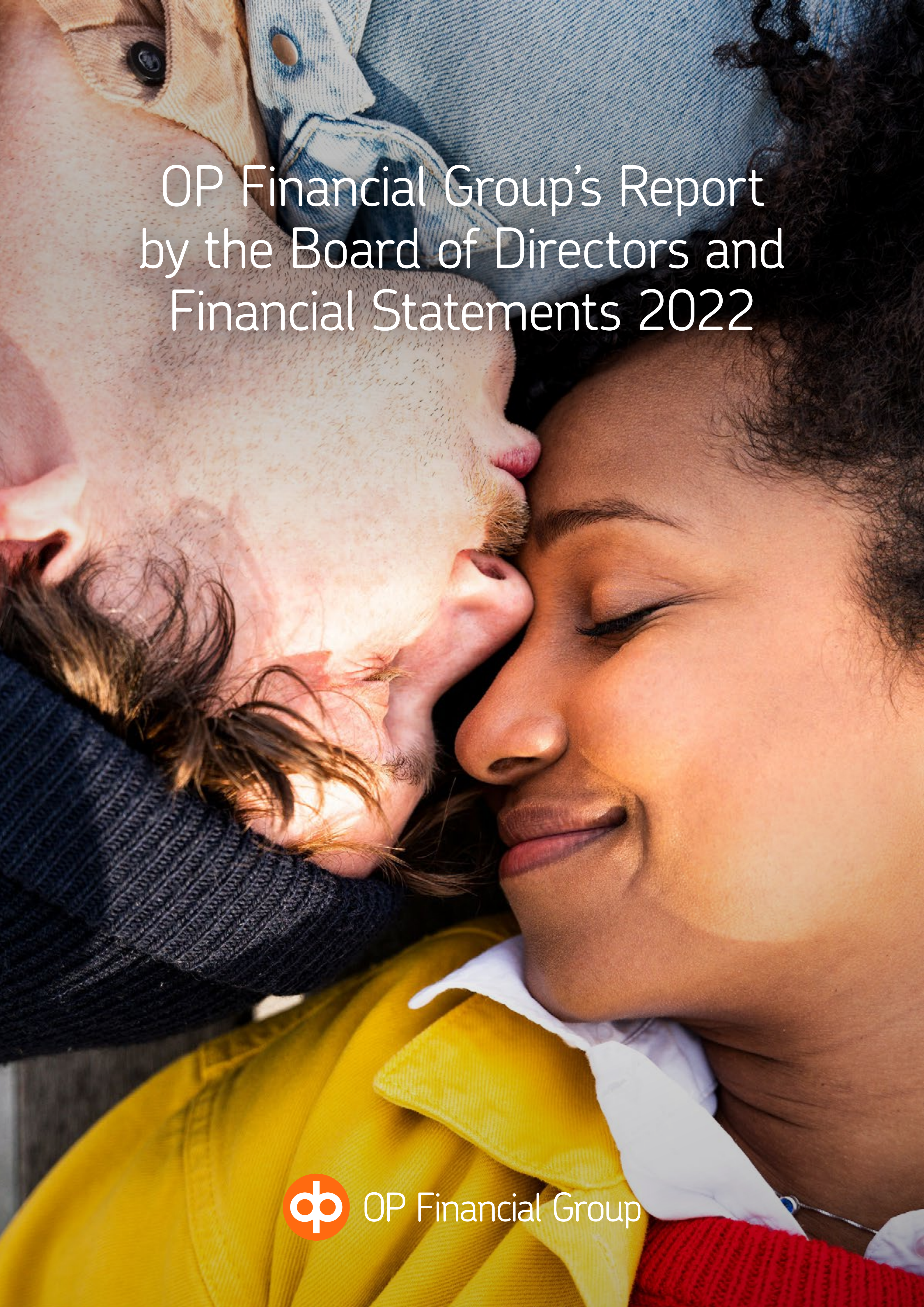
OP Financial Group's Report by the Board of Directors and Financial Statements 2022



OP Financial Group

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OP Financial Group's Report by the Board of Directors 1 January–31 December 2022:

Earnings before tax EUR 1,265 million – total income up by 2%, total expenses unchanged year on year

Earnings before tax Q1–4/2022	Net interest income Q1–4/2022	Net insurance income Q1–4/2022	Total expenses Q1–4/2022	CET1 ratio 31 Dec 2022
€1,265 mill.	+15%	+20%	–1%	17.4%

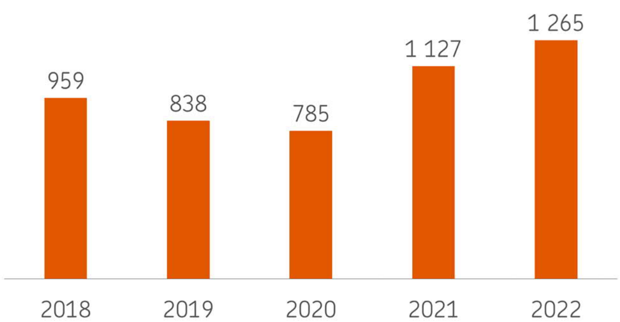
- Earnings before tax totalled EUR 1,265 million (1,127).
- Income from customer business increased by a total of 10% to EUR 3,512 million (3,186). Net interest income increased by 15% to EUR 1,618 million (1,409) and net insurance income by 20% to EUR 889 million (743). Net commissions and fees decreased by 3% to EUR 1,005 million (1,034).
- Net investment income decreased to EUR -149 million (376). The overlay approach increased investment income by EUR 143 million (-118). Including the overlay approach, investment income decreased to EUR –5 million (257).
- Total income decreased by 5% to EUR 3,426 million (3,616). Including the overlay approach, total income increased by 2% to EUR 3,570 million (3,497).
- Total expenses decreased by 1% to EUR 1,981 million (2,007).
- Impairment loss on receivables in the income statement decreased by EUR 43 million to EUR 115 million (158). Ratio of impairment loss on receivables to loan and guarantee portfolio was 0.11% (0.16).
- OP Financial Group's loan portfolio grew by 2% to EUR 99 billion (97) and deposits by 2% to EUR 77 billion (76).
- CET1 ratio was 17.4% (18.2), which exceeds the minimum regulatory requirement by 5.5 percentage points. OP Financial Group adopted a risk-weighted assets (RWA) floor, based on the Standardised Approach, in the second quarter. On the date of transition, this decreased the CET1 ratio by one percentage point.
- Retail Banking earnings before tax increased to EUR 502 million (304). Net interest income increased by 25% to EUR 1,194 million (959) and net commissions and fees by 3% to EUR 773 million (753). Impairment loss on receivables increased by EUR 12 million to EUR 96 million (84). The loan portfolio decreased by 0.3% and deposits increased by 3%.
- Corporate Banking earnings before tax decreased to EUR 416 million (474). Net interest income increased by 10% to EUR 457 million (414), net commissions and fees decreased by 19% to EUR 166 million (204) and net investment income decreased by 21% to EUR 136 million (171). Impairment loss on receivables decreased by EUR 56 million to EUR 18 million (74).
- Insurance earnings before tax decreased to EUR 433 million (504). Net insurance income grew by 20% to EUR 901 million (754), particularly due to the increase in the discount rate. Investment income decreased by EUR 257 million to EUR –87 million (170). Non-life Insurance recorded an operating combined ratio of 90.5% (85.5).
- Group Functions earnings before tax were EUR -91 million (-109).
- New OP bonuses accrued to owner-customers totalled EUR 215 million (210). OP Financial Group wants to allocate part of its profitability improvement to support its owner-customers by increasing the OP bonuses they earn for 2023 by 30%. This means an estimated additional bonus totalling more than EUR 60 million.
- Interest payable for the year 2022 on Profit Shares held by owner-customers is estimated to total EUR 144 million (96).
- On 30 September 2022, OP Financial Group filed an application with the European Central Bank (ECB) on the use of the Standardised Approach in capital adequacy calculation, instead of the internal models (IRBA) and the currently applied risk-weighted assets floor based on the Standardised Approach. Transfer to the Standardised Approach is estimated to have no essential effect on OP Financial Group's capital adequacy or risk exposure.
- OP Financial Group has applied IFRS 17 Insurance Contracts as of 1 January 2023. As a result of the IFRS 17 transition, OP Financial Group's equity capital on 1 January 2022 decreased by EUR 52 million on the date of transition. At the same time, the Group ceased to apply the overlay approach.
- Earnings before tax for 2023 are expected to be higher than in 2022. For more detailed information on the outlook, see "Outlook for 2023".

OP Financial Group's key indicators

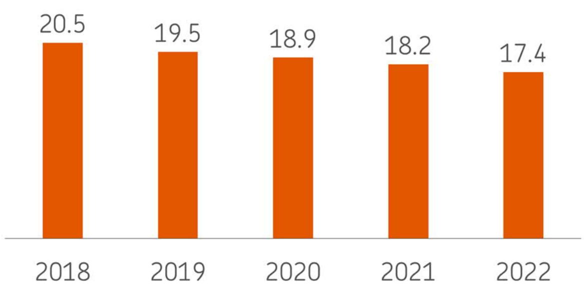
	Q1–4/2022	Q1–4/2021	Change, %
Earnings before tax, € million	1,265	1,127	12.2
Retail Banking	502	304	65.2
Corporate Banking	416	474	-12.2
Insurance	433	504	-14.1
Group Functions	-91	-109	-
New OP bonuses accrued to owner-customers, € million	215	210	2.1
Return on equity (ROE), %	7.2	6.6	0.6*
Return on equity, excluding OP bonuses, %	8.3	7.8	0.5*
Return on assets (ROA), %	0.59	0.54	0.05*
Return on assets, excluding OP bonuses, %	0.68	0.64	0.04*
	31 Dec 2022	31 Dec 2021	Change, %
CET1 ratio, %	17.4	18.2	-0.8*
Loan portfolio, € billion	98.5	96.9	1.6
Deposits, € billion	77.1	75.6	2.0
Ratio of non-performing exposures to exposures, %	2.3	2.4	-0.1*
Ratio of impairment loss on receivables to loan and guarantee portfolio, %	0.11	0.16	-0.04*
Owner-customers (1,000)	2,066	2,049	1.0

Comparatives for the income statement are based on the corresponding figures a year ago. Unless otherwise specified, figures from 31 December 2021 are used as comparatives for balance-sheet and other cross-sectional items.
*Change in ratio

Earnings before Tax, € million



Common Equity Tier1 ratio (CET1), %



Comments by President and Group Chief Executive Officer Timo Ritakallio

In 2022, the financial sector's operating environment was characterised by exceptional uncertainty. Russia's war of aggression in Ukraine and strongly accelerated inflation resulted in a significant increase in market interest rates. Combined with a weakening economic outlook, this affected demand both for home loans and corporate finance, particularly towards the end of the year. During the year, stock prices fell in all major markets, which in turn reduced demand for investment services.

Despite the uncertain operating environment, OP Financial Group's earnings before tax for 2022 improved by 12%, reaching an excellent level of EUR 1,265 million. Net interest income increased by 15% to EUR 1,618 million and net insurance income by 20% to EUR 889 million. Meanwhile, net commissions and fees decreased by 3% year on year, totalling EUR 1,005 million. Net investment income fell substantially from the previous year. Costs remained well under control, showing a decrease of 1% year on year.

All of our three business segments performed very well last year. Earnings by Retail Banking were particularly strong. In the insurance business, claims expenditure returned to its pre-pandemic level.

At around two per cent, growth in deposits and loans was clearly slower than in previous years. Despite the weaker economy, the loan repayment capacity of both personal and corporate customers remained good throughout the year, and there was no growth in non-performing exposures. Similarly, impairment loss on receivables remained low. In recent years, we have actively offered interest rate protection to our home loan customers. This has proved its worth amidst rapidly rising market interest rates. Roughly a third of our home loan customers have taken out interest rate protection. At the end of 2022, a growing number of customers benefitted from interest rate protection, which cut their loan servicing costs.

OP Financial Group's CET1 ratio continued to be very strong, at 17.4%, exceeding the minimum regulatory requirement by 5.5 percentage points. OP Financial Group is among Europe's strongest banks in terms of capital adequacy.

In income growth, we focused on income from customer business in line with our strategic target, achieving growth of 10% in 2022. In recent years, OP Financial Group has focused on its core business – banking and insurance – in keeping with its strategy. While the Group's income from customer business has grown substantially, we have managed to keep our costs at the same level for several years. Our continuous strategy process, which we revised four years ago, has proven highly effective in the business environment of recent years, which has been marked by surprises and uncertainties. We have also been implementing a cultural change by adopting leaner organisational structures and an agile method based on multi-skilled teams. This new way of working promotes a better customer and employee experience, and operational efficiency.

Our customers are increasingly using digital channels for their banking and insurance matters. In 2022, we continued to focus our development efforts on our mobile channel. At the end of the year, OP-mobile had more than 1.4 million active users – an increase of almost 600,000 people compared to slightly over three years ago.

Despite the challenging investment environment, our customers have continued to make sustainable, far-reaching choices for their future through systematic investing. In 2022, OP Financial Group's mutual funds attracted more than 55,000 new unitholders, with the total number of unitholders exceeding 1.2 million at the year end. OP Financial Group's market share of all unitholders in Finnish mutual funds exceeded 30%. Stock investment also continued to be lively: 71,000 new book-entry and equity savings accounts were opened during the year.

In line with our strategy, we continued to increasingly embed responsibility into our investment, lending and insurance processes, and grow the share of responsible products and services in our offering. OP Financial Group's sustainable financing commitment portfolio grew by 70% from the previous year, reaching a total of EUR 5.2 billion. At the end of December, the share of sustainable financing products in OP Corporate Bank's exposures was around 17%, compared to 11% a year earlier.

OP Financial Group is a financial services group owned by its customers. In line with our mission, we want to support our owner-customers in these financially challenging times. We will allocate part of our profitability improvement to supporting the daily lives of our almost 2.1 million owner-customers, by increasing the OP bonuses they earn for 2023 by 30%. The value of this additional bonus is over EUR 60 million.

We will also allocate part of our strong profitability to further improving our customer service and to carrying out various corporate responsibility actions, with a particular focus on the wellbeing of children and young people. Through donations and sponsorships of nearly EUR 4.5 million, we will support young people's hobbies and activities promoting their financial literacy and employment around Finland.

OP Financial Group is in an excellent position to provide for its customers' banking and insurance needs today and beyond. Our leading market position, strong capital base, excellent profitability, and customers' trust in our brand provide us with a strong foundation for continuing to coach our customers in making better financial choices, pointing the way towards futures filled with hope – together through time.

I would like to express my warmest thanks to our customers for their trust and to our employees and governing body members for their outstanding and successful work in 2022!

Business environment

World economic growth slowed down markedly in 2022. As a result of Russia's aggressive war in Ukraine, the European energy market was unstable throughout the year. Raw material prices that rose rapidly early in the year decreased after the middle of the year. In addition, the acceleration of inflation to its climax since the 1980s cast a shadow on economies in general. Strong growth in the euro area almost came to a standstill during the latter part of the year.

In the financial market, interest rates soared, as central banks began to tighten their policy. The European Central Bank (ECB) started to tighten its monetary policy in the summer and raised the deposit facility rate to two per cent in December. The most common reference interest rate for home loans in Finland, the 12-month Euribor, increased by 3.8 percentage points to 3.3 per cent during the year.

Stock prices fell considerably around the world. In the fourth quarter, stock prices rebounded, as fears of the energy crisis and higher interest rates abated.

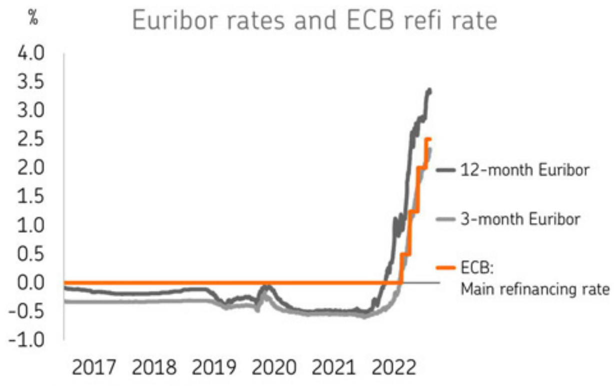
Brisk growth of the Finnish economy dwindled in 2022. Despite this slowdown, employment improved and the profitability of businesses remained good. Consumer spending decreased during the year, as inflation eroded purchasing power. A sharp rise in reference interest rates pushed prices down in the housing market after the favourable first half of the year, and home sales decreased during the rest of the year. The economic outlook is still exceptionally uncertain, and the economy is expected to continue to weaken during 2023. A rise in short-term interest rates is anticipated to dampen the housing market.

In December, the annual growth rate of total deposits slowed down to 0.7%, compared to 5.0% at the end of 2021. On an annual basis, corporate deposits increased by 2.4% and household deposits by 2.4%.

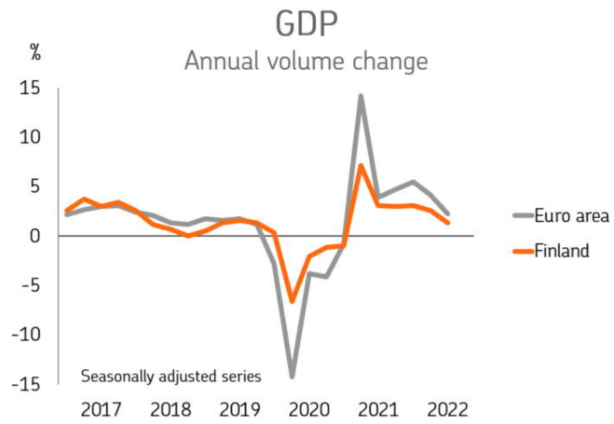
In December, total loans were 3.5% higher than a year earlier. The annual growth rate of corporate loans was 4.5%. The corresponding loan growth rate was 7.0% for housing companies and 0.8% for households. Growth in loans to households slowed down from its level of 4.0% at the end of 2021, while the annual growth rate of home loans slowed down to 0.5%. The annual growth rate of consumer loans was 3.1% in December as against 2.4% during the same period a year earlier.

The value of mutual funds registered in Finland decreased from the 2021 record of EUR 158.8 billion to EUR 134 billion. Assets redeemed in 2022 totalled EUR 4.4 billion.

Demand for investment services remained stable. The end of the Covid-19 restrictions in Finland and the general rise in costs increased claims incurred. A decline in the capital market was partly reflected in the profitability of insurance companies.



Source: Bank of Finland



Sources: Eurostat, Statistics Finland

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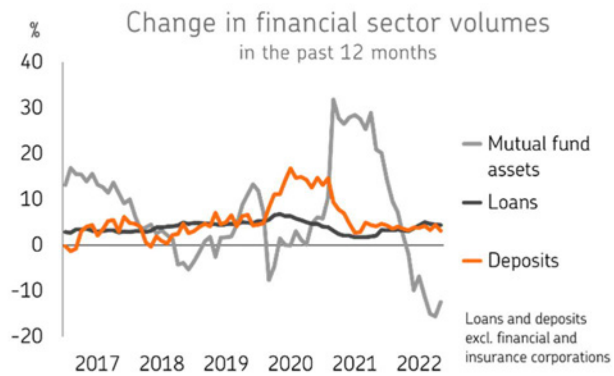


Sources: Bank of Finland, Investment Research Finland

Earnings analysis and balance sheet

Earnings analysis, € million	Q1–4/2022	Q1–4/2021	Change, %	Q4/2022	Q4/2021	Change, %
Earnings before tax	1,265	1,127	12.2	325	270	20.5
Retail Banking	502	304	65.2	167	80	109.1
Corporate Banking	416	474	-12.2	197	119	65.8
Insurance	433	504	-14.1	113	123	-8.0
Group Functions	-91	-109	-	-75	-39	-
Income						
Net interest income	1,618	1,409	14.8	496	438	13.3
Net insurance income	889	743	19.6	336	201	67.0
Net commissions and fees	1,005	1,034	-2.8	249	273	-8.9
Net investment income	-149	376	-139.6	-76	123	-161.8
Other operating income	63	54	17.0	12	8	56.0
Total income	3,426	3,616	-5.2	1,017	1,043	-2.5
Total income, incl. overlay approach	3,570	3,497	2.1	968	973	-0.5
Expenses						
Personnel costs	894	914	-2.2	246	258	-4.7
Depreciation/amortisation and impairment loss	214	283	-24.4	55	91	-39.8
Other operating expenses	874	810	7.9	244	237	2.8
Total expenses	1,981	2,007	-1.3	545	586	-7.1
Impairment loss on receivables	-115	-158	-	-45	-63	-
Overlay approach	143	-118	-	-49	-70	-
New OP bonuses accrued to owner-customers	215	210	2.1	54	54	-

Key indicators, € million	31 Dec 2022	31 Dec 2021	Change, %
Loan portfolio	98,546	96,947	1.6
Home loans	42,304	41,522	1.9
Corporate loans	23,117	23,128	0.0
Housing company and other loans	33,125	32,297	2.6
Guarantee portfolio	3,974	4,047	-1.8
Other exposures	14,801	15,314	-3.3
Deposits	77,121	75,612	2.0
Assets under management (gross)	98,226	111,836	-12.2
Mutual funds	27,575	32,515	-15.2
Institutional clients	35,713	38,336	-6.8
Private Banking	23,326	27,831	-16.2
Unit-linked insurance assets	11,612	13,154	-11.7
Balance sheet total	175,516	174,110	0.8
Investment assets	20,754	22,945	-9.5
Insurance liabilities	7,638	8,773	-12.9
Debt securities issued to the public	37,438	34,895	7.3
Equity capital	14,335	14,184	1.1

January–December

OP Financial Group's earnings before tax amounted to EUR 1,265 million (1,127), up by EUR 137 million from the previous year. Income from customer business grew by a total of 10.2% to EUR 3,512 million (3,186). As regards income from customer business, net interest income and net insurance income increased. Earnings were reduced by lower investment income.

Net interest income grew by 14.8% to EUR 1,618 million, due to the significant increase in market interest rates. Net interest income reported by the Retail Banking segment increased by EUR 235 million, that by the Corporate Banking segment by EUR 43 million and that by the Group Functions segment by EUR 72 million. OP Financial Group's loan portfolio grew by 1.6% to EUR 98.5 billion and deposits by 2.0% to EUR 77.1 billion. New loans drawn down by customers during the financial year totalled EUR 24.5 billion (26.4).

Net insurance income increased by 19.6% to EUR 889 million. The Insurance segment's non-life insurance premium revenue increased by 2.8% to EUR 1,598 million and claims incurred by 12.5% to EUR 1,012 million, excluding the increase in the discount rate. Claims volumes have returned to their pre-pandemic level. Large claims increased claims incurred by EUR 180 million (134). The increase in the discount rate for insurance liability improved net insurance income by EUR 283 million. Operating combined ratio reported by non-life insurance was 90.5% (85.5).

Net commissions and fees totalled EUR 1,005 million (1,034). Net commissions and fees for payment transfer services increased by EUR 8 million and those for lending and asset management by EUR 4 million. Meanwhile, net commissions and fees for mutual funds decreased by EUR 14 million and those for life insurance by EUR 17 million. Net commissions and fees for health and wellbeing services fell by EUR 8 million year on year following the sale of Pohjola Hospital that was completed on 1 February 2022.

The investment environment was challenging due to higher market interest rates and lower stock prices. Net investment income decreased by EUR 524 million to EUR -149 million. An overlay approach is applied to certain equity instruments of insurance companies. Changes in the fair value of investments within the scope of the overlay approach are presented under the fair value reserve under shareholders' equity. The overlay approach increased investment income by EUR 143 million (-118). Total investment income decreased by EUR 262 million year on year, to EUR -5 million. On 1 January 2023, OP Financial Group adopted IFRS 17 Insurance Contracts and stopped applying the overlay approach.

Net income from financial assets at fair value through other comprehensive income totalled EUR 29 million (67), of which net capital losses accounted for EUR -10 million (14). Net capital gains on all financial instruments recognised through fair value reserve totalled EUR 16 million (144).

Net income from financial assets, recognised at fair value in net investment income through profit or loss, totalled EUR –855 million (129). Net income from financial assets held for trading decreased by a total of EUR 382 million due to changes in the fair value of derivatives. Fair values of equity instruments recognised at fair value in the income statement decreased by a total of EUR 440 million and those of notes and bonds by a total of EUR 191 million, year on year. An item related to the increase in the discount rate of the insurance liability for non-life insurance, EUR 218 million, was shown as negative value change in net investment income. Life insurance items, which include, for example, changes in technical items, increased net investment income by EUR 528 million to EUR 650 million. Net income from investment property decreased by EUR 29 million to EUR 16 million.

The combined return on investments at fair value of OP Financial Group's insurance companies was –13.1% (1.7). The negative figure was affected by a rise in market interest rates and the fall in stock prices.

Other operating income increased to EUR 63 million (54). The sale of Pohjola Hospital increased other operating income by EUR 32 million. A year ago, the sale of Checkout Finland Ltd increased other operating income.

Total expenses decreased by 1.3% year on year to EUR 1,981 million. Personnel costs decreased by 2.2% to EUR 894 million. Depreciation/amortisation and impairment loss on PPE and intangible assets decreased by 24.4% to EUR 214 million. Other operating expenses increased by 7.9% to EUR 874 million. ICT costs totalled EUR 382 million (364). Development costs were EUR 216 million (195). Charges of financial authorities increased by 28.0%, or EUR 18 million, to EUR 82 million as a result of the EUR 15 million increase in the stability contribution paid to the Single Resolution Fund financed by the euro-area banks.

Impairment loss on loans and receivables and on investments recognised under various income statement items that reduced earnings amounted to EUR 196 million (164), of which EUR 115 million (158) concerned loans and receivables. The indirect effects of the war in Ukraine increased impairment loss on receivables in the first quarter. OP Financial Group has assessed the impact of higher electricity prices and Euribor rates on the credit risk associated with the home loan portfolio. Following this analysis, the Group made an additional provision of EUR 42 million under expected credit losses, based on management judgment. Final credit losses recognised totalled EUR 118 million (113). Loss allowance was EUR 750 million (751) at the end of the financial year. Non-performing exposures accounted for 2.3% (2.4) of the exposures. Impairment loss on loans and receivables accounted for 0.11% (0.16) of the loan and guarantee portfolio.

OP Financial Group's income tax amounted to EUR 242 million (224). The effective tax rate was 19.1% (19.8).

The tax-exempt capital gain on the sale of Pohjola Hospital reduced the effective tax rate.
OP Financial Group's equity amounted to EUR 14.3 billion (14.2). Equity included EUR 3.4 billion (3.2) in Profit Shares, terminated Profit Shares accounting for EUR 0.4 billion (0.3).

Comprehensive income after tax totalled EUR 139 million (897). Changes in the fair values of equities, derivatives and notes and bonds decreased the fair value reserve. Changes in the fair value reserve decreased comprehensive income by a total of EUR 979 million (-59). Gains from the remeasurement of defined benefit plans improved comprehensive income by EUR 96 million (40) as a result of the increase in the discount rate used in the calculation.

Key income statement items by quarter

€ million	Q1/ 2022	Q2/ 2022	Q3/ 2022	Q4/ 2022	Q1–4/ 2022	Q1–4 2021	Change, %
Net interest income	333	341	447	496	1,618	1,409	14.8
Net insurance income	131	252	169	336	889	743	19.6
Net commissions and fees	272	243	241	249	1,005	1,034	-2.8
Net investment income	18	-131	40	-76	-149	376	-139.6
Other operating income	39	7	6	12	63	54	17.0
Total income	793	712	905	1,017	3,426	3,616	-5.2
Personnel costs	226	224	197	246	894	914	-2.2
Depreciation/amortisation and impairment loss	57	53	49	55	214	283	-24.4
Other operating expenses	239	201	190	244	874	810	7.9
Total expenses	523	478	435	545	1,981	2,007	-1.3
Impairment loss on receivables	-83	-17	30	-45	-115	-158	-27.4
Overlay approach	51	106	35	-49	143	-118	-
OP bonuses to owner-customers	54	54	54	54	215	210	2.1
Earnings before tax	189	270	481	325	1,265	1,127	12.2

2022 highlights

Application filed with the European Central Bank on the use of the Standardised Approach

On 30 September 2022, OP Financial Group filed an application with the European Central Bank on the use of the Standardised Approach in capital adequacy calculation, instead of the internal models (IRBA) and the currently applied risk-weighted assets floor based on the Standardised Approach. Transfer to the Standardised Approach is estimated to have no essential effect on OP Financial Group's capital adequacy or risk exposure. This was due to enhanced regulatory requirements and discussions with the banking supervisor, the European Central Bank, related to the application of the Internal Ratings Based Approach (IRBA). The schedule for transferring to the Standardised Approach depends on the processing of the application at the ECB. According to OP Financial Group's assessment, the transfer will take place during the first quarter of 2023.

OP Financial Group adopted a risk-weighted assets floor, based on the Standardised Approach, in its capital adequacy calculation

On 1 March 2022, OP Financial Group decided to adopt a risk-weighted assets floor (SA floor) in the calculation of its capital adequacy ratio – based on the Standardised Approach – in the second quarter of 2022. This was due to enhanced regulatory requirements and discussions with the banking supervisor, the European Central Bank, on the application of the Internal Ratings Based Approach (IRBA). The adoption of the SA floor in the second quarter decreased the CET1 ratio by 1.0 percentage point at the time of transition.

Changes in the Executive Management Team of OP Financial Group's central cooperative

Chief Risk Officer Markku Pehkonen joined OP Cooperative's Executive Management Team on 1 January 2022. Pehkonen has served as OP Financial Group's Chief Risk Officer since 2018.

Vesa Aho, who was appointed Executive Vice President of OP Financial Group's Insurance Customers segment and Executive Vice President, Chief Executive Officer of Pohjola Insurance, took up his new duties on 1 March 2022. Aho previously served as the CFO of OP Financial Group. In his new position, Aho will also continue as member of the Executive Management Team of OP Cooperative. Olli Lehtilä, the previous EVP, CEO of Pohjola Insurance, became the Managing Director of the new Uudenmaan Osuuspankki.

Mikko Timonen, who was appointed CFO and a member of OP Cooperative's Executive Management Team, took up his new duties on 1 March 2022. Timonen previously worked as Head of Business Control in OP Financial Group's Corporate Banking segment.

Kasimir Hirn, M.Sc. (Econ. & Bus. Adm.), assumed his duties as OP Financial Group's new Chief Information Officer (CIO) and as member of OP Cooperative's Executive Management Team as of 1 September 2022. As the CIO, Hirn is responsible for the development and maintenance of OP Financial Group's services and systems and for the Development & Technologies unit.

OP Financial Group's former CIO, Juho Malmberg, resigned from OP Financial Group at his own request on 31 October 2022. He acted as Senior Advisor as of 1 September until 31 October.

Pohjola Insurance sold its hospital business

Pohjola Insurance Ltd, part of OP Financial Group, sold all shares of Pohjola Hospital Ltd to Pihlajalinna Terveys Oy, part of Pihlajalinna Group. On 14 January 2022, the Finnish Competition and Consumer Authority approved the corporate transaction, which was finalised on 1 February 2022. The net debt free transaction price was EUR 31.8 million. In addition, OP Financial Group sold five hospital buildings in March 2022.

OP Financial Group and Pivo withdrew from Nordic mobile wallet project

OP Financial Group and Pivo stood aside from the joint venture planned with Danske Bank's MobilePay and the Norwegian Vipps. The venture would have provided a joint mobile payment platform for users of three services. OP Financial Group's Pivo, Danske Bank's MobilePay and the Norwegian company Vipps announced plans to create a joint mobile payment platform in June 2021. Pivo continues to operate independently and the cancellation of the project does not directly affect its customers.

OP Financial Group established a new historical foundation

Because OP Financial Group turned 120 years old on 14 May 2022, OP Cooperative's Board of Directors established a foundation to cherish the heritage of OP Financial Group. The foundation's main task is to maintain and develop OP Financial Group's museum, which tells the story of the Group's growth from cooperative credit societies into Finland's largest financial services group. It also promotes and supports Finnish cooperative banking and its cultural heritage, and manages and assembles the Group's historical information, collections, artefacts and material. In addition, the foundation issues permits for using its material in research.

OP Financial Group's strategic targets and priorities

OP Financial Group has a strategy process in which it assesses, reshapes and implements its strategy on an ongoing basis. The Group systematically assesses its business environment and operating model to be able to make and implement new strategic choices when needed.

OP Financial Group's mission, values, vision and strategic priorities form a whole whose parts complement each other. OP Financial Group's vision is to be the leading and most appealing financial services group in Finland. Continuous monitoring of the business environment and the strategic priorities will help achieve the shared vision and guide all actions.

The Supervisory Council of OP Financial Group's central cooperative confirmed the Group's strategy at its meeting on 25 August 2022. In the next few years, the Group's operations will be guided by the following five strategic priorities:

- Value for customers
- Profitable growth
- Efficient, high-quality operations
- Responsible business
- Highly skilled, motivated and satisfied personnel.

OP Financial Group's operations are based on a strong culture of risk management and compliance.

OP Financial Group's strategic targets	31 Dec 2022	31 Dec 2021	Target 2025
Return on equity (ROE excluding OP bonuses), %	8.3	7.8	8.0
CET1 ratio, %	17.4	18.2	At least CET1 requirement + 4 pps*
Brand recommendations, NPS (Net Promoter Score, personal and corporate customers)**	Banking: 27 Insurance: 17	Banking: 29 Insurance: 16	Banking: 30 Insurance: 20
Credit rating	AA-/Aa3	AA-/Aa3	At least at the level of AA-/Aa3

* OP Financial Group's target CET1 ratio is at least the CET1 capital adequacy requirement plus four percentage points. The CET1 target calculated by applying the December-end capital adequacy requirement was 15.9%.
** Average of quarters (per financial year)

In 2022, OP Financial Group updated the essential meanings of its values – people first, responsibility and succeeding together.

Promotion of the success of owner-customers and operating region

OP Financial Group's mission is to promote the sustainable prosperity, security and wellbeing of its owner-customers and operating region. The Group's operations are based on its values, mission, a strong capital base, capable risk management and customer respect.

Allocation of earnings

OP Financial Group aims to provide its owner-customers with the services they need, as efficiently as possible. The shared success will be used for the benefit of owner-customers in the form of loyalty benefits and other financial benefits as well as the maintenance and further development of service capabilities.

OP Financial Group's estimated earnings allocation for 2022 that is to be confirmed after the end of the financial year:

*) Customers = OP bonuses, discounts and interest on Profit Shares to owner-customers

Implementing OP Financial Group's mission successfully requires a strong capital base which the requirements set by the authorities also necessitate. A stronger capital base will require efficiency and earnings power of the Group in the years to come too. In addition to the part returned to owner-customers, a significant part of earnings is used to strengthen OP Financial Group's capital base.

Benefits created by OP Financial Group are allocated to owner-customers on the basis of the extent to which each owner-customer of an OP cooperative bank uses the Group's services. The owner-customers' loyalty benefit programme consists of OP bonuses – accrued on the basis of an owner-customer's transactions with OP – as well as benefits and discounts granted on OP's banking services, insurance contracts and savings and investment services. Owner-customers also have the opportunity to contribute capital to their own OP cooperative bank through Profit Shares. Interest will be paid annually on Profit Shares as the banks' profit distribution.

In 2022, OP Financial Group celebrated its 120th anniversary by increasing the return target for Profit Shares by 1.20 percentage points. This means that the return target stands at 4.45%. Interest payment and its amount depend on the financial performance of the issuing OP cooperative bank.

OP Financial Group wants to allocate part of its strong profitability to further improving its customer service and to carrying out various corporate responsibility actions. In 2023, the Group will focus on the wellbeing of children and young people in particular. Through donations and sponsorships of nearly EUR 4.5 million, OP Financial Group will support young people's hobbies and activities promoting their financial literacy and employment around Finland.

OP Financial Group is one of the largest taxpayers in Finland measured by tax on profits. As a major taxpayer, OP is contributing to prosperity in the whole of Finland.
OP Financial Group paid EUR 214 million in corporate tax for 2021.

Customer relationships and customer benefits

OP Financial Group had a total of 2.1 million (2.0) owner-customers at the end of the financial year. The number of owner-customers increased by 16,000.

The number of banking customers totalled 3.6 million (3.6). Retail Banking had a total of 3.3 million customers (3.3) and Corporate Banking 0.3 million customers (0.3). Non-life insurance had a total of 1.7 million customers (1.6) and life insurance 0.4 million customers (0.4).

The number of joint banking and insurance customers totalled 1.3 million (1.3).

OP cooperative banks' owner-customers earn OP bonuses through banking, insurance and wealth management transactions. The value of new OP bonuses accrued in January–December totalled EUR 215 million (210). During the financial year, a total of EUR 101 million (107) of OP bonuses were used to pay for banking and wealth management services and EUR 114 million (112) to pay non-life insurance premiums.

Owner-customers benefitted EUR 62 million (57) from the reduced price of the daily services package of Retail Banking. Owner-customers were provided with EUR 60 million (58) in non-life insurance loyalty discounts. They also bought, sold and switched units in most mutual funds without separate charges. The value of this benefit amounted to EUR 8 million (7).

The abovementioned OP bonuses and customer benefits totalled EUR 345 million (332), accounting for 21.4% (22.8) of OP Financial Group's earnings before tax and granted benefits.

Contributions made by OP cooperative banks' owner-customers to the OP cooperative banks' Profit Shares and cooperative shares totalled EUR 3.6 billion (3.5). The return target for Profit Shares for 2022 was an interest rate of 4.45% (3.25). Interest payable on Profit Shares accrued during the financial year is estimated to total EUR 144 million (96).

Report on non-financial information

OP Financial Group is made up of 108 OP cooperative banks and the central cooperative which they own, including its subsidiaries and affiliated entities. On 31 December 2022, OP Financial Group had 12,999 employees. The Group's business consists of the following three business segments: Retail Banking (Banking Personal and SME Customers), Corporate Banking (Banking Corporate and Institutional customers), and Insurance (Insurance Customers). The Group's main area of operation is Finland. In addition, OP Corporate Bank operates in Estonia, Latvia and Lithuania.

The entire financial sector is being shaped by higher ESG expectations among customers and other stakeholders, regulation on sustainable finance, and supervisory requirements. Responsible business is one of OP Financial Group's strategic priorities. The Group has defined the following values that guide its operations and support its mission: people first, responsibility, and succeeding together.

OP Financial Group follows the Code of Business Ethics in its operations. This includes the key principles for corporate responsibility and environmental impact that all employees and members of governing bodies of OP Financial Group must observe. The Group is committed to complying with international principles that guide operational responsibility. The most important of these are the principles of the United Nations Global Compact initiative, the Principles for Responsible Banking under the United Nations Environment Programme Finance Initiative (UNEP FI), the UN Principles for Responsible Investment (UN PRI) and the UN Principles for Sustainable Insurance (UN PSI). OP is one of the founding members of Finland's Sustainable Investment Forum (Finsif) and an active member of Finnish Business & Society (FIBS), the largest corporate responsibility network in the Nordic countries.

OP Financial Group's corporate responsibility activities are guided by a Group-level sustainability programme that was revised in August 2022.

OP Financial Group will publish its sustainability report for 2022 as part of its annual review. The report is based on the GRI Universal Standards and includes information supplementing this report. The report also includes a review based on the TCFD framework (Task-force on Climate related Financial Disclosures). OP Financial Group will publish its sustainability report for 2022 as part of its annual review in week 10.

Environmental and climate-related aspects

The financial sector plays a key role in the fight against climate change, particularly in financing and investment operations, but also as part of sustainable insurance and claims management. OP Financial Group wants its operations to have a positive effect on the climate and the environment and enable a change towards a more sustainable future together with its customers. The Group supports its customers' preparation for the effects of climate change and their shift towards low-carbon operations by, for example, providing them with green loans tailored for environmentally friendly projects.

OP Financial Group is committed to the Paris Agreement, which aims to hold the increase in the global average temperature well below 2°C above pre-industrial levels and to limit the rise in temperatures to 1.5°C above pre-industrial levels. OP Financial Group has developed two products based on the international framework for sustainable finance: green loans and sustainability-linked loans. Green loans are designed for corporate customers that can make a commitment to using the borrowed funds to promote specific projects, while sustainability-linked loans are for corporate customers that are prepared to pursue sustainability-based performance targets agreed with the lender. These targets affect the loan margin. The combined exposures of these loans and limits increased to EUR 5.2 billion (3.0) in 2022. OP Financial Group has issued three green bonds: OP Corporate Bank's EUR 500 million green bond and the EUR 500 million senior non-preferred green bond issued in January 2022, as well as the EUR 700 million green covered bond issued by OP Mortgage Bank.

In its loan decisions, OP Financial Group considers the ESG themes and risks related to environmental, social and governance factors in accordance with the EBA (European Banking Authority) Guidelines on loan origination and monitoring. OP Financial Group prepares an ESG analysis of its corporate customers as part of assessing their creditworthiness. The purpose of the analysis is to assess how well the companies have included essential ESG themes in their business models and how these themes will affect their business operations and potential.

OP Financial Group's goal is to make its own operations carbon neutral by 2025, which means not producing emissions from the energy and fuels that the Group uses. These direct (Scope 1) and indirect (Scope 2) emissions include emissions from the oil used by heating and stand-by generators, district heating, district cooling as well as energy production. The aim is to minimise energy consumption. For this purpose, we have been building an energy management system which will provide us with more detailed information regarding our properties' energy consumption and emissions. OP Financial Group calculates emissions from its own operations in accordance with the Greenhouse Gas Protocol (GHG), and greenhouse gases are indicated as CO2 equivalents. In 2022, Scope 1 and Scope 2 emissions totalled 7,156 CO2e tonnes (25,485).

OP Financial Group's most significant climate impacts arise through our financing and investments. With respect to indirect emissions, OP Financial Group reports the emission distribution of its exposures for the most significant sectors. After OP Financial Group joined the PCAF calculation method in 2022, the emissions are focused more accurately based on the fund use targets financed by us. The information OP Financial Group uses for the emission calculation methods is also more comparable and precise than before. Due to the change in the calculation method, the GHG emissions of the financing and investment portfolios are not comparable to those of 2021.

OP Financial Group is committed to ensuring that its corporate loan portfolios are carbon neutral by 2050. In addition to this long-term target, the Group has a roadmap for major reductions in emissions before 2050, especially in Finland, its main corporate financing market. OP Financial Group will cut 25% of its corporate loan portfolio emissions by 2030, compared with the 2022 level.

In line with the UNEP FI Principles for Responsible Banking, OP Financial Group is committed to aligning its loan portfolio with the Paris Agreement. The Group will not finance new coal power plants or coal mines, including companies that plan to build them. Neither will it provide finance to new corporate customers whose financial dependence on using coal as an energy source is over 5%, measured in net sales.

OP Asset Management and OP Fund Management Company are committed to becoming carbon neutral in their managed funds by 2050. In addition, we will halve the greenhouse gas emission intensity of our mutual funds by 2030, compared with the 2019 level. We will stepwise tighten our coal-exclusion policy in such a way that, by the end of 2030, our direct and active investments exclude business related to coal mining or coal power generation.

OP Fund Management Company publishes carbon footprint calculations for its managed equity and fixed income funds twice a year, and fund-specific ESG analyses for the majority of such funds four times a year. These analyses show not only the overall sustainability and corporate responsibility score for the whole portfolio but also the percentage of the portfolio companies' net sales attributable to renewable energy, energy efficiency and green buildings.

OP Financial Group and the European Investment Fund agreed on new risk sharing guarantee facilities in December 2022. The guarantee facilities promote the green transition and companies' innovation activities and bring additional financing of approximately EUR 200 million to the market. The guarantee facilities help SMEs obtain financing for investments that accelerate the green transition and enable them to implement projects with lower collateral requirements. The different guarantee facility solutions will be available at OP cooperative banks in the early spring of 2023. In early 2022, OP Corporate Bank plc issued a green bond worth EUR 500 million in accordance with its updated Green

Bond Framework. Proceeds raised through this bond are also used to promote sustainable corporate finance.

At the end of 2022, a total of 45.6% of OP Financial Group's mutual funds were funds that promote ESG characteristics (EU regulation on sustainable finance, article 8 or 9). OP offers four sustainability-themed funds: OP-Sustainable World, OP-Climate, OP-Clean Water and OP-Low-carbon World. In addition to theme funds, responsible investment funds include index funds and the OP-Target funds available on OP-mobile. Five index funds (OP-America Index, OP-Europe Index, OP-World Index, OP-Asia Index and OP-Nordic Countries Index) track ESG indexes which place greater weight on companies that integrate ESG risks better than their peers. These funds do not invest in companies that have ties to the manufacture of controversial weapons or that have violated international standards. Target funds, too, place greater weight on companies that integrate ESG risks better than their peers, and target funds avoid investments in controversial sectors. Assets under management invested through responsible investment funds totalled EUR 13.0 billion (8.8) at the end of 2022.

OP Real Estate Asset Management Ltd is committed to promoting carbon neutrality in its property investment operations. Its responsibility targets include carbon neutral energy by 2030 and carbon neutral construction by 2050.

In addition to its GRI sustainability reporting, OP evaluates its impacts on climate change in the annual CDP survey. In the survey for 2022, OP Financial Group reached the score B.

Aspects related to personnel and other areas of social responsibility

OP Financial Group is committed to being a responsible actor and respecting human rights, including OECD Guidelines, employee rights and the fundamental principles and rights named in the ILO Declaration on Fundamental Principles and Rights at Work. The Group is committed to the UN Global Compact initiative and to promoting human rights, labour standards, environmental protection and anti-corruption. The Group's value descriptions updated in 2022 emphasise value to the customer, diversity of personnel, appreciating differences and viewing them as strengths, as well as transformation and continuous learning.

One of OP Financial Group's strategic priorities is highly skilled, motivated and satisfied personnel. The aim of OP Financial Group's employee wellbeing policy is to maintain and promote the health and wellbeing of all employees through close and well-organised management of occupational health and safety and wellbeing at work. This creates the basis for a good employee experience. Key elements supporting employee wellbeing at OP Financial Group include early intervention, extensive occupational healthcare services, rehabilitation, flexibility at work and diversity management.

Employee experience is measured through regular personnel surveys and by monitoring the health rate indicator. In 2022, sickness absences accounted for 3.1% of regular working hours. The 'health rate' (percentage of personnel with no sickness absences) was 54% of all personnel in 2022.

OP Financial Group aims to promote diversity in its organisations. The goal is to have a personnel structure that reflects the diversity of the Group's clientele regarding age, gender, nationality and other background factors. The Group's corporate culture and practices are non-discriminating and diverse and promote a sense of belonging, and this is what its sustainability programme aims to reinforce. The Group considers diversity to be an asset and guarantees equal opportunities, rights and fair treatment for everyone. The Group's employees have equal opportunities and rights at all stages of the employment relationship, including recruitment, career transitions and salary. We pay attention to our personnel's diverse experiences and competencies. We regularly monitor and promote the implementation and development of equality and diversity by means such as personnel surveys and candidate experience measurement during recruitment.

To promote diversity, OP Financial Group's objective is that the proportion of both genders in defined executive positions is at least 40%. The proportion of women in these positions was 31% (30) at the end of 2022. The proportion of women in these positions was 21% at the end of 2017. The Group monitors on an annual basis the distribution of personnel in various task groups by factors such as gender, pay and age.

OP Financial Group requires that its personnel have diverse skills, in addition to regulatory competence requirements. The Group supervises these competencies and reports them through completed e-courses, according to various needs. Online courses compulsory to all OP Financial Group employees include preventing money laundering, code of business ethics, cybersecurity in the workplace and security training. As of 2023, all employees must complete an ESG training, too.

Increasing financial literacy in Finland is an integral part of OP Financial Group's corporate responsibility efforts. In 2022, the Group strengthened the financial literacy of more than 90,000 (39,000) children and young people. The Group also provided training in digital literacy to a total of 12,000 (8,400) older people.

OP Financial Group's charity donations in 2022 totalled around EUR 2.7 million (2.4). The donations were channelled in line with themes that support the Group's sustainability programme and values.

Aspects related to human rights

OP Financial Group respects human rights and aims to prevent discrimination in all its activities. The Group's own operations do not involve any significant human rights risks or impacts. Indirectly, such impacts may arise from the supply chain or from the operations of investees and financed parties. OP Financial Group's Supplier Code of Conduct requires that product and service suppliers ensure the fulfilment of human rights in their supply chains. The Group measures this by monitoring the number of discrimination incidents and the number of reports filed through the whistleblowing channel.

OP Corporate Bank's ESG analyses for large corporate customers enable it to systematically assess companies' social impacts and risks, in addition to environmental matters. Human rights aspects are included in OP Asset Management's process of keeping up with and influencing international standards. OP Financial Group does not make active direct investments in companies that have violated international norms and where engagement to urge corrective measures has been unsuccessful.

The most important objective of internal data protection procedures is to ensure that all stakeholders can trust the way in which OP Financial Group manages data protection matters and processes customer data responsibly. OP Financial Group was the first Finnish company to publish its ethical guidelines for artificial intelligence.

OP Financial Group aims to improve equal opportunities in the digital society by developing the accessibility of the Group's digital services. OP Accessible – an easy-to-use, clear-language web service for daily banking – is the OP service which best meets accessibility requirements. It is also easy to use with various assistive software and devices. Accessibility of OP Financial Group's other digital services is continuously improving as development efforts progress. Already today, the Group's mobile apps accept login with fingerprint, and key code lists are also available in Braille. In March 2022, the Group published a new guide for older people. It assists and guides them in doing their banking independently without a computer or a smartphone.

Prevention of corruption and financial crime

OP Financial Group is committed to acting on the Code of Business Ethics. Responsibility involves managing conflicts of interest and abolishing corruption. The Group has compiled an online course for all employees to ensure that the Code of Business Ethics is observed. The course must be taken every year. All employees must also pass the online course on managing conflicts of interest and anti-corruption on an annual basis.

OP Financial Group regularly analyses and assesses risks involved in its operations, including risks related to corruption, in accordance with the related application guide, OP Financial Group's operational risk management procedures. As required by regulation and guidelines issued by authorities, the Group has drawn up policies and procedures for knowing its customers and performing ongoing customer due diligence as well as for staff training, instructions and protection.

OP Financial Group is committed to the continuous strengthening and improvement of its capabilities in financial crime prevention. All Group employees must annually pass the online course on preventing money laundering. Any suspicious transactions will be reported to the Financial Intelligence Unit in line with regulatory requirements. Internal control is complemented by the opportunity of anyone employed by the Group and other stakeholders to report through an independent channel if they suspect discrimination or a violation of rules or regulations (whistleblowing). Actions that are against OP Financial Group's values can also be reported. Reports can be filed at any time via OP Financial Group's intranet or website. All reports are processed with confidentiality by designated specialists of the independent Compliance function.

Risks and their management in respect of non-financial information

From the perspective of a financial services provider, the drivers of change in the business environment, such as changes related to climate and the environment, may be channelled into financial risks in the banking and insurance business through various impact chains. Climate and environmental risk factors can be divided into physical risk factors and transition risk factors. Physical risks include risks arising from extreme weather phenomena, such as floods and heatwaves, or from other environmental risk factors such as the scarcity or contamination of natural resources. Transition risks may arise if climate policy actions to reduce emissions are taken too abruptly or too late. Risks arise from new regulations, changes in customer behaviour or the adoption of new technology.

Credit risk is affected by, for example, the sector to which financing is provided or investment made. Physical risks may affect the value of real property, including the value of collateral through buildings, for example. The transition to a low-carbon economy may affect the value of assets that are dependent on energy inefficient or fossil fuels, for example.

Through changes in market expectations, climate and environmental risk factors may impact on both the market risks involved in OP Financial Group's investment operations and the preferences of our investor clients. The Group can respond to changes in investor preferences by providing, for example, bonds recently added to asset management's product portfolio.

Extreme weather phenomena may cause physical damage and, thus, operational risks in our business locations. Failure to fulfil our shareholders' expectations regarding responsibility may cause reputational damage.

From social and employee perspectives, risks may arise from projects being financed and the availability of skilled workforce. From a human rights perspective, risks may arise, for example, through investments. Corruption and bribery risks may arise in connection with financing decisions or due to negligence in customer due diligence procedures.

The business concerned and process owners are responsible for the management of risks that apply to their own activities.

OP Financial Group's risk management and compliance organisations also oversee risks, risk management and compliance related to ESG factors. The Risk Committee of OP Cooperative's Board of Directors oversees risk management, including that related to climate and environmental factors.

Taxonomy eligibility

The aim of the EU Taxonomy for sustainable finance that entered into force in 2021 is to determine the sustainability of financing and investment instruments. OP Financial Group reports taxonomy eligibility information for 2022. In future years, the Group will present key performance indicators for sustainable finance on its taxonomy-eligible assets in accordance with the disclosure obligations established under the taxonomy.

Home loans contribute to economic activities classified in taxonomy regulation, in other words, they are taxonomy eligible.

Home loans (31 Dec)	€ million	Share of balance sheet assets, %	Taxonomy-eligible, %
2022	42,304	24.3	100.0
2021	41,522	23.8	100.0

As regards Insurance business, the proportion of taxonomy-eligible economic activities related to non-life insurance is reported for 2022. Insurance contracts are taxonomy eligible if they fall within the lines of insurance specified in the EU Taxonomy criteria and if, based on the insurance terms and conditions, the insurance contracts cover losses arising from threats related to climate change. Insurance covers provided by Pohjola Insurance are regarded as taxonomy-eligible, excluding general liability, business interruption, luggage and legal expenses insurance. The indicator applied is gross premiums written.

Insurance business, Q1–4/2022	€ million	%
Non-life insurance gross premiums written	1,606	100.0
Taxonomy-eligible	1,407	87.6
Taxonomy-non-eligible	199	12.4
Reinsurance gross premiums written	82	100.0
Taxonomy-eligible	56	68.3
Taxonomy-non-eligible	26	31.7

Insurance business, Q1–4/2021	€ million	%
Non-life insurance gross premiums written	1,543	100.0
Taxonomy-eligible	1,357	87.9
Taxonomy-non-eligible	186	12.1
Reinsurance gross premiums written	70	100.0
Taxonomy-eligible	49	70.5
Taxonomy-non-eligible	21	29.5

As regards other functions, OP Financial Group reports their taxonomy eligibility on the basis of the taxonomy reporting of the companies in question. The figures are based on the percentage of taxonomy-eligible net sales reported by the companies.

31 Dec 2022	€ million	Share of balance sheet assets, %	Taxonomy-eligible, %
Corporate lending, NFRD exposures*	5,951	3.4	21.8
Non-life insurance investments**	4,100	2.4	2.6
Life insurance investments**	16,600	9.5	3.3
Banking notes and bonds***	7,082	4.1	4.0
Total	33,733	19.4	

*Companies subject to the NFRD (Non-Financial Reporting Directive) includes listed European companies with more than 500 employees.
**Fair value of investments. Life insurance investments include unit-linked investments and separated balance sheets.
***Excluding notes and bonds held for trading.

Information on the NFRD exposures of corporate lending has been collected from the public taxonomy eligibility reports of the companies concerned.

Taxonomy figures related to investments are based on information collected by an external supplier on figures reported by investees.

Balance sheet information, 31 Dec 2022	€ million	Share of balance sheet assets, %
Total balance sheet assets	175,516	100.0
Exposures to central governments, central banks and supranational issuers	39,481	22.5
Derivative contracts, assets	4,117	2.3
Financial assets held for trading	381	0.2
Receivables from credit institutions payable on demand	652	0.4

Balance sheet information, 31 Dec. 2021	€ million	Share of balance sheet assets, %
Total balance sheet assets	174,110	100.0
Exposures to central governments, central banks and supranational issuers	36,236	20.8
Derivative contracts, assets	3,467	2.0
Financial assets held for trading	409	0.2
Receivables from credit institutions payable on demand	283	0.2

As regards 2022, OP Financial Group does not report taxonomy eligibility information on nuclear power and natural gas under the EU Taxonomy Complementary Climate Delegated Act, because companies do not publish such information.

OP Financial Group constantly assesses the impacts of the EU Taxonomy on the Group, its strategy and customers. The Group guides its customers in preparing for and adapting to the various effects of climate change and the related risks. The Group is monitoring developments in sustainable finance regulation and the EU taxonomy since they will change the business environment and the conditions for success.
The Group analyses the taxonomy alignment of non-life insurance products and engages in product development. The Group has begun to prepare for taxonomy alignment reporting for 2023.

Voluntary information supplementing taxonomy reporting

Based on taxonomy regulation applied to the financial sector, OP Financial Group discloses voluntary information as part of taxonomy reporting. The Group reports assessment information on the taxonomy eligibility of investments. This reporting is based on the assessments performed by an external supplier regarding the taxonomy eligibility of the activities subject to investment by OP Financial Group. The target group subject to the assessments is wider than that of companies subject to the Non-Financial Reporting Directive (NFRD). OP Financial Group reports the taxonomy eligibility of the NFRD exposures of corporate lending and the eligibility of banking notes and bonds for 2021 on a voluntary basis. For 2022, these items are subject to mandatory reporting.

31 Dec 2022	€ million	Share of balance sheet assets, %	Taxonomy-eligible, %
Non-life insurance investments*	4,100	2.4	18.5
Life insurance investments*	16,600	9.5	25.3
Total	20,700	11.9	

*Fair value of investments. Life insurance investments include unit-linked investments and separated balance sheets.

31 Dec 2021	€ million	Share of balance sheet assets, %	Taxonomy-eligible, %
Corporate lending, NFRD exposures*	7,802	4.5	33.1
Non-life insurance investments**	4,235	2.4	37.3
Life insurance investments**	19,473	11.2	12.9
Banking notes and bonds***	7,899	4.5	3.4
Total	39,409	22.6	

*Companies subject to the NFRD (Non-Financial Reporting Directive) includes listed European companies with more than 500 employees. As regards corporate lending, the information covers Finnish companies only. The figures for 2021 and 2022 are not comparable because the source of information and the calculation method changed in 2022.

**Fair value of investments. Life insurance investments include unit-linked investments and separated balance sheets.
***Excluding notes and bonds held for trading.

Sustainability and corporate responsibility

Sustainability and corporate responsibility form an integral part of OP Financial Group's business and strategy, and responsible business is one of OP Financial Group's strategic priorities. The Group published its new sustainability programme in August 2022. The programme and its policy priorities implement OP Financial Group's strategy and guide its sustainability and corporate responsibility actions.
OP Financial Group's sustainability programme is built around three themes: Climate and the environment, People and communities and Corporate governance.

The programme is based on OP Financial Group's values, megatrends in the business environment and materiality assessment. The sustainability programme and its goals have been worked on together with different stakeholders. The Climate and environment section sets goals for the provision of sustainable financial and investment products, the emission reductions of loan and investment portfolios as well as the promotion of biodiversity. The People and communities section focuses on the wellbeing of local communities and on supporting management of personal finances and financial literacy. Corporate governance involves integrating responsibility with all business and related risk-taking and a goal to enhance governance diversity.

OP Financial Group is committed to complying with the ten principles of the UN Global Compact initiative in the areas of human rights, labour rights, the environment and anti-corruption. OP has agreed to follow the UN Principles for Responsible Investment and the UN Principles of Sustainable Insurance. OP Financial Group is a Founding Signatory of the Principles for Responsible Banking under the United Nations Environment Programme Finance Initiative (UNEP FI).

OP Financial Group is committed to the international Partnership for Carbon Accounting Financials (PCAF), which aims to develop and implement a harmonised approach to assessing and disclosing greenhouse gas emissions associated with partners' loans and investments.

Sustainability and corporate responsibility highlights 2022

In January, OP Corporate Bank plc issued a 500 million-euro senior non-preferred green bond with a maturity of 5.5 years. The bond was targeted at international responsible institutional investors. Proceeds raised with the green bond are allocated to sustainable corporate finance. Eligible sectors to be funded include renewable energy, green buildings and environmentally sustainable management of living natural resources and land use.

In April, OP Mortgage Bank issued a one-billion-euro green covered bond with a maturity of 5.5 years. This fixed-rate covered bond is targeted at international institutional investors, and proceeds raised with the bond will be allocated to OP Financial Group's home loans recognised as green ones according to the Green Covered Bond Framework of OP Mortgage Bank. The sector to be financed is energy-efficient residential buildings (green buildings).

In April–May, OP Financial Group organised the Financial Literacy Competition, which has a long tradition, in cooperation with The Association for Teachers of History and Social Studies in Finland (HYOL ry). This year, around 20,000 young people from 325 schools all over Finland participated in the national competition. In May, OP Financial Group donated EUR 500,000 to Finnish Red Cross for helping the Ukrainians.

OP Financial Group donated a total of EUR 1.8 million to Finnish universities. The Group's central cooperative's, that is to say OP Cooperative's, share of the donation was EUR 1.2 million. It was equally distributed between ten universities that teach economic sciences: Aalto University, the universities of Eastern Finland, Jyväskylä, Oulu, Tampere, Turku and Vaasa, as well as LUT University, Hanken School of Economics and Åbo Akademi each received a donation of EUR 120,000. In addition, OP cooperative banks donated a total of EUR 620,000 to their regional universities. With the donations to universities, OP Financial Group aims to support Finnish expertise and research, create opportunities for sustainable growth and promote the long-term success of its operating region.

Through its campaign "Summer jobs paid for by OP", OP provided 2,000 young people with a summer job in the third sector. OP cooperative banks donated funding to non-profit associations for hiring young people from 15 to 17 years for two weeks. Enhancing the wellbeing of children and youths and their confidence in the future, and supporting the employment of young people form an important part of OP cooperative banks' sustainability actions. In July, OP and Hope ry organised for the sixth time the Backpack for every back campaign to collect school backpacks at OP cooperative banks across Finland. This year, a total of 2,500 backpacks were collected for the children of families living on limited means.

OP Financial Group launched its new sustainability programme in August 2022. The programme and its goals guide the Group's sustainability activities.

Pohjola Insurance and several OP cooperative banks around Finland have joined the Dreams programme to strengthen youths' dreams, wellbeing and faith in the future. Over the next two years, Dreams visits will be carried out to as many as 240 schools across Finland with support from Pohjola Insurance and OP cooperative banks.

OP Financial Group has been supporting MIELI Mental Health Finland's Crisis Helpline since 2020. This autumn's donation of 30 000 euros provides a total of 200,000 euros for MIELI's Crisis Helpline. These donations have provided multiple forms of assistance for the Crisis Helpline, such as enabling the hiring of crisis workers.

As a member of the national 'Down a degree' initiative, OP Financial Group began to launch energy-saving measures in September with the aim of cutting its heating energy consumption by five per cent this winter. The Group will reduce the indoor temperature of its offices by one degree and take several other energy-saving measures. Through this energy saving challenge, OP Financial Group encourages all customers and partners to join the campaign.

OP Financial Group has developed two products based on the international framework for sustainable finance: green loans and sustainability-linked loans. Green loans are designed for corporate customers that can make a commitment to using the borrowed funds to promote specific projects, while sustainability-linked loans are for corporate customers that are prepared to pursue sustainability-based performance targets agreed with the lender. These targets affect the loan margin. At the end December, total exposures from these loans and facilities stood at EUR 5.2 billion (3.0).

In December 2022, OP Financial Group and the European Investment Fund signed an agreement on new risk sharing guarantee facilities. The aim is to help SMEs obtain financing for investments that accelerate the green transition and enable them to implement projects with lower collateral requirements.

Multichannel services

OP Financial Group has a multichannel service network comprising online, mobile, branch and telephone services. In December, the Group's mobile channels (OP-mobile, OP Business mobile) had more than 1.4 million active users (1.3). The Group provides personal customer service both at branches and digitally.

Mobile and online services, no. of logins (million)	Q1–4/ 2022	Q1–4/ 2021	Change, %
OP-mobile	513.6	481.3	6.7
OP Business mobile	27.3	20.9	30.6
Pivo	43.4	44.4	-2.3
Op.fi*	73.8	53.4	38.2
	31 Dec 2022	31 Dec 2021	Change, %
Siirto payment, registered customers (OP)	1,148,218	1,054,931	8.8

* The figures are not comparable due to a change in the measurement method in 2022.

In March, OP introduced the Google Pay service to its customers in Finland, alongside the Apple Pay service. The service enables customers to pay for their purchases using Android phones or smartwatches in contactless payment readers and on apps and online stores. In December, OP extended the service to cover customers using Mastercard.

In March, OP published a new guide for older people to support them in using non-digital banking services, and finding options for the daily use of services without a computer or smartphone.

OP Financial Group has an extensive branch network with 297 branches (324) across the country. In addition, Pohjola Insurance has a comprehensive network of agencies and partnerships.

OP Financial Group has extensive presence in the most common social media channels where it has a total of 650,000 followers (630,000). In addition to OP Financial Group's national social media accounts, many OP cooperative banks have their own social media accounts where they share publications targeted at local customers.

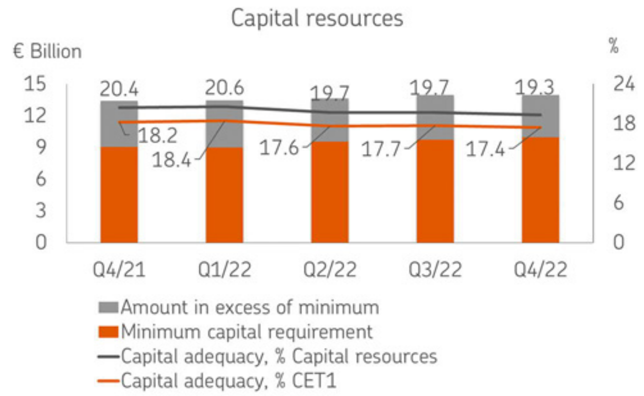
Capital adequacy and capital base

Capital adequacy under the Act on the Supervision of Financial and Insurance Conglomerates

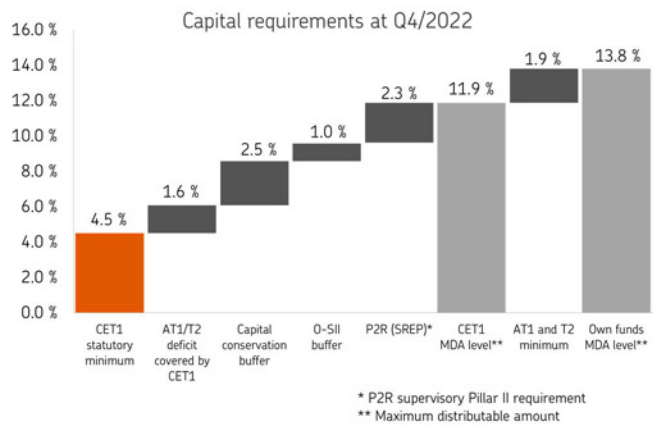
OP Financial Group's capital base, calculated according to the Act on the Supervision of Financial and Insurance Conglomerates (FiCo), exceeded the minimum amount specified in the Act by EUR 4.1 billion (4.5). Banking capital requirement remained unchanged at 13.8%, calculated on risk-weighted assets. The ratio of OP Financial Group's capital base to the minimum capital requirement was 137% (146). The ratio weakened by around 15 percentage points as a result of the adoption of the risk-weighted assets floor based on the Standardised Approach (SA floor). As a result of the buffer requirements for banking and the solvency requirements for insurance companies, the minimum FiCo solvency of 100% reflects the level within which the conglomerate can operate without regulatory obligations resulting from buffers below the required level.

Capital adequacy for credit institutions

OP Financial Group's CET1 ratio was 17.4% (18.2), which exceeds the minimum regulatory requirement by 5.5 percentage points. The ratio decreased by one percentage point at the time of transition to the SA floor in the second quarter. The ratio was improved by earnings performance and the issues of Profit Shares.



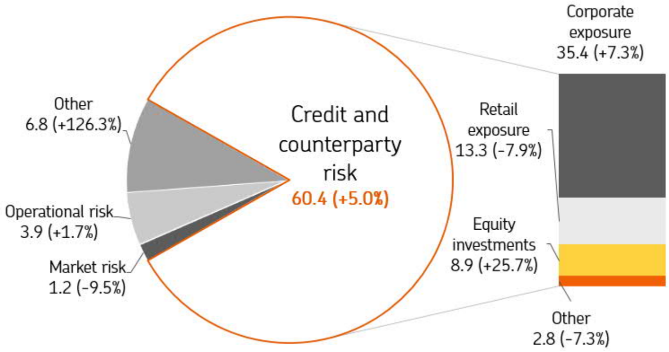
As a credit institution, OP Financial Group's capital adequacy is on a solid basis compared to the statutory requirements and those set by the authorities. The statutory minimum for the capital adequacy ratio is 8% and for the CET1 ratio 4.5%; the minimum requirement of 1.6% for AT1 and T2, which needs to be covered with CET1, raises the CET1 minimum to 6.1%. The requirement for the capital conservation buffer of 2.5% under the Act on Credit Institutions, the O-SII buffer of 1% and the ECB's P2R requirement increase, in practice, the minimum total capital ratio to 13.8% and the minimum CET1 ratio to 11.9%, including the shortfalls of Additional Tier 1 (AT1) and Tier 2 (T2) capital.



The CET1 capital of OP Financial Group as credit institution was EUR 12.6 billion (12.0). The CET1 capital was improved by Banking earnings and Profit Share issues. The amount of Profit Shares in CET1 capital was EUR 3.2 billion (3.1).

The risk exposure amount (REA) totalled EUR 72.3 billion (65.7), or 10% higher than on 31 December 2021. The SA floor increased the total risk exposure amount. OP Financial Group shifted to the Standardised Approach in its capital adequacy measurement for credit institution exposures and certain minor parts of corporate exposures during the third quarter. This change had no substantial effect on the CET1 ratio. The Group previously applied the IRBA for such exposures.

Risk Exposure Amount 31 December 2022
Total 72.3 € billion
(change from year end +10%)



OP Financial Group treats insurance holdings within the financial conglomerate as risk-weighted assets, based on permission from the ECB. Equity investments include EUR 8.6 billion (6.8) in risk-weighted assets of the Group's internal insurance holdings. The increase was due to the adoption of the Simple Risk Weight Approach – a risk weight of 370% – replacing the previous PD/LGD method. Under the Standardised Approach, the risk weight of insurance company holdings is 100%.

The Finnish Financial Supervisory Authority (FIN-FSA) makes a macroprudential policy decision on a quarterly basis. In December 2022, the FIN-FSA reiterated its decision not to impose a countercyclical capital buffer requirement on banks. In its macroeconomic stability decision in December 2022, the FIN-FSA indicated imposing a systemic risk buffer in the first quarter of 2023. In connection with its macroprudential policy decision of June 2022, the FIN-FSA performed an annual review of banks' capital buffer requirements and decided to raise OP Financial Group's O-SII buffer by 0.5 percentage points to 1.5%, effective as of 1 January 2023.

The minimum leverage ratio for OP Financial Group's Banking was 7.6% (7.4). This higher ratio was due to Banking earnings in particular. The regulatory minimum requirement is 3%.

On 30 September 2022, OP Financial Group filed an application with the ECB on the use of the Standardised Approach in capital adequacy calculation, instead of the internal models (IRBA) and the currently applied risk-weighted assets floor based on the Standardised Approach. Transfer to the Standardised Approach is estimated to have no essential effect on OP Financial Group's capital adequacy or risk exposure. According to OP Financial Group's assessment, the transfer will take place during the first quarter of 2023.

The future changes in the EU Capital Requirements Regulation (CRR3), which will implement the final elements of Basel III, are assessed to not have a substantial effect on the capital adequacy of OP Financial Group. The changes should take effect in 2025.

OP Financial Group's Capital Adequacy and Risk Management Report and OP Amalgamation's Pillar III tables will be published in week 10.

Insurance

The solvency position of insurance companies is strong. The solvency of the insurance business was improved mainly by higher interest rates and lower market risks.

	Non-life insurance		Life insurance	
	31 Dec 2022	31 Dec 2021	31 Dec 2022	31 Dec 2021
Capital base, € mill.*	1,658	1,464	1,523	1,656
Solvency capital requirement (SCR), € mill.*	671	840	567	833
Solvency ratio, %*	247	174	269	199
Solvency ratio, % (excl. transitional provision)	247	174	232	173

*including transitional provisions

ECB's supervision

OP Financial Group is supervised by the European Central Bank.

On 25 April 2019, OP Financial Group received the ECB's decision on increases in the risk weights of mortgage-backed retail exposures as part of the targeted review of internal models (TRIM). These risk weight increases will be valid until further notice, until the qualitative requirements set out in the decision have been met.

On 19 February 2020, OP Financial Group received the ECB's decision concerning the change in the definition of default, in which the ECB set risk weighting factors for corporate and retail exposures. These risk-weighting factors will be valid until the qualitative requirements set out in the decision have been met.

On 11 December 2020, OP Financial Group received the ECB's decision concerning increases in the risk weights of retail exposures. The decision overruled the ECB's earlier decision issued on 2 February 2017.

On 18 March 2021, OP Financial Group received the ECB's decision concerning an increase in the risk parameter of corporate exposures. This risk parameter factor will be valid until the qualitative requirements set out in the decision have been met.

The ECB has set a capital requirement for OP Financial Group based on the supervisory review and evaluation process (SREP). The capital buffer requirement (P2R) set by the ECB is 2.25% (2.25) as of 1 January 2022.

Liabilities under the Resolution Act

Under regulation applied to crisis resolution of credit institutions and investment firms, the resolution authority is authorised to intervene in the terms and conditions of investment products issued by a bank in a way that affects an investor's position. The EU's Single Resolution Board (SRB) based in Brussels is OP Financial Group's resolution authority. The SRB has confirmed a resolution strategy for OP Financial Group whereby the resolution measures would focus on the OP amalgamation and on the new OP Corporate Bank that would be formed in case of resolution.

On 21 February 2022, the resolution authority updated the Minimum Requirement for Own Funds and Eligible Liabilities (MREL) for OP Financial Group. The updated MREL is 25.8% of the risk-weighted assets (RWA) and 9.9% of the leverage ratio exposures (LRE).

As part of the MREL, the resolution authority has set a subordination requirement for OP Financial Group in accordance with the Single Resolution Mechanisms Regulation. The subordination requirement determines how much of the MREL must be met with own funds or with subordinated liabilities. From 2022, the subordination requirement supplementing the MREL is 22% of the total risk exposure amount and 9.9% of the leverage ratio exposures. From the beginning of 2024, the subordination requirement will be 24% of the total risk exposure amount and 9.9% of the leverage ratio exposures. The requirements include a combined buffer requirement (CBR) of 3.5%.

OP Financial Group's buffer for the MREL was EUR 9.0 billion and for the subordination requirement EUR 1.9 billion. The amount of senior non-preferred (SNP) bonds issued by OP Financial Group totalled EUR 4.4 billion. These bonds provide funds for the MREL subordination requirement.

Key principles of risk management

At OP Financial Group, OP Cooperative's Board of Directors is the most important decision-making body for duties related to risk management. OP Cooperative's Supervisory Council confirms the decisions by the Board of Directors that apply to OP Financial Group's risk appetite. The Risk Committee of the Board of Directors assists the Board of Directors in performing duties related to risk-taking and risk management. Based on the decision by the President and Group Chief Executive Officer, the Executive Management Team has set up a Risk Management Committee, Steering and Compliance Committee and Banking ALM Committee that approve instructions and policy descriptions specifying the Risk Appetite Statement and the Risk Appetite Framework.

Senior management prepares business divisions' strategic choices that, in terms of risk-taking, are based on OP Financial Group's Risk Appetite Statement, confirmed by OP Cooperative's Supervisory Council. The Risk Appetite Statement outlines and gives grounds for what risks each business is ready to take and to what extent. Businesses are obliged to operate within the limits of these restrictions. Senior management decides on the division of responsibilities related to risk-taking: what risks different revenue logics (product and service packages) can take, and any potential elaborations on what risks legal entities and various functions within those revenue logics can take.

Senior management must ensure the maintenance and development of sufficient resourcing and expertise for the monitoring functions of the first, second and third line of defence. The governance structure provides the basis for the fact that the key principles guiding operations and the related policies and operating instructions have been prepared and resolved appropriately and that each activity is assessed and supervised in appropriate manner in view of quality, extent and complexity by expert parties that are independent of business, in addition to monitoring performed by the business concerned.

OP Financial Group's remuneration schemes are built in line with the Group's mission, values and targets, while taking account of regulatory compliance. Remuneration must not incentivise staff to excessive risk-taking or to actions against the customer's best interests. Compliance and Risk Management are involved in the preparation of the remuneration principles, remuneration policy and remuneration schemes and in the determination of supervisory practices related to remuneration processes.

The principles of corporate governance as required by joint and several liability define and determine the bank-specific corporate governance of the central cooperative and its member cooperative banks, as required under joint and several liability. In addition, the principles of internal control, good corporate governance, good business practices and corporate security set preconditions for practices.

Risk profile

OP Financial Group's risk-taking starts from the fact that the Group assumes risks that are associated with executing the Group's mission. In its risk-taking, OP Financial Group emphasises moderation, responsibility and careful action. Risk-taking is directed and limited by means of principles and limits prepared by senior management and approved by the management body.

OP Financial Group's success is based on the trust of customers and other stakeholders, on the adequacy of capital and liquidity, and on extensive data and knowledge of customers. Risk-taking is based on understanding matters affecting customers' future operations and success in the current business environment and in situations where the business environment is affected by an unexpected shock or change in trend.

OP Financial Group analyses the business environment as part of the ongoing strategy process. Megatrends and future visions behind the strategy reflect driving forces that affect the daily activities, conditions and future of OP Financial Group and its customers. Such factors currently shaping the business environment include sustainable development and responsibility (ESG), demographic change in the population, geopolitical factors, energy crisis in Europe, strongly accelerated inflation, exceptionally rapid increase in market interest rates and fast technological progress. For example, climate and environmental changes and other factors in the business environment are considered thoroughly so that their effects on the customers' future success are understood. Through advice and business decisions, OP Financial Group encourages its customers in developing their sustainable and successful business in the future.

Considering that OP Financial Group's business covers various areas of the financial sector on an extensive basis, unexpected external shocks from the economic environment may cause various direct and indirect effects on the prosperity of OP Financial Group's customers and on the Group's premises, IT infrastructure and personnel.
If materialised, they may affect the risk profile, capitalisation, liquidity and the continuity of daily business in various ways. The Group assesses the effects of such potential shocks by means of scenario work.

In 2022, OP Financial Group's operational risks were well managed. Their materialisation resulted in gross losses of EUR 7 million (10). As regards other risks, the risk profile is discussed in more detail by business segment.

Assessment of the effects of the war in Ukraine on OP Financial Group's risks

Russia's aggressive war in Ukraine may have an indirect effect on OP Financial Group's income and risks as a result of customers' changed business conditions, and a direct effect on the general financial market conditions and obstruction of the technical infrastructure. The impacts may be realised, for example, in the following ways:

- higher impairment loss on receivables
- lower values of investment assets
- effects of extensive sanctions and counter sanctions on OP Financial Group or its customers' activities
- problems in the availability of wholesale funding and a rise in the wholesale funding price
- problems in business continuity as a result of cyber attacks on OP Financial Group or its customers.

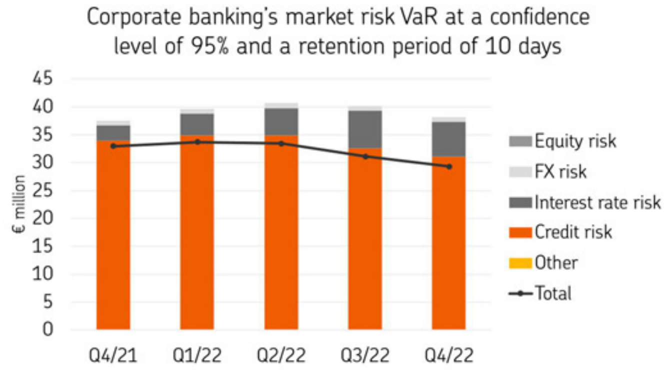
Retail Banking and Corporate Banking

Major risks in banking are associated with credit risk arising from customer business, and market risk.

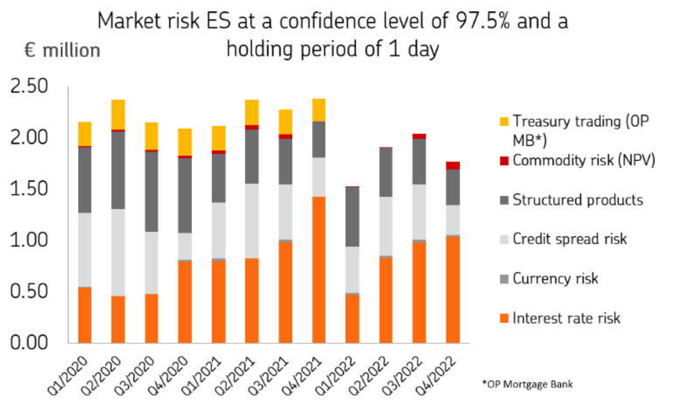
Banking credit risk exposure remained stable, its risk level remained moderate and the overall quality of the loan portfolio remained good. A rise in interest rates may have a negative effect on credit risk exposure.

OP Financial Group has no significant direct exposures to Russia. The impacts of the war in Ukraine on credit risk exposure mainly affect corporate loans indirectly, especially due to changes in energy and raw material prices, and individual customer relationships.

The market risk level of Corporate Banking's long-term investments decreased in the fourth quarter. No major changes were made to the asset class allocation during the financial year. The VaR, a measure of market risks, was EUR 29 million (33) on 31 December 2022. The VaR risk metric includes banking's long-term bond investments as well as derivatives that hedge their interest rate risks.



The market risks of the Markets function decreased slightly due to changes made in the open amount of credit spread. This is reflected in the decrease in Expected Shortfall (ES) and especially in the share of credit spread compared with the third quarter.

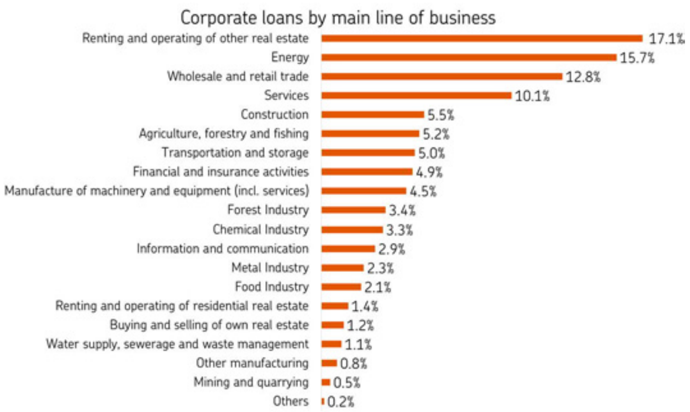


Non-performing and forborne exposures

	Performing forborne exposures (gross)		Non-performing receivables (gross)		Doubtful receivables (gross)		Loss allowance		Doubtful receivables (net)	
	31 Dec 2022	31 Dec 2021	31 Dec 2022	31 Dec 2021	31 Dec 2022	31 Dec 2021	31 Dec 2022	31 Dec 2021	31 Dec 2022	31 Dec 2021
Over 90 days past due, € billion			0.52	0.64	0.52	0.64	0.19	0.24	0.33	0.40
Unlikely to be paid, € billion			0.91	0.78	0.91	0.78	0.16	0.13	0.75	0.65
Forborne exposures, € billion	3.38	3.41	1.32	1.34	4.70	4.75	0.18	0.20	4.51	4.55
Total, € billion	3.38	3.41	2.74	2.76	6.12	6.17	0.53	0.58	5.59	5.59

	OP Financial Group		Retail Banking		Corporate Banking	
Key ratios	31 Dec 2022	31 Dec 2021	31 Dec 2022	31 Dec 2021	31 Dec 2022	31 Dec 2021
Ratio of doubtful receivables to exposures, %	5.23	5.31	6.75	6.57	1.88	2.29
Ratio of non-performing exposures to exposures, %	2.34	2.37	2.72	2.61	1.50	1.77
Ratio of performing forborne exposures to exposures, %	2.89	2.93	4.04	3.95	0.38	0.52
Ratio of performing forborne exposures to doubtful receivables, %	55.2	55.3	59.8	60.2	20.3	22.9
Ratio of loss allowance (receivables from customers) to doubtful receivables, %	12.0	11.9	8.5	7.5	38.4	41.5

No single customer's exposure exceeded 10% of OP Financial Group's capital base after allowances and other recognition of credit risk mitigation.



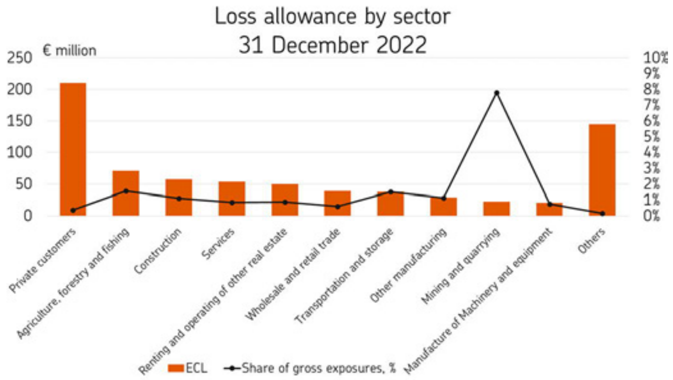
The graph shows the distribution of OP Financial Group's corporate loans by sector as percentages at the end of the financial year.

Retail Banking's interest rate risk in the banking book measured as the effect of a one-percentage point interest rate increase on net interest income was EUR 286 million (380) and as the effect of a one-percentage point decrease EUR -289 million (-90) on the average per year. Interest income risk is calculated for a one-year period by dividing the sum of the interest income risk for the next three years by three.

Corporate Banking's interest rate risk in the banking book measured as the effect of a one-percentage point interest rate increase on net interest income was EUR 16 million (56) and as the effect of a one-percentage point decrease EUR -16 million (59) on the average per year.

Deposits within the scope of deposit guarantee and managed by OP Financial Group totalled EUR 44.2 billion (43.0) at the end of December. The Deposit Guarantee Fund compensates a maximum of EUR 100,000 for each OP Financial Group customer.

Loss allowance by sector



The graph shows the loss allowance of different sectors and the ratio of loss allowance to gross exposures of the sector at the end of the financial year, 31 December 2022.

Insurance

Non-life insurance

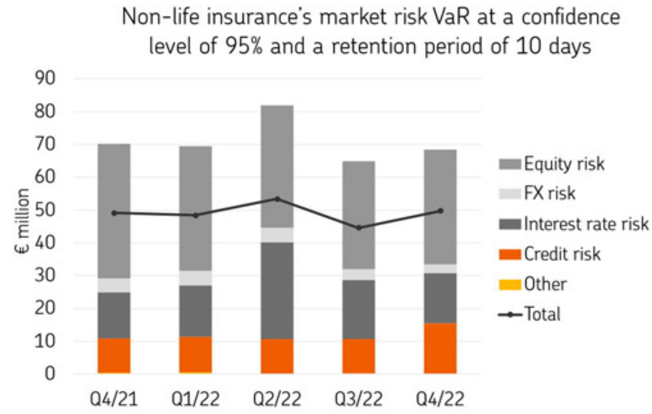
Major risks within non-life insurance include underwriting risks associated with claims developments, market risks associated with investments covering insurance liabilities, a faster-than-expected increase in life expectancy of the beneficiaries related to insurance liability for annuities, interest rates used in insurance liability valuation and the difference between the discount rate applied to insurance liabilities and market interest rates. The discount rate applied in insurance liability valuation was increased by 0.8 percentage points to 2.0 per cent in the fourth quarter. In IFRS accounting, insurance liabilities discounted with a constant interest rate have been made more market-consistent by applying a supplementary interest rate provision whose value change is based on changes in the risk-free yield curve.

A one-year increase in life expectancy would increase insurance liability for annuities by EUR 38 million (45). A 0.1 percentage point decrease in interest rates used in insurance liability valuation would increase insurance liabilities by EUR 22 million (29).

No significant changes took place in non-life insurance's underwriting risks during the financial year. Non-life insurance's significant market risks include the equity risk and the increasing insurance liability value and capital requirement resulting from lower market interest rates.

The market risk level of the investments of non-life insurance increased during the fourth quarter. The increase is explained by the increase in credit spread risk. The VaR, a measure of market risk, was EUR 49 million (49) on 31 December 2022. VaR includes the company's investment balance including investments, insurance liabilities and derivatives that hedge interest rate risk associated with insurance liabilities.

Non-life insurance's direct business transactions with Russia or Ukraine are minor, both in terms of insurance and investments. More significant business impacts arise from developments in the capital market.



Life insurance

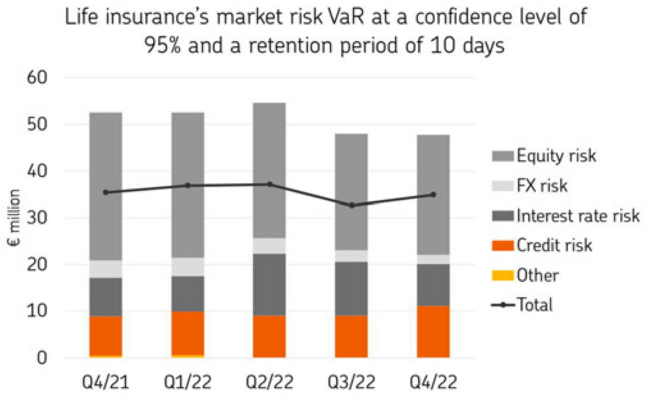
The key risks associated with life insurance are the market risks of life insurance's investment assets, the interest rate used for the valuation of insurance liabilities, a faster-than-expected life expectancy increase among those insured, and the lapse and surrender risk arising from changes in customer behaviour.

A one-year increase in life expectancy would increase insurance liability by EUR 25 million (28). A 0.1 percentage point decrease in interest rates used in insurance liability valuation would increase insurance liabilities by EUR 17 million (26). The decrease in interest rate sensitivity is due to higher interest rates and the change in the cash flows of insurance liabilities.

Investment risks associated with separated insurance portfolios and risks associated with changes in customer behaviour have been buffered. The buffer is sufficient to cover a significant negative return on the investment assets included in the separated portfolios, after which OP Financial Group will bear the risks associated with the portfolios. The buffers totalled EUR 246 million (292) on 31 December 2022.

The market risk level of the investments of life insurance increased during the fourth quarter. The increase is explained by the increase in credit spread risk. VaR, a measure of market risk, was EUR 35 million (35) on 31 December 2022. VaR includes life insurance's investment balance, including investments, insurance liabilities and derivatives that hedge against interest rate risk associated with insurance liabilities. Market risks associated with separated life insurance portfolios, assets that buffer against those risks or customer bonuses, are not included in the calculation.

Life insurance's direct investments in Russia or Ukraine are minor. More significant business impacts arise from general developments in the capital market. The geopolitical situation affects life insurance business also through the fact that some investment instruments comprising the underlying assets for unit-linked insurance have been closed.



Group Functions

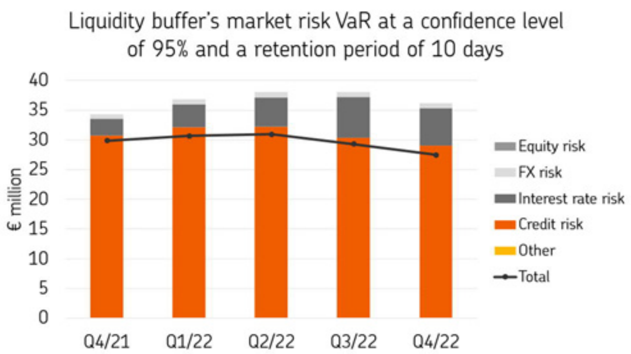
Major risks related to the Group Functions segment include credit and market risks associated with the liquidity buffer, and liquidity risks. The most significant market risk factor is the effect of credit spread changes on the value of notes and bonds included in the liquidity buffer.

OP Financial Group's funding position and liquidity is strong.

Between January and December, OP Financial Group issued long-term bonds worth a total of EUR 8.0 billion (3.8), EUR 1.0 billion of which was a retained covered bond.

The loan-to-deposit ratio remained stable during the financial year.

The market risk of notes and bonds in the liquidity buffer (VaR with 95% confidence) decreased during the financial year. No major changes occurred in the asset class allocation. The VaR risk metric that measures market risk associated with the liquidity buffer was EUR 27 million (30) on 31 December 2022. The VaR risk metric includes the long-term bond investments within the liquidity buffer and the derivative contracts that hedge their interest rate risks.



OP Financial Group secures its liquidity through a liquidity buffer which consists mainly of deposits with central banks and receivables eligible as collateral for central bank refinancing. The liquidity buffer is sufficient to cover the need for short-term funding for known and predictable payment flows and in a liquidity stress scenario.

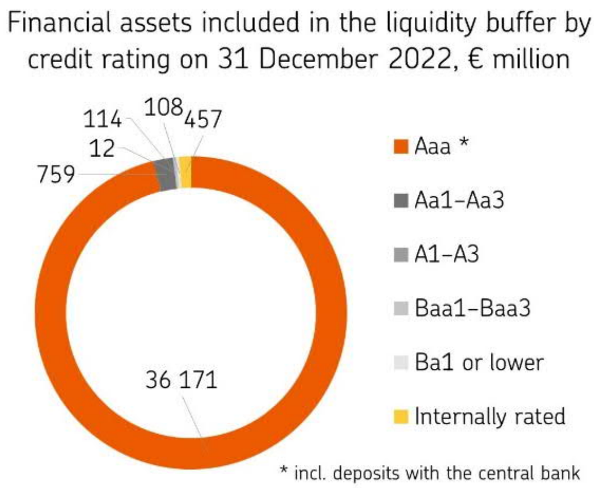
OP Financial Group monitors its liquidity and the adequacy of its liquidity buffer using, for example, the LCR (Liquidity Coverage Ratio). According to regulation, the LCR must be at least 100%. OP Financial Group's LCR was 217% (212) at the end of the financial year.

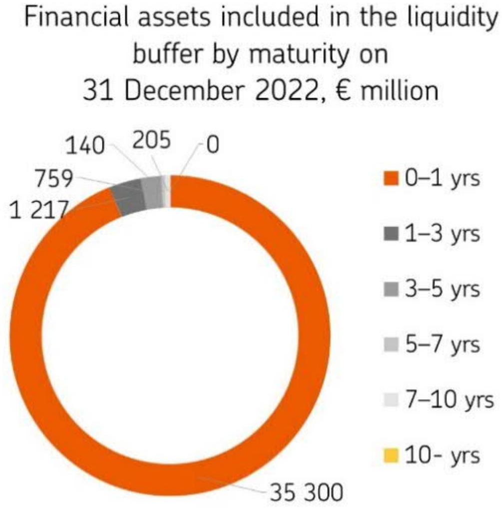
OP Financial Group monitors its long-term funding sufficiency, for example, by means of the Net Stable Funding Ratio (NSFR), which measures structural funding risk. According to regulation, the NSFR must be at least 100%. OP Financial Group's NSFR was 128% (130) at the end of the financial year.

Liquidity buffer

€ billion	31 Dec 2022	31 Dec 2021	Change, %
Deposits with central banks	34.8	32.6	6.7
Notes and bonds eligible as collateral	2.1	4.0	-48.2
Total	36.9	36.7	0.7
Receivables ineligible as collateral	0.7	1.0	-27.0
Liquidity buffer at market value	37.6	37.6	-0.1
Collateral haircut	-0.2	-0.3	
Liquidity buffer at collateral value	37.4	37.3	0.3

The liquidity buffer comprises notes, bonds and securitised assets issued by governments, municipalities, financial institutions and companies all showing good credit ratings.





Credit ratings

OP Corporate Bank plc's credit ratings on 31 December 2022

Rating agency	Short-term debt	Outlook	Long-term debt	Outlook
Standard & Poor's	A-1+	-	AA-	Stable
Moody's	P-1	Stable	Aa3	Stable

Pohjola Insurance Ltd's financial strength ratings on 31 December 2022

Rating agency	Financial strength rating	Outlook
Standard & Poor's	A+	Stable
Moody's	A2	Stable

OP Corporate Bank plc and Pohjola Insurance Ltd have credit ratings affirmed by Standard & Poor's Global Ratings Europe Limited and Moody's Investors Service (Nordics) AB. When assessing OP Corporate Bank's credit rating, credit rating agencies take account of the entire OP Financial Group's financial position.

Financial performance by segment

OP Financial Group's business segments are Retail Banking (Banking Personal and SME Customers), Corporate Banking (Banking Corporate and Institutional Customers) and Insurance (Insurance Customers). Non-business segment operations are presented under the Group Functions segment (formerly the Other Operations segment). OP Financial Group prepares its segment reporting in compliance with its accounting policies.

Retail Banking

- Earnings before tax increased to EUR 502 million (304).
- Total income increased by 12.6% to EUR 1,996 million. Income from customer business increased by a total of 12.1%: net interest income increased by 24.5% to EUR 1,194 million and net commissions and fees by 2.6% to EUR 773 million.
- Total expenses increased by 0.7% to EUR 1,229 million. Personnel costs increased by 2.0% to EUR 455 million and other operating expenses by 2.1% to EUR 720 million.
- Impairment loss on receivables increased to EUR 96 million (84). Non-performing exposures (gross) accounted for 2.7% (2.6) of the exposures.
- The loan portfolio decreased by 0.3% to EUR 70.7 billion, and deposits increased by 2.8% to EUR 63.9 billion.
- The most significant development investments focused on upgrading the core banking system and developing digital services.

Key figures and ratios

€ million	Q1–4/2022	Q1–4/2021	Change, %
Net interest income	1,194	959	24.5
Net commissions and fees	773	753	2.6
Net investment income	-9	-16	-
Other income	39	78	-50.0
Total income	1,996	1,773	12.6
Personnel costs	455	447	2.0
Depreciation/amortisation and impairment loss	53	69	-22.0
Other operating expenses	720	705	2.1
Total expenses	1,229	1,221	0.7
Impairment loss on receivables	-96	-84	-
OP bonuses to owner-customers	-168	-165	-
Earnings before tax	502	304	65.2
Cost/income ratio, %	61.6	68.8	-7.2*
Ratio of non-performing exposures to exposures, % *	2.7	2.6	0.1*
Ratio of impairment loss on receivables to loan and guarantee portfolio, %	0.13	0.12	0.02*
Return on assets (ROA), %	0.40	0.26	0.15*
Return on assets, excluding OP bonuses, %	0.54	0.40	0.14*
€ million			
Home loans drawn down	7,513	8,805	-14.7
Corporate loans drawn down	2,702	2,639	2.4
No. of brokered residential property and property transactions	10,844	13,177	-17.7

€ billion	31 Dec 2022	31 Dec 2021	Change, %
Loan portfolio			
Home loans	42.3	41.5	1.9
Corporate loans	8.3	8.2	2.1
Housing company and other loans	20.1	21.3	-5.5
Total loan portfolio	70.7	71.0	-0.3
Guarantee portfolio	1.0	0.9	1.4
Other exposures	8.3	9.6	-13.5
Deposits			
Current and payment transfer deposits	42.3	41.4	2.2
Investment deposits	21.6	20.8	4.0
Total deposits	63.9	62.2	2.8

* Change in ratio

OP Financial Group's Retail Banking segment consists of banking and asset management services for personal and SME customers at OP cooperative banks and at the central cooperative consolidated.

Economic uncertainty and higher inflation and reference interest rates affected the housing market. The volume of home and real property sales brokered by OP Koti real estate agents totalled 10,884, a decrease of 17.7% year on year.

The loan portfolio decreased by 0,3% to EUR 70.7 billion. The loan portfolio includes a change of EUR –1.3 billion (0.2) in the fair value of loans in hedge accounting. New home loan drawdowns decreased by 14.7% year on year. The home loan portfolio grew by 1.9% to EUR 42.3 billion. The corporate loan portfolio increased by 2.1% to EUR 8.3 billion. Housing company and other loans decreased by 5.5% to EUR 20.1 billion.

The interest rate protection rate of personal customers' new home loans was at its highest in the first half of the year, and customers showed interest in buying protection for their home loans throughout the year. On 31 December 2022, a total of 32.8% (29.6) of personal customers' home loans were covered by interest rate protection. On the same date, the interest expenses of around 82,000 home loans were being cut by an interest rate cap; the loans' aggregate principal totalled EUR 7.3 billion.

The deposit portfolio increased by 2.8% to EUR 63.9 billion. The increase came from current and payment transfer accounts as well as from investment deposits.

In April 2022, OP Mortgage Bank issued a one-billion-euro green covered bond with a maturity of 5.5 years.

OP Financial Group customers' interest in saving and investing continued despite the uncertain business environment. OP mutual funds attracted 55,700 new unitholders, which accounted for 51% of gross market growth. The number of OP mutual fund unitholders totalled 1,200,000 in gross terms. The Morningstar rating for OP mutual funds was 3.13 (3.17). In share trading, the number of executed orders was at the previous year's level.

During the financial year, the most significant development investments focused on upgrading the core banking system and developing digital services.

In the third quarter, OP Financial Group and Pivo stood aside from the joint venture planned with Danske Bank's MobilePay and the Norwegian Vipps. The venture would have provided a joint mobile payment platform for users of three services.

In February, digital home sales expanded to real property sales; OP Koti real estate agents were the first in Finland to implement this system. Digital sale and purchase of housing company shares began in 2019.

In March, OP introduced the Google Pay service to its customers in Finland, alongside the Apple Pay service. The service enables customers to pay for their purchases using Android phones or smartwatches in contactless payment readers and on apps and online stores. In December, OP extended the service to cover customers using Mastercard.

At the end of December, the number of OP cooperative banks was 108 (121). Merger projects between OP cooperative banks are underway in different parts of Finland.

Earnings

Retail Banking earnings before tax were EUR 502 million (304). Total income increased by 12.6% to EUR 1,996 million. Net interest income grew by 24.5% to EUR 1,194 million, due to a strong rise in market interest rates. Net commissions and fees increased by 2.6% to EUR 773 million as a result of higher fees from the card business, payments and wealth management.

Total expenses increased by 0.7% to EUR 1,229 million. Personnel costs increased by 2.0% to EUR 455 million and other operating expenses by 2.1% to EUR 720 million as a result of a higher stability contribution. Depreciation/amortisation and impairment loss decreased by 22.0% year on year, to EUR 53 million.

Impairment loss on receivables increased to EUR 96 million (84). OP Financial Group has assessed the impact of higher electricity prices and Euribor rates on the credit risk associated with the home loan portfolio. Following this analysis, the Group made an additional provision of EUR 42 million under expected credit losses, based on management judgment. Final net loan losses recognised for the financial year totalled EUR 32 million (67). Non-performing exposures accounted for 2.7% (2.6) of the exposures.

OP bonuses to owner-customers increased by 2.2% to EUR 168 million.

Corporate Banking

- Earnings before tax decreased to EUR 416 million (474).
- Total income decreased by 12.4% to EUR 776 million. Net interest income increased by 10.4% to EUR 457 million, net commissions and fees decreased by 19.0% to EUR 166 million and net investment income decreased by 20.5% to EUR 136 million.
- Total expenses increased by 1.1% to EUR 321 million. Other operating expenses rose by 3.3% to EUR 218 million due to a higher stability contribution.
- The loan portfolio grew by 8.3% to EUR 27.8 billion. Deposits decreased by 9.1% to EUR 14.0 billion. Assets under management decreased by 12.2% to EUR 72.3 billion.
- Impairment loss on receivables totalled EUR 18 million (74). Non-performing exposures (gross) accounted for 1.5% (1.8) of the exposures.
- The most significant development investments involved the upgrades of payment and asset management systems.

Key figures and ratios

€ million	Q1–4/2022	Q1–4/2021	Change, %
Net interest income	457	414	10.4
Net commissions and fees	166	204	-19.0
Net investment income	136	171	-20.5
Other income	18	97	-81.5
Total income	776	886	-12.4
Personnel costs	95	93	2.2
Depreciation/amortisation and impairment loss	8	14	-39.5
Other operating expenses	218	211	3.3
Total expenses	321	318	1.1
Impairment loss on receivables	-18	-74	-
OP bonuses to owner-customers	-20	-20	-
Earnings before tax	416	474	-12.2
Cost/income ratio, %	41.4	35.9	-5.5*
Ratio of non-performing exposures to exposures, %	1.5	1.8	-0.3*
Ratio of impairment loss on receivables to loan and guarantee portfolio, %	0.06	0.25	-0.20*
Return on assets (ROA), %	1.00	1.24	-0.24*
Return on assets, excluding OP bonuses, %	1.05	1.29	-0.24*

€ billion	31 Dec 2022	31 Dec 2021	Change, %
Loan portfolio			
Corporate loans	15.6	14.5	7.9
Housing company and other loans	12.2	11.2	8.8
Total loan portfolio	27.8	25.7	8.3
Guarantee portfolio	3.4	3.5	-1.8
Other exposures	6.4	5.7	12.3
Deposits	14.0	15.4	-9.1
Assets under management (gross)			
Mutual funds	27.6	32.5	-15.2
Institutional clients	35.7	38.3	-6.9
Private Banking	9.0	11.5	-21.4
Total (gross)	72.3	82.3	-12.2

€ million	Q1–4/2022	Q1–4/2021	Change, %
Net inflows			
Private Banking clients	-1	-174	-
Institutional clients	-356	76	-
Total net inflows	-357	-98	-

* Change in ratio

OP Financial Group's Corporate Banking segment consists of banking and asset management services for corporate and institutional customers. The segment comprises OP Corporate Bank plc's banking, OP Asset Management Ltd, OP Fund Management Company Ltd, OP Custody Ltd and OP Real Estate Asset Management Ltd.

The loan portfolio increased by 8.3% to EUR 27.8 billion and the deposit portfolio decreased by 9.1% to EUR 14.0 billion.

The most significant Corporate Banking development investments involved the upgrades of payment, finance and asset management systems. The upgrade of core payment systems and improvement of digital services will continue further. In asset and wealth management, fund management processes and customer service will be further upgraded.

Investments by Corporate Banking in promoting a sustainable economy increased the commitment portfolio of sustainable finance to EUR 5.2 billion (3.0). Corporate Banking also enhanced its role as an advisor helping clients to prepare their sustainable finance frameworks.

At the end of 2022, OP Corporate Bank was the market leader in finance for passenger cars and vans.

The end of 2022 saw a change in the operating model applied to hedging interest rate risk associated with derivative contracts between Corporate Banking and Retail Banking. The variation in the result of value changes due to market movements of derivative contracts between Corporate Banking and Retail Banking will decrease at OP Corporate Bank.

Within asset management, net assets inflow was EUR -357 million (-98). Assets under management by Corporate Banking decreased by 12.4% to EUR 72.3 billion (82.3). Assets under management included about EUR 23 billion (24) in assets of the companies belonging to OP Financial Group.

Despite the challenging market conditions, interest in OP mutual funds has remained strong: personal customers' subscriptions for units in these mutual funds totalled EUR 2.6 billion (3.2) during the financial year.

OP Corporate Bank reacted to the changed market environment by offering capital-guaranteed structured products and interest rate-linked products on a broad front; the demand for such products increased.

OP Corporate Bank's direct exposures to Russia are small. Russia's aggressive war in Ukraine indirectly increased impairment loss on receivables in the first quarter of 2022.

Earnings

Corporate Banking earnings before tax were EUR 416 million (474). Total income decreased to EUR 776 million (886) and total expenses increased to EUR 321 million (318). The cost/income ratio was 41.4% (35.9).

Net interest income increased by 10.4% to EUR 457 million (414). Corporate Banking's net commissions and fees totalled EUR 166 million (204). The fall in share prices reduced the amount of assets under management and net commissions and fees.

Corporate Banking segment's net commissions and fees

€ million	Q1–4/ 2022	Q1–4/ 2021	Change, %
Mutual funds	127	137	-6.7
Asset management	16	28	-43.1
Other	22	40	-44.3
Total	166	204	-19.0

A significant increase in interest rates and greater market uncertainty lowered net investment income. Net investment income decreased to EUR 136 million (171).

Total expenses increased by 1.1% to EUR 321 million. Personnel costs rose by 2.2% to EUR 95 million. Other operating expenses increased by 3.3% to EUR 218 million. The stability contribution increased by 26.2% to EUR 31 million.

Impairment loss on receivables totalled EUR 18 million (74). Non-performing exposures accounted for 1.5% (1.8) of total exposures.

Insurance

- Earnings before tax decreased to EUR 433 million (504).
- Non-life insurance premium revenue increased by 2.8% to EUR 1,598 million and claims incurred decreased by 14.6% to EUR 732 million. Claims incurred, excluding the impact from the increase in the discount rate, grew by 12.5% to EUR 1,012 million.
- Expenses decreased year on year to EUR 464 million (493).
- Investment income totalled EUR -87 million (170). Investment income excluding the item corresponding to the increase in the discount rate of insurance liabilities totalled EUR 132 million (170). Net return on investments at fair value reported by non-life insurance was EUR 78 million (222) and that by life insurance EUR -23 million (142).
- In life insurance, unit-linked insurance assets decreased by 11.7% to EUR 11.6 billion. Premiums written in term life insurance grew by 5.7%.
- Development investments focused on upgrading the core systems, improving the usability of web and mobile services and enhancing opportunities to buy insurance products.
- Pohjola Insurance focuses on its core business and sold its hospital business in early 2022.

Key figures and ratios

€ million	Q1–4/2022	Q1–4/2021	Change, %
Net insurance income	901	754	19.5
Net commissions and fees	73	96	-24.1
Net investment income	-230	288	-180.0
Other net income	31	-2	-
Total income	774	1 135	-31.8
Personnel costs	150	160	-6.4
Depreciation/amortisation and impairment loss	51	66	-22.4
Other operating expenses	263	267	-1.6
Total expenses	464	493	-5.9
OP bonuses to owner-customers	-21	-21	-
Overlay approach	143	-117	-
Earnings before tax	433	504	-14.1
Return on assets (ROA), %	1.46	1.64	-0.17*
Return on assets, excluding OP bonuses, %	1.53	1.71	-0.17*

* Change in ratio

OP Financial Group's Insurance segment comprises life and non-life insurance business. The segment includes Pohjola Insurance Ltd and OP Life Assurance Company Ltd. Pohjola Hospital became part of Pihlajalinna on 1 February 2022. OP Financial Group recognised a capital gain of EUR 32 million on the sale.

OP Financial Group has applied IFRS 17 Insurance Contracts as of 1 January 2023. As a result of the IFRS 17 transition, OP Financial Group's equity capital on 1 January 2022 decreased by EUR 52 million on the date of transition. At the same time, the Group ceased to apply the overlay approach.

Earnings

Earnings before tax totalled EUR 433 million (504). Net insurance income increased by 19.5% to EUR 901 million. In 2022, the non-life insurance discount rate was increased from 0.85% to 2.0%, which increased net insurance income by EUR 283 million.

Due to the change in the discount rate, net investment income includes a negative value change of EUR 218 million in supplementary interest rate provisions related to insurance liabilities. Total expenses were EUR 464 million (493). The sale of the hospital business reduced expenses by EUR 28 million.

Investment income totalled EUR -87 million (170), including the overlay approach. Excluding the negative value change related to the increase in the discount rate, investment income totalled EUR 132 million (170). Net capital gains on investments amounted to EUR -4 million (67) in non-life insurance and EUR -4 million (59) in life insurance.

Investment income

€ million	Q1–4/2022	Q1–4/2021
At fair value through other comprehensive income	15	45
At fair value through profit or loss	-1,260	66
Amortised cost	2	-5
Life insurance items*	1,021	186
Unwinding of discount**	-21	-17
Associated companies	12	14
Net investment income	-230	288
Overlay approach	143	-117
Total	-87	170

* Include credited interest on customers' insurance assets, changes in supplementary interest rate provisions and other technical items, and changes in the fair value of unit-linked and separated balance sheet's investments.
** Non-life insurance.

Non-life insurance operating result

Non-life insurance's earnings stood at EUR 351 million (382). The increase in the discount rate increased net insurance income by EUR 283 million. Operational balance weakened as a result of higher claims incurred. Other income includes a capital gain on the sale of Pohjola Hospital. Investment income includes a value change in supplementary interest rate provisions related to insurance liabilities.

€ million	Q1–4/2022	Q1–4/2021	Change, %
Insurance premium revenue	1,598	1,555	2.8
Claims incurred	1,012	899	12.5
Operating expenses	434	431	0.7
Balance on technical account, operational	152	225	-32.3
Changes in reserving bases	279	42	559.4
Balance on technical account	432	267	61.6
Investment income and expenses	-198	189	-205.1
Other income and expenses	31	-11	-
Overlay approach	86	-62	-
Earnings before tax	351	382	-8.2
Operating combined ratio	90.5	85.5	
Operating risk ratio	63.3	57.8	
Operating cost ratio	27.1	27.7	

Non-life insurance: premium revenue

€ million	Q1–4/2022	Q1–4/2021	Change, %
Personal customers	908	877	3.5
Corporate customers	690	679	1.7
Total	1,598	1,555	2.8

Premium revenue increased by 2.8% to EUR 1,598 million. Among personal customers, the number of loyal customer households increased. Premium revenue from corporate customers increased by 1.7%. Premium revenue for the fourth quarter was strained by charges related to securing reinsurance capacity. Claims incurred, excluding the impact from the increase in the discount rate, increased by 12.5% to EUR 1,012 million. Claims volumes have returned to their pre-pandemic level. Difficult road conditions in early 2022 and large claims also increased claims incurred.

The reported number of new large claims under property and business liability insurance (in excess of EUR 0.3 million) amounted to 116 (115) in January–December, with their claims incurred retained for own account totalling EUR 180 million (134). Changes in claims for previous years, excluding the effect of the discount rate rise, improved the balance on technical account by EUR 72 million (91). The non-life insurance operating risk ratio, excluding indirect loss adjustment expenses, was 63.3% (57.8). Changes in the provision for outstanding claims under statutory pensions improved earnings by EUR 17 million (30).

In non-life insurance, the operating cost ratio (including indirect loss adjustment expenses) was 27.1% (27.7).

Operating combined ratio reported by non-life insurance weakened to 90.5% (85.5).

Non-life insurance: key investment indicators

€ million	Q1–4/2022	Q1–4/2021
Net return on investments at fair value, € million*	78	222
Return on investments at fair value, %	-10.8	2.7
Fixed income investments' running yield, %	1.4	0.9
	31 Dec 2022	31 Dec 2021
Investment portfolio, € million	4,071	4,287
Investments within the investment grade category, %	92	92
At least A-rated receivables, %	56	54
Modified duration	2.8	3.3

* Net return on investments is calculated by deducting the value change in market-consistent insurance liability from income from total investment assets.

Life insurance operating result

The exceptional uncertainty in the capital market was reflected negatively in unit-linked insurance assets and net investment income. Unit-linked insurance assets, EUR 11.6 billion, were 11.7% lower than on 31 December 2021. Net asset inflow of unit-linked insurance contracts amounted to EUR 175 million (472). The amount of life insurance surrenders increased as a result of uncertainties in the capital market. Premiums written in term life insurance grew by 5.7%.

Earnings before tax decreased to EUR 76 million (118). Earnings were weakened by lower net investment income and the decrease in performance-based fees, which are presented under net commissions and fees, and higher expenses. Earnings from customer business were EUR 58 million (75).

€ million	Q1–4/2022	Q1–4/2021	Change, %
Net risk results	35	34	4.2
Net investment income	-39	98	-
Net commissions and fees	111	128	-13.3
Total income	107	260	-58.8
Personnel costs	13	10	20.8
Depreciation/amortisation and impairment loss	20	21	-7.8
Other operating expenses	37	37	3.9
Total expenses	70	68	2.8
OP bonuses	-19	-19	-
Overlay approach	57	-55	-
Earnings before tax	76	118	-35.7
Operating ratio	39.3	34.0	

Life insurance: key investment indicators*

€ million	Q1–4/2022	Q1–4/2021
Net return on investments, € million**	-23	142
Return on investments at fair value, %	-16.1	0.6
Fixed income investments' running yield, %	1.3	0.9
	31 Dec 2022	31 Dec 2021
Investment portfolio, € million	3,235	3,646
Investments within the investment grade category, %	90	94
A-rated receivables, minimum, %	50	56
Modified duration	2.8	3.0

* Excluding the separated balance sheets
** Net return on investments is calculated by deducting the value change in market-consistent insurance liability from income from total investment assets. These investments exclude separated balance sheets.

Interest rate risk associated with insurance liability has been hedged through supplementary interest rate provisions and interest rate derivatives. In life insurance, the net change in short-term supplementary interest rate provisions was EUR -45 million (1). Accrued supplementary interest rate provisions related to insurance liabilities (excluding the separated balance sheets) totalled EUR 0 million (355) on 31 December 2022.

Group Functions

Key figures and ratios

€ million	Q1–4/2022	Q1–4/2021	Change, %
Net interest income	-62	10	-
Net commissions and fees	0	-2	-
Net investment income	-11	-5	-
Other operating income	657	684	-4.0
Total income	583	687	-15.2
Personnel costs	195	216	-9.8
Depreciation/amortisation and impairment loss	103	137	-24.7
Other operating expenses	376	444	-15.4
Total expenses	674	797	-15.5
Impairment loss on receivables	0	0	-
Earnings before tax	-91	-109	-

The Group Functions segment (previously the Other Operations segment) consists of OP Cooperative's functions tasked with the support and assurance of business segments, as well as OP Corporate Bank plc's treasury functions.

Earnings

Group Functions earnings before tax were EUR -91 million (-109). Total income decreased by 15.2% to EUR 583 million.

Net interest income was EUR -62 million (10). A year ago, a higher net interest income was especially explained by the recognition in profit or loss of an additional benefit from the interest rate margin of the TLTRO III funding offered by the European Central Bank to banks. The effect of items related to TLTRO III funding and its hedging amounted to EUR -10 million (103) during the financial year.

Net investment income was EUR -11 million (-5). Other operating income decreased by 4.0% to EUR 657 million. Other operating income mainly includes OP Financial Group's intra-group items.

Total expenses decreased by 15.5% to EUR 674 million. Personnel costs decreased by 9.8% to EUR 195 million. Depreciation/amortisation and impairment loss on PPE and intangible assets decreased by 24.7% to EUR 103 million. Other operating expenses decreased by 15.4% to EUR 376 million. The amount of margin exceeding the ECB's deposit facility rate based on the TLTRO programme allocated to the Retail Banking and Corporate Banking segments decreased to EUR 1 million (106), which decreased other operating expenses. ICT costs increased by 4.7% to EUR 263 million.

On 31 December 2022, the average margin of OP Financial Group's senior and senior non-preferred wholesale funding and covered bonds was 27 basis points (25). In 2022, the price of wholesale funding rose, as credit spreads increased due to changes in the business environment.

OP Financial Group's funding position and liquidity is strong.

Between January and December, OP Financial Group issued long-term bonds worth a total of EUR 8.0 billion (3.8), EUR 1.0 billion of which was a retained covered bond.

OP Financial Group's TLTRO III funding totalled EUR 12 billion (16) at the end of December. The interest rate for TLTRO III funding for each loan between 23 June 2022 and 22 November 2022 is the average of the ECB's deposit facility rate between the start date of the loan concerned and 21 November 2022, and after that the ECB's deposit facility rate.

ICT investments

OP Financial Group invests in developing its operations and improving customer experience on an ongoing basis. The central cooperative with its subsidiaries is responsible for the development of OP Financial Group's products and services, digital channels and shared technology, data and cybersecurity capabilities, while safeguarding the high quality, availability and data security of the services. ICT costs make up a significant portion of development costs.

OP Financial Group's development expenditure for January–December totalled EUR 313 million (294). This included licence fees, purchased services, other external costs related to projects and in-house work. The capitalised development expenditure totalled EUR 97 million (99). More detailed information on OP Financial Group's investments can be found under each business segment's text section in this Report by the Board of Directors.

Personnel

On 31 December 2022, OP Financial Group had 12,999 employees (13,079). The number of employees averaged 13,077 (13,009). The number of employees decreased in early 2022, due to the sale of Pohjola Hospital. The number of employees increased in areas such as sales, customer service, service development, risk management and compliance.

Personnel at year-end

	31 Dec 2022	31 Dec 2021
Retail Banking	7,450	7,108
Corporate Banking	962	898
Insurance	2,373	2,550
Group Functions	2,214	2,523
Total	12,999	13,079

During the financial year, 265 OP Financial Group employees (234) retired at an average age of 62.8 years (62.0).

Variable remuneration applied by OP Financial Group in 2022 consists of the performance-based bonus scheme covering all personnel, and the personnel fund. Company-specific targets based on the annual plan and the Group-level strategic targets are taken into account in the metrics used in the performance-based bonus scheme and in the personnel fund. In drawing up the remuneration schemes, OP has taken account of the regulation regarding the financial sector's remuneration schemes.

Changes in OP Financial Group's structure

OP Financial Group's consolidated financial statements at the end of the financial year included the accounts of 108 OP cooperative banks (121) and OP Cooperative Consolidated. The number of OP cooperative banks decreased during the financial year due to mergers.

Luhangan Osuuspankki merged into Keski-Suomen Osuuspankki on 28 February 2022.

Luopioisten Osuuspankki merged into Kangasalan Seudun Osuuspankki on 31 March 2022.

Sastamalan Osuuspankki and Satapirkan Osuuspankki merged into Satakunnan Osuuspankki on 30 April 2022. Consequently, the business name of Satakunnan Osuuspankki was changed to Satapirkan Osuuspankki.

Itä-Uudenmaan Osuuspankki and Uudenmaan Osuuspankki merged into Helsinki Area Cooperative Bank on 31 July 2022. Consequently, the business name of Helsinki Area Cooperative Bank was changed to Uudenmaan Osuuspankki.

Peräseinäjoen Osuuspankki merged into Alavuden Seudun Osuuspankki on 31 October 2022. Consequently, the business name of Alavuden Seudun Osuuspankki was changed to Sydänmaan Osuuspankki.

The OP cooperative banks of Askola, Kärkölä, Mäntsälä and Pukkila merged into Orimattilan Osuuspankki on 31 December 2022. Consequently, the business name of Orimattilan Osuuspankki was changed to Ylä-Uudenmaan Osuuspankki.

Miehikkälän Osuuspankki merged into Länsi-Kymen Osuuspankki on 31 December 2022.

Osuuspankki Kantrisalo merged into Lounaismaan Osuuspankki on 31 December 2022.

On 18 August 2022, Kiteen Seudun Osuuspankki, Rääkkylän Osuuspankki and Pohjois-Karjalan Osuuspankki approved merger plans according to which Kiteen Seudun Osuuspankki and Rääkkylän Osuuspankki will merge into Pohjois-Karjalan Osuuspankki. The planned date for the execution of the mergers is 31 March 2023.

On 22 September 2022, Pohjolan Osuuspankki, Tornion Osuuspankki and Oulun Osuuspankki approved merger plans according to which Pohjolan Osuuspankki and Tornion Osuuspankki will merge into Oulun Osuuspankki. The planned date for the execution of the mergers is 30 April 2023. Consequently, the business name of Oulun Osuuspankki will change to Pohjolan Osuuspankki.

Changes in OP Cooperative Consolidated's structure

Pohjola Insurance Ltd has sold all shares of Pohjola Hospital Ltd to Pihlajalinna Terveys Oy, part of Pihlajalinna Group. The corporate transaction was published on 2 July 2021. The net debt free transaction price was EUR 32 million. The Finnish Competition and Consumer Authority approved the corporate transaction on 14 January 2022. Pohjola Hospital became part of Pihlajalinna on 1 February 2022.

Following the merger of Itä-Uudenmaan Osuuspankki and Uudenmaan Osuuspankki into Helsinki Area Cooperative Bank on 31 July 2022, OP Cooperative's control over Helsinki Area Cooperative Bank ended, and the post-merger bank, Uudenmaan Osuuspankki, is no longer part of OP Cooperative Consolidated.

Governance of OP Cooperative

On 2 December 2021, the Supervisory Council of OP Cooperative (the central cooperative of OP Financial Group) elected the members of the Board of Directors of OP Cooperative for the term of office from 1 January to 31 December 2022. In addition, according to the bylaws of OP Cooperative, the President and Group CEO is a Board member during their term of office.

The following members continued on the Board in 2022: Jarna Heinonen (Professor in Entrepreneurship, Turku School of Economics), Jari Himanen (Managing Director, Suur-Savon Osuuspankki), Kati Levoranta (Executive Vice President, Commercial and Operational Activities, P2X Solutions Ltd), Pekka Loikkanen (board professional), Tero Ojanperä (Chair of the Board of Directors, Silo AI Ltd), Riitta Palomäki (board professional), Jaakko Pehkonen (rahoitusneuvos, Finnish honorary title; Professor of Economics, University of Jyväskylä), Timo Ritakallio (President and Group CEO, OP Financial Group), Olli Tarkkanen (Managing Director, Etelä-Pohjanmaan Osuuspankki) and Mervi Väisänen (Senior Lecturer in Marketing, Kajaani University of Applied Sciences).

In addition, the Supervisory Council elected Petri Sahlström, D.Sc. (Econ. & Bus. Adm.), to the Board of Directors as a new member. Leif Enberg stepped down from the Board of Directors on 31 December 2021.

On 3 January 2022, the Board of Directors elected from among its members the chairs, vice chairs and other members to the statutory Board Committees for the new term. Jaakko Pehkonen will continue as Chair and Jarna Heinonen as Vice Chair of the Board of Directors.

On 1 December 2022, the Supervisory Council elected Board members for the term 1 January–31 December 2023. The composition of the Board of Directors remained unchanged. On 21 December 2022, the Board of Directors elected from among its members the chairs, vice chairs and other members to the statutory Board Committees for the new term. Jaakko Pehkonen will continue as Chair and Jarna Heinonen as Vice Chair of the Board of Directors.

On 26 April 2022, OP Cooperative held its Annual Cooperative Meeting which elected members of the Supervisory Council and the auditor.

The Supervisory Council comprises 36 members. The Annual Cooperative Meeting re-elected the following members to the Supervisory Council who were due to resign: Managing Director Mika Helin, Bachelor of Hospitality Management, MBA Mervi Hinkkanen, Managing Director Raili Hyvönen, Development Manager Mika Kainusalmi, Managing Director Kaisa Markula, Managing Director Ulf Nylund, Managing Director Teuvo Perätalo, entrepreneur Timo Syrjälä and Managing Director Pauliina Takala.

New Supervisory Council members elected were M.Sc. Eeva Harju, Municipal Manager Tuomas Lohi, Managing Director Kari Mäkelä, Managing Director Leena Selkee and farmer Janne Tiiri.

At its reorganising meeting on 26 April 2022, the Supervisory Council elected the presiding officers of the Supervisory Council. Chair of the Board of Directors Annukka Nikola was elected as Chair and entrepreneur Taija Jurmu and Managing Director Ari Väänänen as Vice Chairs of the Supervisory Council.

The Annual Cooperative Meeting re-elected KPMG Oy Ab, an audit firm, to act as the auditor for the financial year 2022, with Juha-Pekka Mylén, APA, acting as the chief auditor, appointed by KPMG Oy Ab.

Legal structure of OP Financial Group

Group structure

OP Financial Group (later **the Group**) is a Finnish financial services group owned by its customers. It is constituted by OP Cooperative as the Group's central body and the parent undertaking of OP Cooperative Consolidated (later **the central cooperative**), its subsidiaries and independent local OP cooperative banks. The central cooperative, its subsidiary credit institutions and other financial subsidiaries, and the central cooperative's member cooperative banks together constitute an amalgamation of deposit banks (later **OP Amalgamation**) within the meaning of the Finnish Amalgamation Act (599/2010, later **the Amalgamation Act**). OP Cooperative is the central body, and its credit institution subsidiaries and the OP cooperative banks (later **the affiliated credit institutions**) are credit institutions affiliated to the central body within the meaning of Article 10 of the Capital Requirements Regulation (Regulation (EU) No 575/2013, later **the Capital Requirements Regulation**).

Credit institutions whose bylaws comply with the requirements of the Amalgamation Act and have been approved by the central cooperative, can be accepted as members of the central cooperative. New members are accepted by the Supervisory Council of the central cooperative. An affiliated credit institution has the right to withdraw from the amalgamation. It can also be expelled from the amalgamation in accordance with the Finnish Co-operatives Act (421/2013, later **the Co-operatives Act**) or if it has neglected its obligations towards the Amalgamation as specified in the bylaws of the central cooperative.

The affiliated credit institutions of the central cooperative consist of:

- credit institution subsidiaries of the central cooperative (OP Corporate Bank plc, which provides corporate financing, acts as the Group Treasury and is responsible for the Group's wholesale funding; OP Retail Customers plc, which administers the credit cards issued by the Group; and OP Mortgage Bank, which issues mortgage bonds backed by the residential loan portfolios of the affiliated credit institutions); and
- 108 local and regional co-operative banks, which carry out retail banking business and which are members of OP Cooperative, thus exercising the decision-making powers at the highest administrational level of the Group.

Apart from the central cooperative and its affiliated credit institutions, OP Financial Group also includes, as subsidiaries of the central cooperative, an investment firm (OP Asset Management Ltd), a fund management company (OP Fund Management Company Ltd), a life insurance company (OP Life Assurance Company Ltd), a non-life insurance company (Pohjola Insurance Ltd) and some minor companies as well as the real estate agencies owned jointly by OP cooperative banks under the brand name OP Koti.

OP Amalgamation and the insurance and financial subsidiaries of OP Cooperative together constitute a bank-dominated financial conglomerate within the meaning of the Directive (2002/87/EC) and the Finnish Act on the Supervision of Financial and Insurance Conglomerates (699/2004, later the Financial Conglomerates Act). The European Central Bank has waived, until further notice, the application of the said Act to the financial conglomerate constituted by the central cooperative consolidated.

Corporate governance in OP Financial Group

The highest decision-making body in OP Financial Group is the Cooperative Meeting of the central cooperative consisting of the representatives of the affiliated credit institutions. The Meeting elects the central cooperative's Supervisory Council (36 members). The Supervisory Council elects the central cooperative's Board of Directors, which consists of the President and Group CEO and 9–13 other members. At least four of the members of the Board must be independent of the central cooperative and other entities belonging to OP Financial Group. The Board of Directors carries out the tasks of the management body in its management function as well as the tasks of the management body in its supervisory function, as defined in the Capital Requirements Directive (2013/36/EU) and in the Guidelines on Internal Governance by the European Banking Authority.

The affiliated credit institutions are separate legal entities that have administrative bodies of their own in accordance with the general company law. In the member cooperative banks, the highest decision-making body is the Cooperative Meeting or the Representative Assembly Meeting. It elects the OP cooperative bank's Supervisory Council, which in turn elects the OP cooperative bank's Board of Directors. The subsidiaries of the central cooperative have a Board of Directors nominated by the central cooperative in accordance with the Limited Liability Companies Act.

Financial reporting, supervision and internal audit

OP Amalgamation

OP Financial Group publishes an annual consolidated financial statement covering all significant companies within the Group. Pursuant to the Amalgamation Act, the financial statements of OP Financial Group must be drawn up in accordance with the international financial reporting standards referred to in the Finnish Accounting Act (1336/1997). The Finnish Financial Supervisory Authority (FIN-FSA) has issued more detailed regulations on the financial statements of amalgamations. The accounting principles applied to OP Financial Group's financial statements are disclosed in the notes to the financial statements.

The central cooperative has an obligation to provide the affiliated credit institutions and other companies belonging to OP Amalgamation with guidelines on compliance with standardised accounting policies in the preparation of the consolidated financial statements. The companies belonging to OP Amalgamation must submit the necessary data to the central cooperative for the purpose of drawing up the consolidated financial statements.

OP Financial Group's financial statements are audited by the auditors of the central cooperative in accordance with the requirements laid down in the Finnish Act on Credit Institutions (610/2014, later the Credit Institutions Act), as applicable. The auditors have the right to obtain a copy of all audit documents of the companies belonging to OP Amalgamation. The financial statements are presented to the Annual Cooperative Meeting of the central cooperative.

OP Amalgamation is supervised by the ECB on the basis of its consolidated financial position, while the insurance companies are supervised by FIN-FSA. FIN-FSA also supervises compliance with the conduct rules applied to banking and asset management.

OP Amalgamation must comply, on the basis of its consolidated financial position, with the statutory prudential requirements for credit institutions laid down in the Credit Institutions Act and the Capital Requirements Regulation. The amount of consolidated own funds at the level of the Amalgamation must meet the requirements laid down in chapter 10, section 1 of the Credit Institutions Act.

The internal audit of undertakings belonging to OP Financial Group is carried out by the Internal Audit unit, which reports directly to the President and Group CEO. Internal Audit is an independent function within OP Financial Group, which audits the adequacy and effectiveness of internal control arrangements, risk management and corporate governance. The Chief Audit Executive regularly reports to the President and Group CEO and the Audit Committee of the Board of

Directors of OP Cooperative. Internal Audit is responsible for the internal audit of the central cooperative, its subsidiaries and the affiliated credit institutions and their subsidiaries. Internal audits are carried out in accordance with internationally accepted standards and ethical rules and the Internal Audit Charter approved by the Board of Directors of OP Cooperative.

Central cooperative consolidated

OP Cooperative also prepares and publishes a consolidated financial statement of the group that comprises OP Cooperative and its subsidiaries. The consolidated financial statement complies with the Finnish Accounting Act and the Act on Credit Institutions. Regulatory requirements concerning consolidated capital adequacy and liquidity do not apply at the level of the sub-consolidation group formed by the central cooperative consolidated.

Financial conglomerate

Pursuant to section 30 of the Financial Conglomerates Act, the accounting regime laid down in the said Act is not applicable to OP Financial Group as its financial statements are drawn up in accordance with the international financial reporting standards.

Compliance with the requirements laid down in the Financial Conglomerates Act, including the aggregate capital requirement, is supervised by the ECB.

Affiliated credit institutions and other companies within OP Amalgamation

The affiliated credit institutions and other companies within OP Amalgamation draw up their individual financial statements in accordance with the guidelines issued by the central cooperative, and they are audited in accordance with the Credit Institutions Act. The obligation to disclose interim financial reports pursuant to chapter 12, section 12 of the Credit Institutions Act is not applied to companies within OP Amalgamation. Nor are they obliged to disclose regulatory information on their capital adequacy and liquidity (so called Pillar III) on a solo basis. Such information is disclosed only on the basis of the consolidated financial position of OP Amalgamation.

According to the Amalgamation Act, the supervisory authority can grant the central cooperative a permission to waive the application of the quantitative rules on the amount of own funds, liquidity and large exposure limits as well as the qualitative rules on risk management. The affiliated credit institutions must, however, comply with the minimum capital requirements laid down in the Amalgamation Act, which are lower than those applied to other credit institutions. The waiver cannot be granted to an affiliated credit institution which has grossly or recurringly failed to comply with the instructions issued by the central cooperative pursuant to section 17 of the Amalgamation Act or the preconditions for the waiver. Such exception may be granted for a maximum period of three years at a time. The central cooperative has utilised the permission granted by the supervisor to waive the application of the own funds, liquidity and risk management requirements on the affiliated credit institutions.

The roles of the central cooperative and the affiliated credit institutions in OP Amalgamation

OP Cooperative operates as the statutory central body of OP Amalgamation and as a holding company for the strategic holdings of OP Financial Group.

The central cooperative is under a statutory obligation to:

- supervise the affiliated credit institutions
- issue binding instructions to them on risk management, good corporate governance and internal control to secure liquidity and capital adequacy of the amalgamation; and
- issue binding instructions on compliance with standardised accounting policies in the preparation of the consolidated financial statements.

In the manner specified in its bylaws, the central cooperative may also confirm general principles to be followed by the affiliated credit institutions in their operations relevant to OP Amalgamation. The affiliated credit institutions are, among other things, bound by OP Financial Group's Risk Appetite Statement, Risk Appetite Framework and detailed risk policies as confirmed by the central cooperative's Board of Directors. The risk management of OP Financial Group is described in more detail in other chapters of this Report by the Board of Directors and in OP Financial Group's Capital Adequacy and Risk Management Report.

The central cooperative supervises the affiliated credit institutions in order to ensure that they comply with the instructions issued and principles confirmed by the central cooperative, notably that they do not, in the course of their operations, take any risk of such magnitude that poses a substantial danger to the consolidated financial position of OP Amalgamation. The affiliated credit institutions are accountable to the central cooperative in accordance with the principles of joint and several liability. Based on said principles, the central cooperative can take measures vis-à-vis the affiliated credit institutions. These measures range from tighter monitoring to expelling the affiliated credit institution from the Amalgamation.

The central cooperative is responsible for providing centralised services to the affiliated credit institutions, including strategic and capital planning, liquidity and funding, risk management, accounting, financial and supervisory reporting, legal services, ICT including the design and maintenance of the digital distribution channels, service design, service range, and marketing. The affiliated credit institutions, while operationally dependent on the centralised services provided by the central cooperative, are independent in maintaining their capital base and deciding on the distribution of their profits (within the limits of the Group capital plan) as well as in respect of their customer selection and individual business decisions.

Solidarity mechanism

General principles

The mutual solidarity mechanism applied within OP Amalgamation is laid down in the Amalgamation Act. The central cooperative it is responsible for the implementation of the solidarity mechanism (calculation of contributions from the affiliated credit institutions and the collection of the contributions as well as forwarding the contributions to the affiliated credit institution being supported) and it has the ultimate liability for the obligations of the affiliated credit institutions. The affiliated credit institutions have a recourse right on the central cooperative for the amount of the contribution they have made to the central cooperative under the solidarity mechanism. The central cooperative has, in turn, a recourse right on the supported affiliated credit institution for the amount paid to it by the central cooperative.

The solidarity mechanism consists of the following elements:

- mutual capital support to ensure the capital adequacy of an affiliated credit institution which does not meet its statutory capital requirements;
- joint and several liability between the affiliated credit institutions to ensure the liquidity of an affiliated credit institution that cannot meet its due obligations;
- the additional payment obligation of the affiliated credit institutions in the insolvency of the central cooperative in accordance with the Finnish Co-operatives Act.

An affiliated credit institution will remain liable for its obligations under the solidarity mechanism for the first five years after withdrawal or expulsion from OP Amalgamation.

Mutual capital support

Each affiliated credit institution has the obligation to lend to the central cooperative an annual amount of up to 0.05% of its balance sheet total, to be used by the central cooperative to recapitalise an affiliated credit institution that fails to meet its statutory capital requirements.

Joint and several liability

A creditor who has not received payment for an overdue claim from an affiliated credit institution may demand payment from the central cooperative. An affiliated credit institution may not be declared bankrupt upon a creditor's petition before the creditor has demanded the repayment of the principal debt from the central cooperative.

Other affiliated credit institutions have a statutory obligation to lend to the central cooperative the amount it has paid on behalf of the affiliated credit institution that has failed to meet its payment obligation. The proportional share of each affiliated credit institution is calculated on the basis of the share of its balance sheet total of the aggregate balance sheet total of all affiliated credit institutions.

OP Corporate Bank is, on a centralised basis, in charge of the Group's liquidity reserve and it guarantees the liquidity of the central cooperative and the affiliated credit institutions in all situations. Because the joint liability is thus automatically implemented by a single liquidity pool within OP Amalgamation, the procedural provisions laid down in the Amalgamation Act need not be applied in practice.

Refinancing liability of the affiliated credit institutions in the central cooperative's default

The affiliated credit institutions, as members of the central cooperative, have unlimited refinancing liability in case of the central cooperative's liquidation or bankruptcy, in accordance with chapter 14 of the Co-operatives Act. The liability of each member is determined on the basis of its balance sheet total assets.

Protection by the Deposit Guarantee Fund and the Investors' Compensation Fund

According to the legislation governing the Deposit Guarantee Fund, the deposit banks belonging to an amalgamation of deposit banks are considered to constitute a single bank in respect of deposit guarantee.

The Deposit Guarantee Fund reimburses a maximum total of 100,000 euros to an individual account holder who has receivables from one or more affiliated credit institutions of OP Amalgamation.

Under the legislation concerning the Investors' Compensation Fund, the amalgamation of deposit banks is also considered to constitute a single credit institution in respect of investor compensation. The Investors' Compensation Fund's assets may be used to compensate an investor's receivables from one or more affiliated credit institutions of OP Amalgamation up to a total maximum of 20,000 euros.

The Finnish Financial Stability Authority is responsible for deposit protection. It administers the Financial Stability Fund, which is a public fund outside the government budget. The Fund consists of a resolution fund accrued by collecting annual stability fees from credit institutions and investment firms, and a deposit protection fund accrued by collecting annual deposit protection fees from deposit banks.

Events after the balance sheet date

OP Financial Group has applied IFRS 17 Insurance Contracts as of 1 January 2023. As a result of the IFRS 17 transition, OP Financial Group's equity capital on 1 January 2022 decreased by EUR 52 million on the date of transition. At the same time, the Group ceased to apply the overlay approach. Solvency II valuations are used in FiCo calculation, so the adoption of IFRS 17 did not affect the FiCo ratio. For more detailed information of the adoption of IFRS 17, see Note 3 to the Financial Statements.

Outlook for 2023

The economy is expected to sink into a moderate recession, inflation to decrease slowly while short-term interest rates are predicted to rise further. The economic outlook remains surrounded by an exceptional degree of uncertainty. In addition to economic factors, the price and availability of energy and developments in global markets together with the geopolitical situation may abruptly affect the economic outlook.

OP Financial Group's earnings before tax for 2023 are expected to be higher than in 2022, due to an increase in market rates.

Earnings performance continues to be affected by major uncertainty. Rising inflation and the war in Ukraine, including its indirect effects, weaken the predictability associated with the economy and OP Financial Group's profit performance.

All forward-looking statements in this Report by the Board of Directors expressing the management's expectations, beliefs, estimates, forecasts, projections and assumptions are based on the current view on developments in the economy, and actual results may differ materially from those expressed in the forward-looking statements.

Key income statement and balance sheet items, and financial indicators

Key income statement items, € million	2022	2021	2020	2019	2018
Net interest income	1,618	1,409	1,284	1,241	1,186
Net insurance income	889	743	572	421	566
Net commissions and fees	1,005	1,034	931	936	887
Net investment income	-149	376	184	530	211
Other operating income	63	54	132	53	61
Personnel costs	894	914	715	781	516
Depreciation/amortisation and impairment loss	214	283	273	278	325
Other operating expenses	874	810	852	844	839
Impairment loss on receivables	-115	-158	-225	-87	-46
OP bonuses to owner-customers	-209	-205	-251	-249	-226
Overlay approach	143	-118	-3	-105	26
Earnings before tax	1,265	1,127	785	838	959
Key balance sheet items – assets, € million					
Cash and cash equivalents	35,004	32,846	21,827	11,988	12,350
Derivative contracts	4,117	3,467	5,215	4,824	3,581
Receivables from credit institutions	798	541	306	246	183
Receivables from customers	98,546	96,947	93,644	91,463	87,026
Investment assets	20,754	22,945	23,562	23,509	23,050
Assets covering unit-linked contracts	11,597	13,137	11,285	10,831	9,771
Intangible assets and property, plant and equipment	1,576	1,658	1,944	1,930	2,227
Other items	3,122	2,569	2,424	2,232	2,107
Total assets	175,516	174,110	160,207	147,024	140,294

Key balance sheet items – liabilities and equity, € million	2022	2021	2020	2019	2018
Liabilities to credit institutions	12,301	16,650	8,086	2,632	4,807
Derivative contracts	4,432	2,266	3,424	3,316	2,992
Liabilities to customers	81,468	77,898	73,422	68,289	66,112
Insurance liabilities	7,638	8,773	9,374	9,476	9,476
Liabilities from unit-linked insurance and investment contracts	11,662	13,210	11,323	10,862	9,812
Debt securities issued to the public	37,438	34,895	34,706	34,369	30,458
Other liabilities	6,241	6,233	6,761	5,510	4,896
Equity capital	14,335	14,184	13,112	12,570	11,742
Total liabilities and shareholders' equity	175,516	174,110	160,207	147,024	140,294
Figures and ratios					
Return on equity, ROE, %	7.2	6.6	5.0	5.5	6.5
Return on assets, ROA, %	0.6	0.5	0.4	0.5	0.5
Cost/income ratio, %	58	55	59	60	58
Average personnel	13,077	13,009	12,486	12,376	12,339
Common Equity Tier 1 (CET1) capital ratio, %	17.4	18.2	18.9	19.5	20.5
Capital adequacy ratio, %	19.3	20.4	21.7	21.1	22.1
Capital adequacy under the Act on the Supervision of Financial and Insurance Conglomerates, %	137	146	150	138	147

Formulas for key figures and ratios

The Alternative Performance Measures are presented to illustrate the financial performance of business operations and to improve comparability between reporting periods. The formulas for the used Alternative Performance Measures are presented below. The formulas for the key figures and ratios can be derived from the figures presented in the Report by the Board of Directors and the Financial Statements, so separate reconciliation statements for the Alternative Performance Measures are not presented.

Alternative Performance Measures

Key figure or ratio	Formula	Description
Return on equity (ROE), %	Profit for the financial year / Equity (average at beginning and end of period) x 100	The ratio describes how much return is generated on equity capital as a percentage of equity during the financial year.
Return on equity (ROE) excluding OP bonuses, %	Profit for the financial year + OP bonuses after tax / Equity (average at beginning and end of period) x 100	The ratio describes how much return is generated on equity capital as a percentage of equity during the financial year, excluding OP bonuses paid to owner-customers that are charged to expenses.
Return on assets (ROA), %	Profit for the financial year / Average balance sheet total (average at beginning and end of period) x 100	The ratio describes how much return is generated on capital tied up on business during the financial year.
Return on assets (ROA) excluding OP bonuses, %	Profit for the financial year + OP bonuses after tax / Average balance sheet total (average at beginning and end of period) x 100	The ratio describes how much return is generated on capital tied up on business during the financial year, excluding OP bonuses paid to owner-customers that are charged to expenses.
Cost/income ratio, %	Total expenses / Total income x 100	The ratio describes the ratio of expenses to income. The lower that ratio, the better.
Investment income	Net investment income + Overlay approach	The figure describes the development of all investment income. An overlay approach is applied to certain equity instruments of insurance companies. Changes in the fair value of investments within the scope of the overlay approach are presented under the fair value reserve under shareholders' equity.
Loan portfolio	Balance sheet item Receivables from customers	The loan portfolio is presented under Receivables from customers in the balance sheet.
Ratio of impairment loss on receivables to loan and guarantee portfolio, %	Impairment loss on receivables / Loan and guarantee portfolio at end of financial year x 100	The ratio describes the ratio of impairment loss on receivables entered in the income statement to the loan and guarantee portfolio. The lower that ratio, the better.
Deposits	Deposits included in balance sheet item Liabilities to customers	Deposits are presented in Liabilities to customers in the balance sheet.
Coverage ratio, %	Loss allowance / Receivables from customers (on-balance-sheet and off-balance-sheet items) x 100	The ratio describes the extent to which the amount of expected losses covers the amount of the liability.
Default capture rate, %	New defaulted contracts in stage 2 a year ago / New defaulted contracts during the financial year x 100	The ratio describes the effectiveness of the SICR model (significant increase in credit risk), in other words how many contracts were in stage 2 before moving to stage 3.
Income from customer business	Net interest income + net insurance income + net commissions and fees	Income from customer business describes the development of net interest income, net insurance income and net commissions and fees. Income directly from customers is presented mainly under these items.

Non-life insurance:

Operating loss ratio, %	Claims incurred excl. changes in reserving bases / Insurance premium revenue, excl. net changes in reserving bases	x 100	The ratio describes how much of the insurance premium revenue is spent on claims paid and claims management. The ratio is calculated after reinsurers' share.
Operating expense ratio, %	Operating expenses / Insurance premium revenue, excl. net changes in reserving bases	x 100	The ratio describes how much of the insurance premium revenue is spent on operating expenses (insurance acquisition, management and administration costs). The ratio is calculated after reinsurers' share.
Operating combined ratio, %	Operating loss ratio + operating expense ratio Operating risk ratio + operating cost ratio		The combined ratio is a key indicator of efficiency for non-life insurance companies. The ratio describes whether the insurance premium revenue is sufficient to cover the company's expenses during the financial year.
Operating risk ratio (excl. unwinding of discount), %	Claims excl. loss adjustment expenses and changes in reserving bases / Net insurance premium revenue, excl. changes in reserving bases	x 100	The ratio describes how much of the insurance premium revenue is spent on claims paid. The ratio is calculated after reinsurers' share.
Operating cost ratio, %	Operating expenses and loss adjustment expenses / Net insurance premium revenue, excl. changes in reserving bases	x 100	The ratio describes the ratio of the company's operating costs (acquisition, management, administration and claims settlement expenses) to its insurance premium revenue.

Life insurance:

Operating ratio, %	Total expenses / Expense loading + refund of management fee	x 100	The ratio describes the company's efficiency, or how well the expenses charged on insurance policies and the management fee refunds received on insurance policies cover the company's operating expenses.
Earnings from customer business	Earnings before tax – Net investment income (incl. overlay approach)		The ratio describes the development of customer business in life insurance. Income directly from customers is presented mainly in this key ratio.

Key indicators based on a separate calculation

Capital adequacy ratio, %	Total capital / Total risk exposure amount	x 100	The ratio describes a credit institution's capital adequacy and shows the ratio of total capital to the total risk exposure amount.
Tier 1 ratio, %	Tier 1 capital / Total risk exposure amount	x 100	The ratio describes a credit institution's capital adequacy and shows the ratio of Tier 1 capital to the total risk exposure amount.
CET1 ratio, %	CET1 capital / Total risk exposure amount	x 100	The ratio describes a credit institution's capital adequacy and shows the ratio of CET1 capital to the total risk exposure amount.
Solvency ratio, %	Capital base / Solvency capital requirement (SCR)	x 100	The ratio describes an insurance company's solvency and shows the ratio of the capital base to the total risk exposure amount.
Leverage ratio, %	Tier 1 capital (T1) / Exposure amount	x 100	The ratio describes a credit institution's indebtedness and shows the ratio of Tier 1 capital to the total risk exposure amount.

Liquidity coverage requirement (LCR), %	Liquid assets / Liquidity outflows – liquidity inflows under stressed conditions	x 100	The ratio describes short-term funding liquidity risk that requires the bank to have sufficient, high-quality liquid assets to get through an acute 30-day stress scenario.
Net stable funding ratio (NSFR), %	Available stable funding / Required stable funding	x 100	The ratio describes a long-term liquidity risk that requires the bank to have a sufficient amount of stable funding sources in relation to items requiring stable funding sources. The objective is to secure the sustainable maturity structure of assets and liabilities applying a 12-month time horizon and to restrict excessive resort to short-term wholesale funding.
Capital adequacy ratio under the Act on the Supervision of Financial and Insurance Conglomerates*	Conglomerate's total capital base / Conglomerate's total minimum capital requirement	x 100	The ratio describes the capital adequacy of the financial conglomerate and shows the ratio of the capital base to the minimum amount of the capital base.
Ratio of non-performing exposures to exposures, %	Non-performing receivables (gross) / Exposures at end of financial year	x 100	The ratio describes the ratio of customers with severe payment difficulties to the entire exposure portfolio. Non-performing exposures refer to receivables that are more than 90 days past due and other receivables classified as risky as well as forborne exposures related to such receivables due to the customer's financial difficulties. Forbearance measures consist of concessions agreed at the customers' initiative to the original repayment plan to make it easier for them to manage through temporary payment difficulties. Non-performing exposures are presented in gross terms; expected credit losses have not been deducted from them.
Ratio of doubtful receivables to exposures, %	Doubtful receivables (gross) / Exposures at end of financial year	x 100	The ratio describes the ratio of customers with payment difficulties to the entire exposure portfolio. Doubtful receivables refer to receivables that are more than 90 days past due and other receivables classified as risky as well as forbearance related to such receivables or to performing receivables due to the customer's financial difficulties. Forbearance measures consist of concessions agreed at the customers' initiative to the original repayment plan to make it easier for them to manage through temporary payment difficulties. In addition to non-performing forborne exposures, doubtful receivables include non-performing exposures reclassified as performing ones during their probation period or forbearance measures made into a performing agreement. Loan modifications due to reasons other than the customer's financial difficulties are not classified as doubtful receivables. Doubtful receivables are presented in gross terms; expected credit losses have not been deducted from them.
Ratio of performing forborne exposures to exposures, %	Performing forborne exposures (gross) / Exposures at end of financial year	x 100	The ratio describes the ratio of forborne exposures to the entire exposure portfolio. Performing forborne exposures include forborne exposures reclassified as performing ones during their probation period or forbearance measures made into a performing agreement. Loan modifications due to reasons other than the customer's financial difficulties are not classified as forborne exposures.

Ratio of performing forborne exposures to doubtful receivables, %	Performing forborne exposures (gross) / Doubtful receivables at end of financial year	x 100	The ratio describes the ratio of performing forborne exposures to doubtful receivables that include not only performing forborne exposures but also non-performing exposures. Performing forborne exposures include forborne exposures reclassified as performing ones during their probation period or forbearance measures made into a performing agreement. Loan modifications due to reasons other than the customer's financial difficulties are not classified as forborne exposures.
Ratio of loss allowance (receivables from customers) to doubtful receivables, %	Loss allowance for receivables from customers in the balance sheet / Doubtful receivables at period end	x 100	The ratio describes the ratio of expected losses to all doubtful receivables. Doubtful receivables include non-performing exposures and performing forborne exposures.
Loan and guarantee portfolio	Loan portfolio + guarantee portfolio		The indicator describes the total amount of loans and guarantees given.
Exposures	Loan and guarantee portfolio + interest receivables + unused standby credit facilities		The sum of the loan and guarantee portfolio, interest receivables and unused standby credit facilities (undrawn loans and limits) is used as the basis for proportioning doubtful receivables and non-performing exposures.
Other exposures	Interest receivables + unused standby credit facilities		In addition to the loan and guarantee portfolio, exposures come from interest receivables and unused standby credit facilities (undrawn loans and limits).

*Transitional provisions have been taken into account in the FiCo solvency.

Capital adequacy and solvency

Capital adequacy for credit institutions

Capital base, € million	31 Dec 2022	31 Dec 2021
OP Financial Group's equity capital	14,335	14,184
Effect of insurance companies on the Group's shareholders' equity is excluded	-721	-988
Fair value reserve, cash flow hedge	337	-96
Common Equity Tier 1 (CET1) before deductions	13,951	13,101
Intangible assets	-343	-351
Excess funding of pension liability and valuation adjustments	-231	-132
Cooperative capital deducted from capital base	-163	-160
Planned profit distribution	-144	-96
Shortfall of ECL minus expected losses	-425	-356
Insufficient coverage for non-performing exposures	-76	-41
CET1 capital	12,569	11,965
Tier 1 capital (T1)	12,569	11,965
Debenture loans	1,308	1,308
Debentures to which transition rules apply	91	141
Tier 2 capital (T2)	1,399	1,448
Total capital	13,968	13,413

Risk exposure amount, € million	31 Dec 2022	31 Dec 2021
Credit and counterparty risk	60,437	57,267
Standardised Approach (SA)	8,476	4,822
Central government and central banks exposure	495	298
Credit institution exposure	627	5
Corporate exposure	5,244	3,179
Retail exposure	1,245	1,142
Mortgage-backed exposure	153	1
Defaulted exposure	72	45
Covered bonds	540	
Receivables to which a short-term credit rating can be applied	0	
Collective investment undertakings (CIU)	0	0
Equity investments	1	6
Other	99	146
Internal Ratings-based Approach (IRB)	51,960	52,446
Credit institution exposure		1,191
Corporate exposure	29,997	29,808
Retail exposure	12,002	13,320
Equity investments	8,944	7,112
Other	1,018	1,015
Risks of the CCP's default fund	0	
Securitisations	111	94
Market and settlement risk (Standardised Approach)	1,070	1,380
Operational risk (Standardised Approach)	3,851	3,786
Valuation adjustment (CVA)	179	204
Other risks*	6,678	3,000
Total risk exposure amount	72,327	65,731

* Addition of risk-weighted assets based on the Standardised Approach

The presentation of the total risk exposure amount table has been changed. Comparatives for the changed items have been adjusted to correspond to the new presentation.

Ratios, %	31 Dec 2022	31 Dec 2021
CET1 capital ratio	17.4	18.2
Tier 1 ratio	17.4	18.2
Capital adequacy ratio	19.3	20.4

Ratios, fully loaded, %	31 Dec 2022	31 Dec 2021
CET1 capital ratio	17.4	18.2
Tier 1 ratio	17.4	18.2
Capital adequacy ratio	19.2	20.2

Capital requirement, EUR million	31 Dec 2022	31 Dec 2021
Capital base	13,968	13,413
Capital requirement	9,979	9,041
Buffer for capital requirements	3,989	4,373

The capital requirement of 13.8% comprises the minimum requirement of 8%, the capital conservation buffer of 2.5%, the O-SII buffer requirement of 1.0%, the minimum requirement (P2R) of 2.25% set by the ECB and the country-specific countercyclical capital buffers for foreign exposures.

Leverage ratio, EUR million	31 Dec 2022	31 Dec 2021
Tier 1 capital (T1)	12,569	11,965
Total exposure	165,362	161,415
Leverage ratio, %	7.6	7.4

The leverage ratio describes indebtedness. The minimum requirement for the leverage ratio is 3%.

OP Financial Group's capital adequacy under the Act on the Supervision of Financial and Insurance Conglomerates

€ million	31 Dec 2022	31 Dec 2021
OP Financial Group's equity capital	14,335	14,184
Hybrid instruments and debenture loans	1,399	1,448
Other sector-specific items excluded from capital base	-442	-392
Goodwill and intangible assets	-1,077	-1,097
Insurance business valuation differences*	1,083	794
Proposed profit distribution	-144	-96
Items under IFRS deducted from capital base**	177	-181
Shortfall of ECL minus expected losses	-370	-330
Conglomerate's total capital base	14,961	14,331
Regulatory capital requirement for credit institutions***	9,661	8,111
Regulatory capital requirement for insurance operations*	1,237	1,672
Conglomerate's total minimum capital requirement	10,898	9,783
Conglomerate's capital adequacy	4,063	4,547
Conglomerate's capital adequacy ratio (capital base/minimum of capital base) (%)	137	146

* Differences between fair values and carrying amounts based on the solvency of insurance companies and an estimate of SCR
** Excess funding of pension liability, portion of cash flow hedge of fair value reserve
*** Total risk exposure amount x 13.8%
Transitional provisions have been taken into account in figures.

Income statement

EUR million	Notes	Q1–4 2022	Q1–4 2021
Net interest income	5	1,618	1,409
Net insurance income	6	889	743
Net commissions and fees	7	1,005	1,034
Net investment income	8	-149	376
Other operating income	9	63	54
Total income		**3,426**	**3,616**
Personnel costs	10, 86	894	914
Depreciation/amortisation	11	214	283
Other expenses	12	874	810
Total expenses		**1,981**	**2,007**
Impairments loss on receivables	13	-115	-158
OP bonuses to owner-customers	14	-209	-205
Temporary exemption (overlay approach)	15	143	-118
Earnings before tax		**1,265**	**1,127**
Income tax expense	16	-242	-224
Profit for the financial year		**1,023**	**904**
Attributable to:			
Profit for the financial year attributable to owners		1,014	900
Profit for the financial year attributable to non-controlling interest		9	4
Total		**1,023**	**904**

Statement of comprehensive income

EUR million	Notes	Q1–4 2022	Q1–4 2021
Profit for the financial year		1,023	904
Items that will not be reclassified to profit or loss			
Gains/(losses) arising from remeasurement of defined benefit plans	34	120	50
Change in revaluation reserve	36		15
Items that may be reclassified to profit or loss			
Change in fair value reserve			
Measurement at fair value	36	-540	-57
Cash flow hedge	36	-540	-135
Temporary exemption (overlay approach)	36	-143	118
Translation differences			
Income tax			
Items that will not be reclassified to profit or loss			
plans	28	-24	-10
Change in revaluation reserve	28		-3
Items that may be reclassified to profit or loss			
Measurement at fair value	36	108	11
Cash flow hedge	36	108	27
Temporary exemption (overlay approach)	36	29	-24
Other comprehensive income		-883	-7
Total comprehensive income for the financial year		139	897
Attributable to:			
Total comprehensive income for the financial year attributable to owners		131	893
Total comprehensive income for the financial year attributable to non-controlling inte		9	4
Total		139	897

Balance sheet

EUR million	Notes	31 Dec 2022	31 Dec 2021
Cash and cash equivalents	17	35,004	32,846
Receivables from credit institutions	18	798	541
Derivative contracts	19	4,117	3,467
Receivables from customers	20	98,546	96,947
Investment assets	21	20,754	22,945
Assets covering unit-linked contracts	22	11,597	13,137
Intangible assets	24	1,153	1,212
Property, plant and equipment (PPE)	25	423	446
Other assets	27	2,819	2,419
Tax assets	28	303	141
Non-current assets held for sale			8
Total assets		175,516	174,110
Liabilities to credit institutions	29	12,301	16,650
Derivative contracts	19	4,432	2,266
Liabilities to customers	30	81,468	77,898
Insurance liabilities	31	7,638	8,773
Liabilities from unit-linked insurance and investment contracts	32	11,662	13,210
Debt securities issued to the public	33	37,438	34,895
Provisions and other liabilities	34	3,849	3,134
Tax liabilities	28	1,008	1,109
Subordinated liabilities	35	1,384	1,982
Liabilities associated with non-current assets held for sale			8
Total liabilities		161,181	159,926
Equity capital			
Share of OP Financial Group's owners			
Cooperative capital			
Cooperative share		217	215
Profit shares		3,369	3,244
Fair value reserve		-656	323
Other reserves		2,172	2,184
Retained earnings		9,115	8,090
Non-controlling interests		118	128
Total equity capital	36	14,335	14,184
Total liabilities and equity capital		175,516	174,110

Statement of changes in equity capital

EUR million	Attributable to owners						
	Cooperative capital	Fair value reserve	Other reserves	Retained earnings	Total	Non-controlling interests	Total equity capital
Balance at 1 January 2021	3,174	382	2,172	7,248	12,975	137	13,112
Total comprehensive income for the financial year		-59	12	939	893	4	897
Profit for the financial year				900	900	4	904
Other comprehensive income		-59	12	40	-7		-7
Profit distribution				-94	-94	-7	-101
Change in membership and profit shares	285				285		285
Other				-3	-3	-5	-9
Balance at 31 December 2021	3,459	323	2,184	8,090	14,057	128	14,184

EUR million	Attributable to owners						
	Cooperative capital	Fair value reserve	Other reserves	Retained earnings	Total	Non-controlling interests	Total equity capital
Balance at 1 January 2022	3,459	323	2,184	8,090	14,057	128	14,184
Total comprehensive income for the financial year		-979		1,110	131	9	139
Profit for the financial year				1,014	1,014	9	1,023
Other comprehensive income		-979		96	-883		-883
Profit distribution				-96	-96	-7	-103
shares	127				127		127
Transfer of reserves			-12	12			
Other				-1	-1	-11	-12
Balance at 31 December 2022	3,586	-656	2,172	9,115	14,217	118	14,335

Cash flow statement

EUR million	Notes	Q1–4 2022	Q1–4 2021
Cash flow from operating activities			
Profit for the period		1,023	904
Adjustments to profit for the period	45	-316	540
Increase (-) or decrease (+) in operating assets		-4,127	-3,948
Receivables from credit institutions	18	84	-114
Derivative contracts	19	-332	169
Receivables from customers	20	-3,333	-3,663
Non-life insurance assets	22	80	-513
Investment assets	21	-277	430
Other assets	27	-350	-256
Increase (+) or decrease (-) in operating liabilities		1,338	13,435
Liabilities to credit institutions	29	-4,279	8,557
Derivative contracts	19	539	248
Liabilities to customers	30	4,592	4,679
Insurance liabilities	31	142	10
Liabilities from unit-linked insurance and investment contracts	32	0	368
Provisions and other liabilities	34	344	-427
Income tax paid		-283	-135
Dividends received		102	89
A. Net cash from operating activities		-2,264	10,883
Cash flow from investing activities			
Acquisition of subsidiaries, net of cash acquired	23		1
Disposal of subsidiaries, net of cash disposed	84	35	35
Purchase of PPP and intangible assets	24, 25	-123	-135
Proceeds from sale of PPE and intangible assets	24, 25	11	11
B. Net cash used in investing activities		-79	-88
Cash flow from financing activities			
Subordinated liabilities, change		-517	-254
Debt securities issued to the public, change	33	5,135	646
Increases in cooperative and share capital		292	412
Decreases in cooperative and share capital		-165	-126
Dividends paid and interest on cooperative capital		-96	-189
Lease liabilities		-33	-36
C. Net cash used in financing activities		4,615	451
Net change in cash and cash equivalents (A+B+C)		2,272	11,247
Cash and cash equivalents at period-start		33,129	22,055
Effect of foreign exchange rate changes		255	-173
Cash and cash equivalents at period-end		35,656	33,129

Notes to financial statements

Contents

Note 1. OP Financial Group's accounting policies under IFRS

OP Financial Group is a financial entity as referred to in §9 of the Act on the Amalgamation of Deposit Banks. OP Financial Group's financial statements have been prepared as a combination of the financial statements and consolidated financial statements of OP Cooperative and its subsidiaries and member credit institutions.

OP Financial Group does not form a consolidation group, as referred to in the Accounting Act, because OP Cooperative and its member cooperative banks do not have control over each other, as referred to in general consolidated accounting policies. For this reason, a technical parent company has been determined for OP Financial Group (Note 84. Ownership interests in subsidiaries, structured entities and joint operations).

OP Cooperative acts as the entire OP Financial Group's strategic owner institution and as a central cooperative in charge of Group control and supervision.

The Act on the Amalgamation of Deposit Banks requires OP Financial Group's central cooperative, OP Cooperative, to prepare consolidated financial statements for OP Financial Group. OP Cooperative's Board of Directors is responsible for preparing the financial statements in accordance with applicable regulations.

OP Cooperative is domiciled in Helsinki and the address of its registered office is Gebhardinaukio 1, FI-00510 Helsinki.

A copy of OP Financial Group's consolidated financial statements is available at www.op.fi or the Group's office at Gebhardinaukio 1, FI-00510 Helsinki.

The Board of Directors of OP Cooperative approved OP Financial Group's financial statements bulletin for issue on 8 February 2023 and the Board of Directors approved the financial statements on 1 March 2023.

1. Basis of preparation

OP Financial Group's financial statements were prepared in accordance with the International Financial Reporting Standards (IFRS), applying IASs, IFRSs and SIC and IFRIC interpretations effective on 31 December 2022. The International Financial Reporting Standards refer to standards and their interpretations adopted in accordance with Regulation (EU) No. 1606/2002 of the European Parliament and of the Council. OP Financial Group's obligation to prepare its financial statements in accordance with IFRS is based on the Act on the Amalgamation of Deposit Banks. OP Financial Group's notes also conform to the requirements of Finnish accounting and company legislation that complement IFRS regulations.

In 2022, OP Financial Group adopted the following standards and interpretations:

- Amendments to IAS 37, IAS 16, IFRS 9 and IFRS 3 took effect on 1 January 2022. The amendments did not have any major effect on OP Financial Group's financial statements.

OP Financial Group's consolidated financial statements were prepared at historical cost, with the exception of financial assets and liabilities at fair value through profit or loss, financial assets at fair value through other comprehensive income, hedged items in fair value hedging (for hedged risk) and investment property measured at fair value. In addition, defined benefit pension plans are accounted for according to IAS 19.

The financial statements are presented in millions of euros. Number zero in the tables in Notes means that the item contains some balance but it is rounded off to zero. If nothing (blank) is presented in the item, the balance of the item is zero.

According to the Act on the Amalgamation of Deposit Banks and IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors, OP Cooperative's Board of Directors must confirm any applicable accounting policies for which the IFRSs provide no guidelines. In accordance with the above, OP Cooperative's Board of Directors has confirmed the principle that OP Financial Group's technical parent company consists of OP Financial Group member cooperative banks.

OP Financial Group presents Pillar III disclosures in compliance with EU Regulation No. 575/2013 of the European Parliament and of the Council in the OP Amalgamation capital adequacy tables. A summary of capital adequacy is presented in OP Financial Group's Report by the Board of Directors.

1.1 2021 highlights

Pohjola Insurance Ltd, part of OP Financial Group, sold all shares of Pohjola Hospital Ltd to Pihlajalinna Terveys Oy, part of Pihlajalinna Group. On 14 January 2022, the Finnish Competition and Consumer Authority approved the corporate transaction, which was finalised on 1 February 2022. The net debt free transaction price was EUR 31.8 million. In addition, OP Financial Group sold five hospital buildings in March 2022.

2. Critical accounting estimates and judgements

The preparation of the financial statements in conformity with IFRS requires the management to make judgements, estimates and assumptions in the application of the accounting policies. The preparation of the financial statements requires making estimates and assumptions about the future and the actual results may differ from these estimates and assumptions. It also requires the management to exercise its judgement in the process of applying the accounting policies.

2.1. Sustainability and corporate responsibility

Sustainability and corporate responsibility form an integral part of OP Financial Group's business and strategy and responsible business is one of OP Financial Group's strategic priorities. OP Financial Group published its new sustainability programme in August 2022. The new sustainability programme and its policy priorities implement OP Financial Group's strategy, guiding the sustainability actions taken by the business units and OP cooperative banks. OP Financial Group's sustainability programme is built around three themes: Climate and the environment, People and communities and Corporate governance.

The management has assessed that the sustainability themes affect the following sub-areas in the financial statements:

- Expected credit losses (Note 37. Loss allowance regarding receivables and notes and bonds)
- Estimate of future cash flows in impairment testing for goodwill and assets with indefinite useful lives (Note 24. Intangible assets)
- Green bonds (Note 33. Debt securities issued to the public)
- Green loans and sustainability-linked loans (Note 20. Receivables from customers)
- Energy-saving measures (Note 12. Other operating expenses).

2.2 Expected credit losses

The determination of the measurement models for expected credit losses (ECL) involves several factors requiring management judgement, such as:

- Selection of appropriate ECL models so that they describe the expected credit losses on the contract portfolio as well as possible.
- Different assumptions and expert judgements made in the models.
- Selection of the estimation methods of the parameters for the ECL models.
- Determination of the contract's maturity for non-maturing loans (revolving credit facilities).
- Determination of model risk associated with the quality of the available modelling data and other data.
- Proper grouping of contracts into different segments so that their ECL can be measured using the appropriate model.
- Selection of macroeconomic factors in such a way that their changes correlate with the contracts' probability of default.
- Forecasting future macroeconomic scenarios and their probabilities.
- Extra provisions based on management judgement concerning a certain industry due to abrupt crises such as the Covid-19 pandemic or Russia's war of aggression in Ukraine.
- Reductions in collateral value made on the basis of the geographical location of collateral based on management judgement.

Management judgement has also been used in the assessment of a significant increase in credit risk, such as in:

- The expert judgement used in the assessment of change in relative credit risk associated with personal customers to ensure a true number of contracts that move to stage 2 before moving to stage 3 (so-called default capture rate).
- The selection of the absolute threshold that is based on historical default behaviour and OP Financial Group's credit risk process.
- The determination of the length of a period during which the customer must prove proper payment behaviour so that the impairment stage 3 can improve to stage 2 or 1.

The actual measurement of ECL figures is performed using the ECL models, except if it is mainly the question of a large corporate exposure in stage 2 or 3 and on the watch list, in which case the ECL is calculated using the cash flow based ECL method based on expert judgement. Management judgement is involved in expert judgements.

Extra provisions based on management overlay directly to the ECL figures (post-model adjustments) are intended only for temporary use until an unpredictable event caused by the overlay provision or circumstance could have been taken into account in the ECL models.

The existing ECL models take account of Environmental, Social and Governance (ESG) risks of sustainable development. An assessment of economic impacts has been included in their measurement where the use of fossil energy is reduced, so that carbon neutrality will be achieved by 2035.

Calculations of loss allowance regarding receivables and the related key uncertainties are presented in Note 37. Loss allowance regarding receivables and notes and bonds. The Note also describes choices made in the calculation of expected credit losses related to the war in Ukraine, energy crisis and a rapid change in the general economic situation. Section 7.4 includes a description of the accounting policies used in expected credit losses.

2.3 Fair values of financial instruments

The management must assess when the market for financial instruments is not active. The management must also assess whether an individual financial instrument is actively traded and whether the price obtained from the market is a reliable indication of the instrument's fair value. When the fair value of financial instruments is determined using a valuation technique, management judgement is required to select the applicable valuation technique. Whenever market observable input data is not available for outputs produced by valuation techniques, the management must evaluate how much other information will be used (Note 41. Recurring fair value measurements by valuation technique). The accounting policies used in the fair value of financial instruments are described in section 7.

2.4 Insurance contracts

Liabilities arising from insurance contracts involve several discretionary factors and uncertainty. With respect to non-life insurance, estimates are based on assumptions about the business environment and on the actuarial analyses of OP Financial Group's own claims statistics. An especially high degree of management judgement is required for determining the discount rate and estimating claims expenditure arising from the already occurred loss events (Note 53. Sensitivity analysis of non-life insurance).

Liabilities arising from life insurance contracts involve several discretionary factors and uncertainties. When calculating life insurance liabilities, OP Financial Group primarily uses assumptions on the date when the contract was made concerning insurance risk materialisation, operating expenses and investment income. The Group follows the assumptions continuously and if it turns out that the liability calculated based on these assumptions is too small, the liability is increased to correspond to the latest observations. The management's judgement is required especially in determining the amount of operating expenses related to the loan discount rate, people's mortality assumption and future management of insurance policies (Note 64. Information on the nature of life insurance and sensitivity analysis of insurance liabilities). The accounting policies used in insurance contracts are described in section 13.

2.5 Investments made in structured entities

When estimating the control over structured entities, OP Financial Group takes into account the investor's power to direct the investee's relevant activities and the exposure or right to variable returns from its involvement with the investee. Discretion is exercised when estimating power to direct relevant activities and variable returns. The emergence of control is evaluated in more detail when the investment accounts for 10–20% of the investee's net assets and returns. The investee is consolidated as a subsidiary at the latest when OP Financial Group's share of the variable returns exceeds 37% and there is a link between the control and the returns (Note 84. Ownership interests in subsidiaries, structured entities and joint operations). The accounting policies used in structured entities are described in section 3.

2.6 Impairment testing of goodwill and intangible assets

Goodwill, assets with indefinite useful lives and intangible assets not yet available for use are tested annually for impairment. The recoverable amount determined in the impairment test is usually based on value in use, and its calculation requires estimates of future cash flows and the applicable discount rate (Note 24. Intangible assets). The accounting policies used in impairment testing are described in section 10.1.

2.7 Real estate

The measurement of investment property at fair value is partially based on the management's estimates of the market value of property holdings (Note 21. Investment assets). Income probably generated in the future by property in own use is based on the management's judgement of the property's value in use (Note 25. Property, plant and equipment). The accounting policies used in real property are described in sections 8 Investment property and 10.1 Property in own use.

2.8 Wealth management OP bonuses

In wealth management, OP bonuses mainly accrue from mutual fund management fees and unit-linked insurance fees paid by clients. The OP bonuses of these items are close to considerations paid to clients under IFRS 15 that are accounted for as a reduction of the transaction prices and thereby revenue. Netting Wealth Management OP bonuses from asset management commission income would, based on management judgement, lead to the fact that OP bonuses in OP Financial Group's income statement would not give a true picture of their total amount. Consequently, wealth management OP bonuses are presented in the OP bonuses to owner-customers row in the income statement, in addition to the banking and non-life insurance OP bonuses (Note 14. OP bonuses to owner-customers). The accounting policies used in OP bonuses are described in section 18.

2.9 Russia's aggressive war in Ukraine

The management has assessed that Russia's aggressive war in Ukraine may have an indirect effect on OP Financial Group's income and risks as a result of customers' changed business conditions, and a direct effect on the general situation in the financial market and because of obstruction of the technical infrastructure. The impacts may be realised, for example, in the following ways:

- higher impairment loss on receivables
- lower values of investment assets
- effects of extensive sanctions and counter sanctions on OP Financial Group or its customers' activities
- problems in the availability of wholesale funding and a rise in the wholesale funding price
- problems in business continuity as a result of cyber attacks on OP Financial Group or its customers.

Note 37. Loss allowance regarding receivables and notes and bonds includes information on choices related to the war in Ukraine made in calculating expected credit losses.

3. Consolidation principles

3.1 Technical parent company

The Act on the Amalgamation of Deposit Banks Act prescribes that the consolidated financial statements of OP Financial Group must be a combination of the financial statements or consolidated financial statements of OP Cooperative and its member credit institutions. The consolidated financial statements also include the accounts of entities over which the abovementioned entities jointly have control as prescribed in the Accounting Act. OP Financial Group's cooperative capital comprises such cooperative contributions paid by members of cooperative banks which the member banks have an unconditional right to refuse the redemption. In accordance with the above principles, OP Financial Group has formed a technical parent company (Note 84. Ownership interests in subsidiaries, structured entities and joint operations).

Within the technical parent company, intra-Group holdings, transactions, receivables and liabilities, distribution of profit and margins are eliminated.

3.2 Subsidiaries, associates and joint arrangements

The financial statements of the technical parent company and companies over which it exercises control are consolidated into those of OP Financial Group. OP Financial Group has control over an entity if it is exposed, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity (including structured entities). Most of the subsidiaries are wholly owned by OP Financial Group, which means that the Group's control is based on votes.

OP Financial Group acts as investor and manages various mutual funds in order to gain investment income and various commissions. Funds that have been classified as structured entities have been consolidated into the Group's financial statements when OP Financial Group's control is not based on votes but the control of significant operations, exposure to variable returns from the fund, and organising the fund's management. Changes in control concerning various fund investments consolidated into OP Financial Group are monitored quarterly. When estimating the amount of control, the Group takes into account the investor's power to direct relevant activities over an investee and the investor's exposure to varying returns. When OP Financial Group ceases to have control any retained interest in the entity is remeasured to its fair value at the date when control is lost, with the change in carrying amount recognised in the income statement. The fair value is the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, joint venture or financial assets. In addition, any amounts previously recognised in other comprehensive income in respect of that entity are accounted for as if OP Financial Group had directly disposed of the related assets or liabilities. This may mean that amounts previously recognised in other comprehensive income are reclassified to the income statement.

Intra-Group holdings have been eliminated using the acquisition method. The consideration transferred and the acquiree's identifiable assets acquired and liabilities assumed are measured at fair value at the time of acquisition. Acquisition cost in excess of net assets is presented under goodwill. If the acquisition cost is lower than the fair value of net assets, the difference is recognised in profit and loss.

Acquisition-related costs are expensed as incurred. Any contingent consideration is measured at fair value and classified as a liability or equity. Contingent consideration classified as a liability is measured at fair value in the income statement on the balance sheet date.

Associated companies over which OP Financial Group companies exercise significant influence are accounted for using the equity method. Significant influence generally arises if the Group holds 20–50% of the other company's votes or otherwise exercises influence, not control, over the company. Under the equity method, the investment is initially recognised at cost, and the carrying amount is increased or decreased to recognise the investor's share of the profit or loss of the investee after the date of acquisition. OP Financial Group's investment in associates includes goodwill identified on the acquisition date. If the consolidation group's share of losses in an associate exceeds its interest in the associate, the investment is entered in the balance sheet at zero value, and further losses exceeding the carrying amount are not recognised unless OP Financial Group is committed to fulfil the obligations of associates. Private equity funds treated as associates are measured at fair value through profit or loss in compliance with IFRS 9 as permitted by IAS 28 (Note 21. Investment assets).

A joint arrangement is an arrangement of which two or more parties have joint control. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control. A joint arrangement is either a joint operation or a joint venture. A joint venture is an arrangement in which OP Financial Group has rights to the arrangement's net assets, while in a joint operation OP Financial Group has both rights to assets and obligations for the liabilities relating to the arrangement. Property companies are incorporated into OP Financial Group's financial statements as joint operations by consolidating the proportionate share of OP Financial Group's holding of the property company's assets and liabilities.

Subsidiaries, associates or joint arrangements acquired during the financial year are consolidated from the date on which control or significant influence is transferred to OP Financial Group while those that have been sold are de-consolidated from the date on which control or significant influence ceases.

Intra-Group transactions, receivables, liabilities and profit distribution are eliminated in the preparation of the financial statements.

3.3 Non-controlling interests

Profit for the financial year attributable to the owners of the technical parent company and non-controlling interests is presented in the income statement, and total comprehensive income attributable to the owners of the parent and non-controlling interests is presented in the statement of comprehensive income. Profit for the financial year shown in the income statement and the statement of comprehensive income is also attributed to non-controlling interests in the event that their share, as a result, would become negative. Non-controlling interests are presented as part of equity capital in the balance sheet. If the investee's equity does not fulfil the equity classification criteria under IAS 32, the non-controlling parties' share of the net assets is presented as liability.

Non-controlling interests in an acquiree are measured either at fair value or as the proportionate share of net assets of the acquiree. The valuation principle applied is determined separately for each acquiree.

4. Foreign currency translation

OP Financial Group's financial statements are presented in euros, which is the functional and presentation currency of the parent. Non-euro transactions are recognised in euros at the exchange rate quoted on the transaction date or at the average exchange rate of the month of recognition. On the balance sheet date, non-euro monetary balance sheet items are translated into euros at the exchange rate quoted on the balance sheet date. Non-monetary balance sheet items measured at cost are presented at the exchange rate quoted on the transaction date.

The exchange rate differences arising from the translation of non-euro transactions and monetary balance sheet items into euros are recognised as foreign exchange gains or losses under Net investment income in the income statement (Note 8. Net investment income).

5. Summary of presentation of income statement items

Net interest income	Received and paid interest on fixed income instruments, received and paid negative interest, the recognised difference between the nominal value and acquisition value, interest on interest rate derivatives and fair value change in fair value hedging. Fees that are regarded as compensation for the risk taken by the bank associated with the financial instrument and as being an integral part of the financial instrument's effective interest rate.
Net insurance income	Insurance premium revenue from non-life insurance and non-life insurance claims as well as the risk result of life insurance.
Net commissions and fees	Commission income from lending, deposits, payment transactions, securities brokerage, securities issuance, mutual funds, investment management, legal services, guarantees, real estate services, insurance brokerage, life insurance expense loading as well as from healthcare and wellbeing services. Commission expenses for payment transactions, securities brokerage, securities issuance, mutual funds, investment management, insurance brokerage as well as for healthcare and wellbeing services.
Net investment income	Realised capital gains and losses on financial assets recognised at fair value through other comprehensive income, interest income, currency valuations as well as impairment losses and their reversals. Fair value changes in financial instruments at fair value through profit or loss and dividends and holdings. In addition, interest income and expenses related to financial assets held for trading. Income from loans and receivables recognised at amortised cost, and impairment loss. Fair value changes in investment property, rents and other property-related expenses. Life insurance credited interest on customers' insurance savings and change in underwriting provisions as well as non-life insurance unwinding of discount. Associated companies' income consolidated using the fair value and equity method.
Other operating income	Rental income and sales revenues from property in own use, and other income.
Personnel costs	Wages and salaries, pension costs and social expenses.
Other operating expenses	ICT production and development costs, costs for facilities, purchased services, charges of financial authorities, charges of auditors, telecommunications costs, marketing costs, corporate responsibility expenses, insurance and security costs and other expenses.
Impairment loss on receivables	Expected credit losses from customers, off-balance-sheet items and notes and bonds as well as final credit losses and their reversals.

6. Revenue recognition

6.1 Interest income

Interest income and expenses for interest-bearing assets and liabilities are recognised using the effective interest method. More detailed information on the effective interest method can be found in section 7.2.1 Amortised cost herein. Interest on receivables with non-settled, due payments is also recognised as revenue. The difference between the receivable's acquisition cost and its nominal value is recognised as interest income and that between the amount received and nominal value of the liability in interest expenses. The difference between the nominal value and the acquisition cost of fixed-rate bonds is recognised as interest income or expenses over the residual term to maturity.

The customer margin of the interest rate cap and interest rate corridor loans would accrue net interest income as the customer pays the additional margin related to the derivative clause. (Note 5. Net interest income).

6.2 Net commissions and fees

Fees that are not an integral part of the effective interest rate of a financial instrument are accounted for in accordance with IFRS 15 Revenue from Contracts with Customers. Fees and commissions under IFRS 15 are recognised as revenue when a service's agreed performance obligations are transferred to the customer and the key criterion is transfer of control. Commissions and fees are recognised to the amount to which an entity expects to be entitled in exchange of transferring promised services to a customer. Commission expenses are recognised in net commissions and fees on an accrual basis.

In the Retail Banking segment, commissions and fees are charged from personal and corporate customers. Commissions and fees consist of those from lending and payment transactions. In addition, the segment charges fees, for example, for legal services, guarantees, deposits, mutual funds and real estate agency services. The abovementioned items consist of several hundreds of fee types whose performance obligations are fulfilled over time or at a point in time, according to the type of the fee. The performance obligations of lending, guarantee and mutual fund fees are mainly fulfilled over time while other those of other retail banking fees at a point in time. The amount of consideration for the services is mainly the list price or a contractually stated price. Owner-customers are entitled to a discount on their daily banking services. OP Financial Group charges its customers the fees on a monthly basis or after the service performance according to the contract terms.

In the Corporate Banking segment, commissions and fees are charged from personal and corporate customers. Banking commissions and fees consist of those from lending and payment transactions. In addition, Corporate Banking charges fees outside of OP Financial Group, for example, for guarantees and the issue of securities. The abovementioned items consist of several hundreds of fee types whose performance obligations are fulfilled over time or at a point in time, according to the type of the fee. The performance obligations of lending and guarantee fees are mainly fulfilled over time while other those of other banking-related fees at a point in time. Commission income related to the Corporate Banking segment asset management operations consists of mutual fund and investment management fees. Commissions related to wealth management are mainly recognised as revenue over time during the contract period, and the monthly consideration is a contractual percentage of the client's investments or insurance savings under management. Mutual fund and investment management fees include performance-based management fees tied to investment performance. The performance-based management fees are not recognised as revenue until the criteria measuring the success of investment has been met highly likely.

The Insurance segment's contracts with which no underwriting risk is associated are recognised as revenue under IFRS 15 and presented in net commissions and fees. Commission income mainly consists of the life insurance total expense loadings, returns of unit-linked management fees (mutual funds), income from health and wellbeing services and of fees for insurance brokerage. The life insurance expense loading contains a subscription fee for the insurance premium (so-called kappa loading) and the management fee for insurance savings (so-called gamma loading). Other life insurance fees are recognised as revenue in accordance with IFRS 4 Insurance Contracts. Income from health and wellbeing services is recognised for each treatment visit after the service has been rendered. The fee is charged from the customer after the service based on the list of charges and fees. In occupational healthcare agreements, income is recognised over time during the contract period and the fee is charged from the customer on a monthly basis as agreed. In healthcare and wellbeing services, OP Financial Group acts as the principal under IFRS 15, in which case the fee paid to the relevant entrepreneur is presented in commission expenses. OP Financial Group's partners pay commission income from broking insurance policies according to the consideration specified in the contract. The performance obligations are fulfilled over time and the fees are charged from customers on a monthly basis.

Fees of the Group Functions segment mainly consist of payment transfer fees. The performance obligations are fulfilled over time and the consideration amount is as agreed. The fees are charged based on the actual payment transactions.

Revenue from contracts with customers is presented in Note 7. Net commissions and fees by segment.

Dividends are primarily recognised when they are approved by the General Meeting of the distributing company. Dividend income is shown in net investment income.

7. Financial instruments

7.1 Fair value determination

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date (Note 41. Recurring fair value measurements by valuation technique).

The fair value of financial instruments is determined using either prices quoted in an active market or the company's own valuation techniques where no active market exists. The market is deemed to be active if price quotes are easily and regularly available and reflect real and regularly occurring market transactions on an arm's length basis. The current bid price is used as the quoted market price of financial assets.

If the market has a commonly used valuation technique applied to a financial instrument to which the fair value is not directly available (e.g. OTC derivatives), the fair value is based on a commonly used valuation technique and market quotations of the inputs used by the technique.

If the valuation technique is not a commonly used technique in the market, a valuation model created for the instrument in question will be used to determine the fair value. Valuation models are based on widely used measurement techniques, incorporating all factors that market participants would consider in setting a price, and are consistent with accepted economic methodologies for pricing financial instruments.

The valuation techniques used include prices of market transactions, the discounted cash flow method and reference to the current fair value of another instrument that is substantially the same on the balance sheet date. The valuation techniques take account of estimated credit risk, applicable discount rates, the possibility of early repayment and other factors affecting the reliable measurement of the fair value of financial instruments.

The fair values of financial instruments are categorised into three hierarchy levels, depending on the inputs used in valuation techniques:

- Quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1)
- Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices) (Level 2)
- Inputs for the asset or liability that are not based on observable market data (Level 3).

If the inputs used to measure fair value are categorised into different levels of the fair value hierarchy, the fair value measurement is categorised in its entirety at the same level as the lowest level input that is significant to the entire measurement. The significance of inputs has been assessed on the basis of the fair value measurement in its entirety.

It is typical of illiquid instruments that their price calculated using a pricing model differs from the actual transaction price. However, the actual transaction price is the best evidence of the instrument's fair value. The Day 1 profit/loss, based on the difference between the actual transaction price and the price deriving from the pricing model that uses market prices, is recognised in the income statement over the term of the agreement. However, the non-recognised amount will be recognised as soon as there is a genuine market price for the instrument or a well-established pricing practice is created in the market.

The amount of illiquid financial assets is insignificant in OP Financial Group's balance sheet.

The illiquid financial liabilities (investment contracts) of the Group's life insurance operations are measured at fair value according to IFRS 9. The investment contracts' fair value is measured using a valuation technique which takes account, for example, of the time value of money and the fair value of financial assets that are used to cover them. However, the value of the liability may not be lower than the contract's surrender value. These contracts have been categorised on Level 3 in the fair value hierarchy.

7.2 Financial assets and liabilities

OP Financial Group's financial assets are shown in Notes 17. Cash and cash equivalents, 18. Receivables from credit institutions, 19. Derivative contracts, 20. Receivables from customers, 21. Investment assets, 22. Assets covering unit-linked contracts and 27. Other assets. Financial liabilities are shown in Notes 29. Liabilities to credit institutions 19. Derivative contracts, 30. Liabilities to customers, 32. Liabilities from unit-linked insurance and investment contracts, 33. Debt securities issued to the public, 34. Provisions and other liabilities and 35. Subordinated liabilities.

7.2.1 Amortised cost

Amortised cost is the amount at which the financial asset or financial liability is measured at initial recognition minus the principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount and, for financial assets, adjusted for any loss allowance.

The effective interest method uses the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial asset or financial liability to the gross carrying amount of a financial asset or to the amortised cost of a financial liability. When calculating the effective interest rate, OP Financial Group estimates the expected cash flows by considering all the contractual terms of the financial instrument excluding the expected credit losses (ECL). The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs, and all other premiums or discounts. Fees that are an integral part of the rate of a financial instrument include service and origination fees related to loan drawdown and they are amortised over the expected life of the financial instrument or a shorter period if that is appropriate. Fees that are not an integral part of the effective interest rate of a financial instrument and are accounted for in accordance with IFRS 15 include fees charged for servicing a loan, for example.

OP Financial Group incorporates the impact of expected credit losses in the estimated future cash flows when calculating the credit-adjusted effective interest rate for financial assets that are considered to be purchased or originated credit-impaired at initial recognition (POCI).

Interest revenue

Interest revenue has been calculated by applying the effective interest rate to the gross carrying amount of a financial asset except for:

a) purchased or originated credit-impaired financial assets. For those financial assets, OP Financial Group applies the credit-adjusted effective interest rate to the amortised cost of the financial asset from initial recognition
b) financial assets that are not purchased or originated credit-impaired financial assets but subsequently have become credit-impaired financial assets (or that are in stage 3). For those financial assets, the central cooperative consolidated applies the effective interest rate to the amortised cost of the financial asset (i.e. to the net carrying amount after the deduction of the expected credit loss).

7.2.2. Initial recognition and measurement

At initial recognition, the central cooperative consolidated measures a financial asset or financial liability at its fair value plus or minus, in the case of a financial asset or financial liability not at fair value through profit or loss, transaction costs that are incremental and directly attributable to the acquisition or issue of the financial asset or financial liability. Immediately after initial recognition, an expected credit loss allowance of a financial asset will be recognised if the financial asset is measured at amortised cost or at fair value through other comprehensive income. This results in accounting loss recognition for newly originated or newly purchased financial assets in the income statement.

7.3 Classification and subsequent measurement of financial assets

OP Financial Group classifies financial assets into the following categories:

- Fair value through profit or loss (FVTPL)
- Fair value through other comprehensive income (FVOCI)
- Carried at amortised cost.

7.3.1 Loans and notes and bonds

The classification and subsequent measurement of loans and notes and bonds depend on the following factors:

- OP Financial Group's business model for managing the financial assets
- The contractual cash flow characteristics of the financial asset.

On the basis of these factors, OP Financial Group classifies loans and notes and bonds into the following three measurement categories:

1) Financial assets measured at amortised cost are held within a business model whose objective is to hold financial assets in order to collect contractual cash flows that are solely payments of principal and interest on the principal amount outstanding. The financial asset's carrying amount is adjusted by any allowance for expected credit losses and interest revenue is recognised in interest revenue using the effective interest method.

2) Financial assets recognised at fair value through other comprehensive income are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets. In addition, the contractual terms of the financial asset specify cash flows occurring on specific dates which are solely payments of principal and interest on the principal amount outstanding. Changes in the fair value are recognised in the fair value reserve. Impairment gains or losses and foreign exchange gains or losses are recognised in profit or loss. When a financial asset is derecognised, the cumulative profit or loss in the fair value reserve is reclassified from equity to profit or loss in net investment income as a reclassification adjustment. Interest calculated using the effective interest method is recognised in interest revenue or net investment income (insurance company investments).

3) Financial assets measured at fair value through profit or loss are held for trading or if the financial asset does not meet the criteria for amortised cost or FVOCI. Gains and losses are recognised in net investment income. Interest income and expenses of held-for-trading notes and bonds and derivatives are presented in net investment income since.

Business model

A business model refers to how OP Financial Group manages its financial assets in order to generate cash flows. OP Financial Group's business model determines whether cash flows will result solely from collecting contractual cash flows or from collecting contractual cash flows and cash flows and by selling a financial asset, or whether the purpose is held for trading. Financial assets within the trading business model are measured through profit or loss. When assessing the business model, OP Financial Group takes account of future measures to achieve the objective of the business model. The assessment includes previous experience in collecting cash flows, how the performance of the business model and the financial assets held within that business model are evaluated and reported to the entity's key management personnel, how risks are managed and how managers of the business are compensated. For example, OP Financial Group holds home loans it has granted to collect contractual cash flows. They can be sold only in rare cases between OP Financial Group companies, for example, to guarantee covered bonds issued by OP Mortgage Bank or in a stress case liquidity crisis scenario. The objective of the business model of OP Financial Group's liquidity buffer is to collect contractual cash flows and to sell financial assets.

Change in the business model

Changes in the business model are expected rarely as a result of internal or external changes and they must be significant in terms of OP Financial Group's operations. OP Cooperative's Board of Directors decides on changes in the business model. The business model changes in case OP Financial Group acquires or transfers a business area or closes down it. The business model change is appropriately documented by the business unit concerned and is handled by Finance and Risk Management to determine the related accounting effects (incl. the effects on the ECL). The change of the objective of the entity's business model must be executed before the date of the reclassification.

The reclassification is applied prospectively from the reclassification date onwards. The reclassification date is the first date of the following reporting period, before which a decision on the reclassification has been made. Prior reporting periods are not adjusted retrospectively.

OP Financial Group's business model did not see any changes during 2021–2022.

The table below shows the effects of various reclassifications on accounting:

Initial measurement category	New measurement category	Accounting effect
Amortised cost	FVTPL	Fair value is determined on the reclassification date. Any gain or loss on the difference that may arise between a financial asset previously measured at amortised cost and the fair value is recognised through profit or loss.
FVTPL	Amortised cost	The fair value on the reclassification date becomes a new gross carrying amount. The effective interest rate is determined based on the fair value on the reclassification date.
Amortised cost	FVOCI	Any gain or loss on the difference that may arise between a financial asset previously measured at amortised cost and the fair value is recognised in other comprehensive income. The effective interest rate and the amount of expected credit losses are not adjusted as a result of the reclassification.
FVOCI	Amortised cost	The fair value on the reclassification date becomes a new amortised cost. A gain or loss previously recognised in other comprehensive income is, however, derecognised from equity and recognised to adjust the fair value of a financial asset on the reclassification date. The effective interest rate and the amount of expected credit losses are not adjusted as a result of the reclassification.
FVTPL	FVOCI	The fair value on the reclassification date becomes a new carrying amount. The effective interest rate is determined based on the fair value on the reclassification date.
FVOCI	FVTPL	The fair value on the reclassification date becomes a new carrying amount. A gain or loss previously recognised in other comprehensive income is transferred as an adjustment due to the reclassification from equity through profit or loss on the reclassification date.

Cash flow characteristics

When OP Financial Group's business model is other than trading, OP Financial Group assesses whether contractual cash flows are consistent with a basic lending arrangement. In the basic lending arrangement, contractual cash flows are solely payments or principal and interest on the principal amount outstanding (SPPI) where consideration for the time value of money, credit risk, lending risks and profit margin are typically the most significant elements of interest. The majority of OP Financial Group's financial assets are basic lending arrangements.

All loans to personal customers and some corporate customer loans granted by OP Financial Group contain the option for early repayment. The terms and conditions are, however, consistent with the basic lending arrangement because the prepayment amount substantially represents the contractual nominal amount and accrued (but unpaid) contractual interest, which may include reasonable additional compensation for the early termination of the contract.

OP Financial Group uses the SPPI Test solution to test the cash flow characteristics of notes and bonds. On the basis of its test result (pass/fail), the SPPI test is either passed or failed with no further reviews or OP Financial Group reviews the cash flow characteristics using its internal guidelines before the decision on classification (further review required as the result). The solution identifies various elements in contract terms that affect whether the SPPI definition is satisfied.

When contractual cash flows are exposed, for example, to change in stock prices or a borrower's financial result, this is no basic lending arrangement and such financial assets are measured at fair value through profit or loss. These are typically various mutual fund investments which do not fulfil the definition of equity in the issuer's financial statements under IAS 32.

Embedded derivatives included in financial assets are not separated from the host contract but they are considered in the overall assessment of contractual cash flows.

If OP Financial Group has to change its business model for managing financial assets, it may have to reclassify financial assets. The reclassification must be applied prospectively from the reclassification date. Such changes are expected to be very infrequent.

7.3.2 Equity instruments

Equity instruments are instruments that evidence a residual interest in the assets of a company after deducting all of its liabilities. These are typically stock investments.

Equity instruments are subsequently measured at fair value through profit or loss, except when OP Financial Group has made an irrevocable election at initial recognition for particular investments in equity instruments that would otherwise be measured at fair value through profit or loss to present subsequent changes in fair value in other comprehensive income. Such investments do not currently exist. Capital gains or losses on these investments are not recognised through profit or loss but their dividends are recognised in other operating income. Dividends of equity instruments held for trading are recognised in net investment income in the income statement.

7.3.3 Modification of contractual cash flows

Modifications in the contractual payment terms are made as a normal measure related to the management of customer relationship but also in situations where the customer's repayment capacity has deteriorated. The modification to the loan due to the customer's deteriorated repayment capacity is recognised as forbearance which typically, for example, means a moratorium for a limited time. Generally, in these cases, the contractual cash flows of a loan are renegotiated or otherwise modified and the renegotiation or modification does not result in the derecognition of that loan. In such a case, OP Financial Group recalculates the gross carrying amount of the loan and recognises a profit or loss on the modification in net interest income in the income statement. In addition, the loan's categorisation as forbearance transfers the loan to at least impairment stage 2 and falls within expected credit loss calculated for the entire period of validity for at least two years until the customer's repayment capacity has recovered.

Another precondition for the recovery is that after a probation period of at least two years:

- The customer has made regular and timely payments during at least half of the probation period, leading to the payment of a substantial aggregate amount of the principal or interest.
- None of the customer's exposures has been more than 30 days past due during the previous three months.

Payment modifications are subject to regular monitoring and reporting to the management as an indicator describing customers' solvency.

If modifications to the loan terms are significant or the loan is renegotiated, OP Financial Group derecognises the original loan and recognises the modified new loan in the balance sheet. The date of renegotiation is consequently considered to be the date of initial recognition for the impairment calculation purposes. This typically means measuring the loss allowance at an amount equal to 12-month expected credit losses. OP Financial Group uses internal rating to classify reasons for modifications and severity classes to monitor whether there has been evidence that the new loan recognised has deemed to be credit-impaired at initial recognition. Accordingly, it is recognised as an originated credit-impaired financial asset. This might occur, for example, in a situation in which there was a substantial modification of a distressed asset.

Otherwise, OP Financial Group derecognises financial assets when the contractual rights to the cash flows from the financial asset expire or it transfers the financial asset to another party and the transfer qualifies for derecognition.

7.3.4 Insurance companies' financial assets measured at fair value through profit or loss

A financial asset is measured at fair value through profit or loss unless it is measured at amortised cost or at fair value through other comprehensive income. OP Financial Group has designated financial assets as measured at fair value through profit or loss (fair value option) if doing so eliminates or reduces the so-called accounting mismatch in the measurement of financial assets and related financial liabilities.

Investments covering life-insurance unit-linked policies and those in the so-called separated balance sheets are designated investments as measured at fair value through profit or loss because the related insurance liability or investment contract liability is recognised at fair value through profit or loss.

7.3.5 Overlay approach

Equity instruments and mutual fund investments related to OP Financial Group's non-life and life insurance investment operations are classified as financial assets measured at fair value through profit or loss. OP Financial Group applies an overlay approach to a considerable proportion of these equity instruments, which will restore the profit/loss impact of these instruments to be aligned with IAS 39. These investments are treated as available-for-sale financial assets under IAS 39. Changes in the fair value of investments within the scope of the overlay approach are presented under the fair value reserve under shareholders' equity. The overlay approach is aimed at reconciling temporary earnings volatility resulting from the different dates of entry into force of IFRS 9 and IFRS 17 when investments are measured at fair value through profit or loss in accordance with IFRS 9 but the related insurance liability cannot yet be measured at fair value through profit or loss in accordance with IFRS 17. The Group stopped applying the overlay approach on 1 January 2023 when Insurance Contracts IFRS 17 became effective.

At the time of their acquisition, available-for-sale financial assets under IAS 39 are recognised at cost, which equals the fair value of the consideration paid plus transaction costs directly attributable to their acquisition. Available-for-sale financial assets are subsequently measured at fair value.

Any changes in their fair value are recognised in other comprehensive income, from where they are transferred to the income statement when the asset is derecognised or there is objective evidence that the asset is impaired. In the case of available-for-sale financial assets, a significant or prolonged decline in the equity instrument's fair value below its cost, constitutes objective evidence.

If a security's market value continues to fall following impairment recognition, the impairment loss will be recognised in the income statement. If the fair value of an impaired equity instrument increases subsequently, this increase will be recognised in other comprehensive income (Note 15. Overlay approach).

7.4 Impairment

Expected credit losses are calculated on all balance sheet items amortised at cost and those recognised at fair value through other comprehensive income (FVOCI) (instruments other than equity instruments) and on off-balance-sheet loan commitments and financial guarantee contracts (Note 37. Loss allowance regarding receivables and notes and bonds). Expected credit losses are recognised at each reporting date, reflecting:

1. an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes
2. the time value of money and
3. reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

7.4.1 Classification of contracts into three impairment stages

Contracts are classified into three stages. The different stages reflect credit deterioration since initial recognition.

- Stage 1: contracts whose credit risk has not increased significantly since initial recognition and for which a 12-month ECL is calculated.
- Stage 2: contracts whose credit risk has increased significantly since initial recognition and for which a lifetime ECL is calculated.
- Stage 3: Non-performing contracts for which a lifetime ECL is also calculated.

Definition of default

In the IFRS 9 based calculation, OP Financial Group applies the same definition of default as in internal credit risk models (IRB). OP Financial Group assesses default using its internal rating system based on payment behaviour. For personal customers, the definition of default is applied on a contract-by-contract basis whereas corporate customers are reviewed in terms of a group of connected clients. The customer is classified as a customer in default when the customer's repayment is considered unlikely, for example when the customer has registered payment default or it has been granted a forbearance in which the present value of the loan decreases by more than 1 per cent. Default extends to all credit obligations of an obligor in default among personal customers when a significant proportion (20 per cent) of personal customer exposures are defaulted. In addition, the contract is defaulted when a payment related to a financial asset is over 90 days past due, at the latest.

The customer's default ends when it no longer meets the criteria for the definition of default and the subsequent probation period of 6–12 months has ended.

The definition of default is based on Article 178 of Regulation (EU) No 575/2013 (CRR) of the European Parliament and of the Council and on the European Banking Authority's (EBA) guidelines on the application of the definition of default (EBA/GL/2016/07 and EBA/RTS/2016/06).

Definition of non-performing exposure

The definition of non-performing exposure includes the probation periods of non-performing forborne exposures, in addition to the exposures based on the definition of default used previously before they can be reclassified as performing. Non-performing exposure is defined in accordance with Article 47a of the Capital Requirements Regulation (EU) No. 575/2013. OP Financial Group uses non-performing exposures as the classification criterion for impairment stage 3.

In addition, originated credit-impaired contracts are always within the scope of the lifetime expected credit loss (POCI).

Significant increase in credit risk

The expected credit losses will be calculated for each contract for 12 months or lifetime, depending on whether the instrument's credit risk on the reporting date has increased significantly since initial recognition. Both qualitative and quantitative criteria are used to assess for each contract whether the credit risk has increased significantly. Forbearance and a comparable breach of covenant are regarded as a qualitative criterion for a significant increase in credit risk and thereby give rise to transfers to impairment stage 2.

OP Financial Group has included relative and absolute thresholds for the determination of significant quantitative increases in credit risk considering all relevant and supportable information.

A quantitative change is assessed based on the relative change in lifetime PD figures (PD curve). The original lifetime PD curve is calculated on the origination date of the loan taking account of macroeconomic factors. Next, the acceptable natural range of variation is determined for the limits within which the credit risk is not considered to increase significantly during the remaining maturity of the loan. The acceptable range has been modelled separately for personal and corporate customers. This yields a so-called threshold value curve. On each reporting date, the current lifetime PD curve is compared to the threshold value curve. If the threshold value is exceeded, the credit risk has increased significantly and a credit loss (calculated for the entire remaining maturity of the loan) is recognised. In addition to this limit of the relative change, a further requirement is that a rating grade has deteriorated since initial recognition so that shifting to the lifetime ECL calculation does not occur only on the basis of the passage of time. In addition, an absolute threshold is used for the weakest rating grades (E+, E, E-, 9.0, 9.5 and 10.0).

In addition to the aforementioned criteria, credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due.

In the assessment of a significant increase in credit risk, OP Financial Group has not applied a transitional rule on the assumption of low credit risk permitted by IFRS 9 to contracts, for which it is not possible without undue cost or effort, to calculate the original lifetime PDs.

OP Financial Group monitors regularly how effectively the abovementioned criteria perceive a significant increase in credit risk before contractual payments have been over 30 days past due and that the contracts do not generally move from impairment stage 1 directly to impairment stage 3, and performs the required calibrations to the calculation method of the relative change.

7.4.2 Measurement methods

Expected credit losses are mainly measured on a system basis using the PD/LGD method on a contract-specific basis for all personal and corporate customer exposures.
Additionally, the cash flow based ECL measurement method based on expert judgement is used for the largest corporate exposures in stage 3.

7.4.2.1 PD/LGD method

Expected credit losses are measured using modelled risk parameters with the formula probability of default (PD) x loss given default (LGD) x exposure at default (EAD) for majority of portfolios per contract and they reflect expectations of future credit losses at the reporting date. PD describes probability of default according to the definition of default described above. LGD describes the share of an asset if a borrower defaults. It is affected, for example, by the quantity and type of collateral securities and various financial guarantees. EAD describes the exposure amount at default, including exposure in the balance sheet (capital and accrued interest) and expected use of off-balance-sheet items at default.

The ECL calculation is based on three different scenarios. Risk parameters PD, LGD and EAD are calculated for yearly time buckets in each scenario. Yearly ECL figures are discounted to the reporting date and a probability-weighted ECL is calculated from the figures of different scenarios. The contract's effective interest or its estimate is used as the discount factor. The contract's maximum residual term to maturity is limited to 30 years in the calculation.

The lifetime probability of default (lifetime PD) models for a contract have been prepared separately for personal and corporate customers. The PD models are substantially affected by the contract's credit rating, loan age (personal customers) as well as the model's sub-segment, which is determined for corporate customers on the basis the rating model and for personal customers on the basis of the product type. In addition, PD estimates are dependent on macroeconomic factors and their forecasts in each scenario. Change in GDP and real interest rates are used as macroeconomic explanatory factors in the lifetime PD model for corporate exposures. In the lifetime PD model for personal customers, the macroeconomic factors have been divided by segment and a GDP change and the 12-month Euribor are used, for example, in home loans, where the effects of GDP and inflation have been deducted. The variables in revolving credit facilities include change in GDP and the real 3-month Euribor.

The lifetime LGD consists of the following three components: 1) cure rate, 2) collateral return and 3) non-collateral return. The values of the components depend fundamentally on a product type, industry (companies), collateral type and the time how long the contract has been in default.

The lifetime LGD consists of the following three components:

1. cure rate
2. collateral return and
3. non-collateral return.

The cure rate in personal customer exposures has been estimated at a product category level, whereas estimates concerning corporate customer exposures are industry-specific. The collateral return describes how much of the cash flows received from collateral securities covers the remaining amount of exposure. The collateral return is calculated by means of a lower-than-market value of collateral (haircut). The lower-than-market values have been estimated by comparing the realisation values of collateral by type of collateral in relation to the fair value of collateral, also considering the direct expenses incurred due to collateral repossession and sale. Finally, a margin of conservatism has been added to the lower-than-market-value estimates because of uncertainties associated with collateral data and estimation. The non-collateral return describes cash flows that have been estimated for the remaining exposure amount at product category level, which the collateral return does not cover.

The estimates for the non-collateral return and the cure rate for impairment stage 3 time-dependent so that they will decrease if the period of default or debt collection increases.

The macroeconomic factors and their forecasts affect the first two components.

The lifetime exposure at default (lifetime EAD) for a contract is based on contractual cash flows, utilisation rate, prepayment rate and maturity model, depending on the product type.

Determining the period of a contract

The period of a contract for promissory notes is a contractual maturity that takes account of repayments under the payment terms. The prepayment model applies to secured promissory notes (excl. default). It does not reduce the contractual maturity but is taken into account as part of the contract's EAD.

Revolving credit facilities (such as credit cards) are contracts valid until further notice and an expected maturity has been modelled for them. The modelled maturity depends on the product type and rating grade, averaging some 13 years.

Forward-looking information

The calculation model includes forward-looking information and macroeconomic scenarios. OP Financial Group's economists update macroeconomic scenarios on a quarterly basis and the scenarios are the same that OP Financial Group uses otherwise in its financial planning. Macroeconomic scenarios span 2–3 years of the baseline economic scenarios. After that, the scenario converges towards an economic balance in the long term. In the long-term balance, GDP and some of other variables are calculated using production function methodology. Alternative scenarios around the baseline are defined using the autoregressive model where the paths of each variable with desired probabilities are solved from the joint probability distribution of variables. The probability distribution of the variables is based on economic shocks observed in history and on correlations between the variables. The forecast errors in OP Financial Group's economic forecast are also taken into account in defining alternative scenarios. Three scenarios are used: baseline, upside and downside. The macroeconomic factors used are GDP growth rate, unemployment rate, investment growth rate, inflation rate, change in income level, 12-month Euribor and real 3-month Euribor. In addition, the house price index is used in LGD models.

Preparing macroeconomic forecasts and projecting them into the future up to 30 years involves a large amount of uncertainty, which is why actual results may differ significantly from the forecasts. OP Financial Group has analysed that the relationship of the change in the components of risk parameters and macroeconomic factors used in the ECL calculation is not linear. Accordingly, the macroeconomic forecasts represent OP Financial Group's best view of potential scenarios and outcomes.

Macroeconomic forecasts and ESG

Macroeconomic scenarios take account of impacts from climate change, the related change in the economy and adjustment on the economy. An assessment of economic impacts has been made in calculating macroeconomic scenarios where the use of fossil energy is reduced, so that carbon neutrality will be achieved by 2035. In this scenario, the Finnish GDP growth rate is an average of 0.3 percentage points slower for many years than in the baseline scenario. However, the calculation may overestimate the slowing down of the economy if the economic adjustment capacity proves to be better than usual. For this reason, the negative effect is included in a weaker scenario.

Estimates of the economic impacts resulting from climate change will be specified as new research data on the impacts becomes available that can be applied to the scenario calculations for the period they cover.

7.4.2.2 Cash flow based ECL method based on customer-specific expert assessment

The target group of customers subject to the expert ECL testing method are R-rated corporate counterparties on the watch list, whose exposures have, in general, been moved to Stage 2 or 3 of ECL calculation. Such expert judgement is performed in connection with a rating or credit decision.

The forward-looking information used in the calculation is part of the credit rating assessment and rating proposal by a credit analyst that cover developments in business, markets, competitive situation and the forecast cash flow. The calculation also takes account of the scenarios describing the effect of macroeconomic variables (upside, baseline and downside), on the basis of which the customer's weighted expected credit loss is calculated. The scenarios used in the PD/LGD model are utilised in the determination of the scenarios.

When the customer included in the ECL measurement based on the customer-specific expert judgement does no longer meet the criteria for default and has been identified and classified as a 'performing' obligor, it is excluded from this method and returns to be included in the ECL measurement based on the normal PD/LGD model.

7.4.3 Impairment of notes and bonds

The expected loss on notes and bonds recognised through other comprehensive income is recognised through profit or loss and to adjust the fair value reserve.

OP Financial Group uses a model in the calculation of the expected credit loss on notes and bonds that is based on credit rating information.

In the model, credit ratings are sought for purchase lots on the purchase date and the reporting date, and they are converted into PD figures. OP Financial Group primarily uses the averages of external credit ratings and secondarily internal credit ratings, in case no external credit ratings exist.

The PDs correspond to the actual historical default rates by credit rating for each period from the date of issuing the credit rating. The historical data, for which the determined equivalence is based on, is comprehensive and on a long-term basis. The LGDs also correspond to the studied historical actuals by investment class/insurance line (seniority, covered bond status) and these are not separately assessed for each issuer or investment. Because external credit ratings measure total credit risk (ECL), not PD, the LDG in these cases affect only the division of the ECL between PD and LGD components.

7.4.3.1 Classification of notes and bonds into impairment stages

Investments whose 12-month PD has doubled in such a way that the change is at least 0.2 percentage points, an investment is subject to forbearance measures or its payments are over 30 days past due are transferred to stage 2. Investments related to an issuer in default are classified into stage 3 if its payments are over 90 days past due or if the customer is a default customer.

7.4.4 Impairment of off-balance-sheet items

Several products provided by OP Financial Group include a limit, credit facility or another off-balance-sheet loan commitment as a standard feature or a feature in some stage of the product lifecycle. For example, revolving credit facilities, such as credit cards and accounts with credit facility, include both a loan and an undrawn commitment component. Moreover, OP Financial Group is an issuer in various guarantee contracts, such as financial guarantees and other commercial guarantees or guarantees given to authorities, to all of which IFRS 9 impairment rules apply. For loan commitments and financial guarantee contracts, the date that OP Financial Group becomes a party to the irrevocable commitment shall be considered to be the date of initial recognition for the purposes of applying the impairment requirements. Accordingly, only OP Financial Group's binding items are taken into account in the calculation of expected credit losses.

The expected credit loss is calculated for these items using the same principles as for loans. Likewise, increases in significant credit risk are assessed on the same grounds. The Group models EAD for such products that forecasts exposure at default. It includes both the utilisation rate and credit conversion factor. In addition, a maturity model is applied to contracts valid until further notice. The model takes account of cases where OP Financial Group has a contractual ability to demand repayment and cancel the undrawn commitment but it does not limit the Group's exposure to credit losses during the contractual notice period.

7.4.5 Recognition of expected credit losses

OP Financial Group mainly recognises a loss allowance for expected credit losses on a loan at carrying amount in a separate account. For loan commitments and financial guarantee contracts the loss allowance is recognised as a provision. For products that include both a loan (i.e. financial asset) and an undrawn commitment (i.e. loan commitment) component and OP Financial Group cannot separately identify the expected credit losses on the loan commitment component from those on the financial asset component, the expected credit losses on the loan commitment are recognised together with the loss allowance for the financial asset.

7.4.6 Extra impairment provisions based on management judgement (management overlay)

In unusual situations (for example, rapidly escalated global crises, such as a pandemic or war), OP Financial Group may make an ECL provision based on management judgement. The provision is temporary and remains valid as long as risk parameters used in ECL calculation have been updated to describe the changed situation. Strict monitoring criteria are applied to the extra impairment provisions made based on management judgement and they are quarterly reported to Group Executive Management.

7.4.7 Write-off

A write-off constitutes a derecognition event. When OP Financial Group has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof, the final credit loss is recognised to directly reduces the gross carrying amount of the financial asset.

A loan is derecognised when collateral securities have been realised or when the final meeting of the bankruptcy estate has been held, debt rescheduling or financial restructuring has come to an end or when collection measures have ended. Since 2022, OP Financial Group has partially written off the amount not received already when the payment plan of the debt rescheduling or financial restructuring has been confirmed and the loan has no other parties or realisable assets. Payments received after the derecognition are recognised as an adjustment to impairment losses on receivables.

7.5 Cash and cash equivalents

Cash and cash equivalents consist of cash and receivables from credit institutions repayable on demand Frevoked(Note 17. Cash and cash equivalents).

7.6 Classification and subsequent measurement of financial liabilities

Financial liabilities comprise deposits and other liabilities to credit institutions and customers, debt securities issued to the public and other financial liabilities.

Financial liabilities are classified at amortised cost using the effective interest method, except for derivative liabilities measured at fair value through profit or loss. In addition, investment contracts with no entitlement to discretionary participation feature issued by insurance companies are designated as measured at fair value through profit or loss. Liabilities held for trading also include obligations to deliver securities to the counterparty which have been sold but which are not owned at the time of selling (short selling).

Upon initial recognition, OP Financial Group has not designated financial liabilities as measured at fair value through profit or loss.

The Group derecognises a financial liability (or a part of a financial liability) when it is extinguished – i.e. when the obligation specified in the contract is discharged or cancelled or expires.

An exchange between OP Financial Group and original lenders of financial liabilities with substantially different terms must be accounted for as an extinguishment of the original financial liability. In such a case, any costs or fees incurred are recognised as part of the gain or loss on the extinguishment. If the exchange or modification is not accounted for as an extinguishment, the amortised cost of the modified financial liability will be recalculated by discounting the modified contractual cash flows using the original effective interest rate. Changes in the amortised cost of the financial liability is recognised through profit or loss. Costs or fees incurred adjust the carrying amount of the liability and are amortised over the remaining term of the modified liability. OP Financial Group has not made any exchanges of financial liabilities for the existing financial liabilities.

7.7 Netting

Financial assets and liabilities are offset in the balance sheet if OP Financial Group currently has a legally enforceable right of set-off in the normal course of business and in the event of default, insolvency or bankruptcy, and intends to settle the asset and liability on a net basis (Note 44. Financial assets and liabilities offset in the balance sheet or subject to enforceable master netting arrangements or similar agreements).

7.8 Derivative contracts

Derivative contracts are classified as hedging derivative contracts and derivative contracts held for trading. They include interest rate, currency, equity, commodity and credit derivatives. Derivatives are measured at fair value at all times (Note 19. Derivative contracts).

Standardised OTC derivative transactions entered into with financial counterparties are cleared in London Clearing House, in accordance with the EMIR regulation (EU 648/2012). In the model used, the central counterparty (CCP) will become the derivatives counterparty at the end of the daily clearing process. Depending on the clearing broker, the settled-to-market (STM) or collateralised-to-market (CTM) practice is used as the settlement model. In both models, daily payments of derivatives are offset with the central counterparty. In addition, the fair value change of derivatives (variation margin) is either paid or received in cash. In the STM model, the daily payment is determined on a contractual basis as final payment and part of the derivative contract's cash flows. The daily payment is recognised as a fair value change through profit or loss. In such a case, the derivative contract involves no fair value change other than the valuation difference between OP and the CCP. The difference is recognised in derivative assets or derivative liabilities (Sum of net liability positions) in the balance sheet. The CTM model differs from the STM model in such way that the daily payment has not on a contractual basis defined as the final payment but as collateral. It is, however, offset with the fair value of the derivative in the balance sheet. Other derivatives are presented in the balance sheet on a gross basis, in which case positive value changes are presented as derivative contracts under assets and negative value changes as derivative contracts under liabilities.

7.8.1 Hedging derivatives

OP Financial Group has prepared methods and internal principles used for hedge accounting, whereby a financial instrument can be defined as a hedging instrument. In accordance with the hedging principles, OP Financial Group can hedge against interest rate risk, currency risk and price risk by applying fair value hedge or cash flow hedge. Fair value hedging refers to hedging against changes in the fair value of the hedged asset, and cash flow hedging to hedging against changes in future cash flows. In OP Financial Group, the hedgeable risk categories are fair value and cash flow interest rate risks and currency risk.

Contracts are not accounted for according to the rules of hedge accounting if the hedging relationship between the hedging instrument and the related hedged item, as required by IAS 39, does not meet the criteria of the standard. OP Financial Group also concludes derivative contracts which are in fact used to hedge against financial risks but which do not fulfil these criteria.

Hedge accounting will be discontinued prospectively if the hedging instrument expires, is sold, terminated or exercised or hedging no longer fulfils the criteria set for the application of hedge accounting or its designation as a hedge is revoked. For this purpose, the replacement or rollover of a hedging instrument into another hedging instrument is not an expiration or termination if such a replacement or rollover is part of the entity's documented hedging strategy. Additionally, for this purpose there is not an expiration or termination of the hedging instrument if as a consequence of laws or regulations or the introduction of laws or regulations, the parties to the hedging instrument agree that one or more clearing counterparties replace their original counterparty to become the new counterparty to each of the parties. For this purpose, a clearing counterparty is an entity that acts as a counterparty in order to effect clearing by a central counterparty.

7.8.2 Derivatives held for trading

The difference between interest received and paid on interest rate swaps held for trading is recorded in Net investment income in the income statement and the corresponding interest carried forward is recognised in derivative contracts in the balance sheet. Changes in the fair value of Derivatives held for trading are recorded under Net investment income in the income statement. Derivatives are carried as assets under Derivative contracts when their fair value is positive and as liabilities under Derivative contracts when their fair value is negative.

7.9 Hedge accounting

Hedge accounting is used to verify that changes in the fair value of a hedging instrument or cash flows fully or partially offset the corresponding changes of a hedged item. Details of life insurance hedging can be found in section 13.3.2 relationship between hedging and hedged instruments is formally documented, The documentation contains information on the Risk Appetite Framework, hedging strategy and the methods used to demonstrate hedge effectiveness. Hedge effectiveness is tested at the inception of the hedge and in subsequent periods by comparing respective changes in the fair value or cash flows of the hedging instrument and the hedged item. The hedge is considered effective if the change in the fair value of the hedging instrument or in cash flows offsets the change in the fair value of the hedged contract or portfolio or in cash flows within a range of 80–125%.

Due, however, to the Interest Rate Benchmark Reform, if the real result of the retrospective effectiveness test is outside of the limits concerned, the central cooperative consolidated assesses whether hedge accounting can continue or be discontinued. This includes that hedging is still expected to be prospectively effective and the hedging relationship effectiveness can be calculated reliably. When assessing proactive effectiveness testing whether hedge is still highly probable, the reference rate will not be changed due to the Interest Rate Benchmark Reform. The effectiveness test also involves assessing any potential effects of market participants following the Reform on OP Financial Group's hedging relationship. OP Financial Group will stop applying the changes to hedging relationship effectiveness tests when uncertainty due to the Interest Rate Benchmark Reform ceases to affect cash flows based on reference rate of a hedged item or hedging derivative or when the hedging relationship ceases to exist. OP Financial Group applies hedge accounting based on IAS 39 and the related changes caused by the Interest Rate Benchmark Reform.

OP Financial Group has a Reference Interest Rate Committee tasked with monitoring the progress of the Interest rate Benchmark Reform and its effects on OP Financial Group and reporting the progress to the management on a regular basis. OP Financial Group has made a business continuity plan required by the Benchmarks Regulation that determines a substitute rate for contracts if the reference rates now used were no longer available and where the existing contract terms by product are identified and the effects on different parts of business are assessed. OP Financial Group will adopt reformed reference rates in new contracts, based on market practice. When it comes to the old portfolio of contracts, the changes will be implemented by adopting practices applied in the market to replace IBORs.

7.9.1 Fair value hedges

Fair value hedging against interest rate risk involves long-term fixed-rate debt instruments (such as central bank debt, own issues and certain term deposit issues), individual bond and loan portfolios, as well as individual loans. OP Financial Group applies a fair-value portfolio hedging model based on the EU carve-out version to hedging against interest rate risk involved in the derivative clause of certain loans, demand deposit current and savings accounts with an interest rate cap or a fixed interest rate. For these hedging relationships, the prepayment option related to the hedged item causes ineffectiveness only rarely. OP Financial Group uses interest rate options, forward exchange contracts and interest rate and currency swaps (OTC swaps) as hedging instruments. Hedging against foreign currency risk applies to non-life insurance's and life insurance's foreign currency investments.

For derivative contracts which are documented as fair value hedges and which provide effective hedges, the changes in the fair value are recognised in the income statement. Hedged assets and liabilities are also measured at fair value during the period for which the hedge is designated, and any fair value changes are recognised through profit or loss.

In fair value hedge accounting, changes in the fair value of the hedging instrument and the hedged item are recorded in banking in the income statement under Net interest income and Net investment income. These are recorded in net investment income in Non-life Insurance and Life Insurance. Any ineffectiveness that may arise from a hedge relationship may be caused by the timing differences between the cash flows of the hedging instrument and the hedged item, and it is correspondingly recognised in the abovementioned items.

When discontinuing hedge accounting, the carrying amount adjustment to fair value of the hedged financial instrument due to the risk to be hedged, to which the effective interest method applies, must be amortised to profit or loss by the financial instrument's maturity date. The adjustment is amortised based on a recalculated effective interest rate or using the straight-line method in portfolio hedges. However, if the hedged item during the discontinuance of hedging is derecognised, the fair value adjustment will also immediately be recognised in profit or loss.

The calculation principles of the Euribor changed during 2019. In July 2019, the Financial Services and Markets Authority (FSMA) of Belgium granted authorisation related to the Euribor by virtue of the European Union Benchmark Regulation. This made it possible for the market participants to continue using the Euribor after 1 January 2020, covering both the existing and new contracts. OP Financial Group expects that the Euribor will remain the reference interest rate in the future too because the Euribor panel could have been reinforced. The European Money Market Institute (EMMI), the administrator of the Euribor rate, began to publish the forward-looking €STR derivative market EFTERM rate (Euro Forward-looking term rate) during Q4/2022 for use as a replacement rate. The EONIA rate (Euro Over Night Index Average) ceased to exist on 3 January 2022, replaced by the €STR published by the ECB.

7.9.2 Cash flow hedges

A cash flow hedge is a hedge of the exposure to the variability attributable to a particular risk associated with variable-rate debt or other variable-rate assets and liabilities. In addition, cash flow hedges are used to hedge the future interest flows of the loan portfolio defined on the basis of reference interest rate linkage. Interest rate swaps are mainly used as hedging instruments.

Derivative contracts which are documented as cash flow hedges and provide effective hedges are measured at fair value. The effective portion of changes in the fair value of the hedging instrument is recognised in other comprehensive income. Any ineffectiveness that may arise from a hedge relationship may be caused by the timing differences between the cash flows of the hedging instrument and the hedged item, and it is recognised in net interest income in the income statement. Fair value changes recognised in equity are included in the income statement in the period when hedged items affect net income. If the hedged cash flows are no longer expected to occur, the fair value changes from the hedging instrument are transferred from equity as an adjustment due to reclassification to profit or loss. In respect of revoked hedge designations, if the hedged cash flows are still expected to occur, accrued fair value changes will remain in equity as a separate item until the hedged cash flows affect the income statement if cash flows are expected to affect several reporting periods, the accrued amount will be amortised using the straight-line method.

OP Financial Group has assessed to what extent cash flow hedges are dependent on the uncertainty associated with the Interest Rate Benchmark Reform on the reporting date. Hedged items and hedging derivatives continue indexing in respect of the reference interest rate that is not changed and whose quotations continue on a daily basis and whose cash flows are changed between counterparties as before. Using the USD LIBOR rate will cease in June 2023 and will be replaced with a new reference interest rate. The transition still involves uncertainty that may later affect the hedging relationship effectiveness or the assessment of the highly probable term. In respect of cash flow hedges, OP Financial Group does not see that the Reform would cause any uncertainty with timing or Euribor cash flows on the reporting date of 31 December 2022. OP Financial Group is prepared for the cessation of the USD LIBOR rate so that new USD LIBOR-linked contracts will not be entered into. OP Financial Group has a minor amount of USD LIBOR-linked balance sheet items and will replace the USD LIBOR contracts with new reference interest rates. Operating in the derivatives market after the end of use of the USD LIBOR will be based on market practice.

8. Investment property

Investment property is land and/or buildings or part thereof held to earn rental income or for capital appreciation. Property, a minor part of which is used by the owner company or its personnel, is also accounted for as investment property. However, a part of property used by the owner company or its personnel is not accounted for as investment property if the part can be sold separately. Investment property is shown as investment assets in OP Financial Group's balance sheet (Note 21. Investment assets).

Investment property is initially recognised at cost which includes transaction costs. It is subsequently carried at fair value. Investment property under construction is also measured at fair value only if the fair value can be determined reliably. Any changes in fair value are recognised in net income from investment property under net investment income.

If no comparable market data is available on the actual transaction prices of the property comparable with the property under review, OP Financial Group uses the income approach and internal methods based on property-specific net income to determine the fair value of commercial, office and industrial premises. OP Financial Group uses both its internal and external information in the income approach. A property's net income comprises the difference between rental income and maintenance charges and is based on income under current leases or, if no lease is in force, on average market rents. Expenses deducted from income are mainly based on actual expenses. Assumption of underutilisation of the property is also taken into account in the calculation. For the income approach, OP Financial Group obtains information on market rental and cost levels from sources outside the Group, in addition to its own expertise. The return requirements for investment property holdings are determined on the basis of the property's purpose of use, location and condition/modernness and are based on market data provided by an external expert.

The fair value of residential buildings and land areas is primarily determined using the market approach, based on information on the actual transaction prices of similar properties and on OP Financial Group's internal expertise. In the fair value of undeveloped plots, the Group has taken account of the planning and market situation at the time of appraisal. The fair value of major property holdings is based on valuation reports drawn up by Authorised Property Valuers. External valuers use a cash flow analysis as the basis for their appraisal (Note 41. Recurring fair value measurements by valuation technique).

9. Intangible assets

Goodwill, brands, acquired insurance portfolios, customer relationships, information systems and other intangible assets are presented in the intangible assets group on the balance sheet (Note 24. Intangible assets). Section 10.1 Impairment of PPE and intangible assets describes impairment of intangible assets.

9.1 Goodwill

For business combinations, OP Financial Group measures the resulting goodwill as the fair value of the consideration transferred including the recognised amount of any non-controlling interest in the acquiree and the previous holding exceed OP Financial Group's share of the fair value of the acquired assets and assumed liabilities.

For acquisitions before the effective date of the current IFRS 3, goodwill represents at the time of acquisition the excess of the cost of an acquisition over the fair value of OP Financial Group's share of the net identifiable assets, liabilities and contingent liabilities of an acquiree.

Goodwill is carried at cost less accumulated impairment losses. For the purpose of impairment testing, goodwill is allocated to cash-generating units (CGU), which are business segments, entities belonging to them or their internal business divisions. From the time of acquisition, goodwill is allocated to those CGUs or groups generating cash flow that are expected to benefit from synergies arising from the combination of businesses, and also to the lowest level with which goodwill is monitored for the purpose of internal management. If OP Financial Group reorganises its internal reporting structure, goodwill is allocated to the CGUs subject to such reorganisation in proportion to their fair values or on the basis of another method, which would better reflect goodwill related to the transferred business.

9.2 Testing goodwill for impairment

The cash-generating unit (CGU) to which goodwill has been allocated is subject to an annual impairment test or whenever there is any indication of the lowered goodwill of the unit. The value of the CGUs of OP Financial Group was, for the goodwill testing, determined by the Excess Returns method. Accordingly, the return on equity capital is deducted from the recoverable amount for the current and future financial periods. Excess/negative return is discounted by a discount rate corresponding to the return rate on equity capital in order to determine the present value of cash flows.

Forecasts used in cash flow statements are based on the cash flow expected for the next five years and on the terminal value of the testing unit that are discounted to present value. Cash flow forecasts derive from the strategy process based on the guidelines for OP Financial Group's development confirmed by the Supervisory Council of OP Cooperative and the related derived expectations of the future development of businesses.

Impairment loss on goodwill may not be reversed under any circumstances.

9.3 Value of acquired insurance portfolio

An intangible asset corresponding to the value of an acquired insurance portfolio is recognised if the insurance portfolio is acquired directly from another insurance company or through the acquisition of a subsidiary. The fair value of acquired insurance contracts is determined by estimating the present value of future cash flows on the basis of the insurance portfolio on the date of acquisition. Upon initial recognition, the fair value of acquired insurance contracts is divided into two parts: a liability associated with insurance contracts measured in accordance with the applicable principles on the acquisition date, and an intangible asset. Subsequent to the acquisition, the intangible asset is amortised, depending on the business, either on a front-loaded basis or on a straight-line basis over the estimated effective lives of the acquired contracts. The effective lives are reviewed annually and the value is amortised over 1–4 years for non-life insurance and 10–15 years for life insurance. An intangible asset is tested annually for impairment in connection with testing the adequacy of the liability associated with insurance contracts.

9.4 Customer relationships

Identifiable customer relationships acquired through business combinations are measured at fair value upon acquisition. This intangible asset arising from customer relationships is amortised on a straight-line basis over the asset's estimated useful life. The estimated useful life of OP Financial Group's acquired customer relationships is 5–15 years.

9.5 Brands

Identifiable brands acquired through business combinations are measured at fair value upon acquisition. The estimated useful lives of brands are estimated to be indefinite since they will generate cash flows for an indefinable period. These will not be amortised. OP Financial Group's brands originate entirely from the acquisition of Pohjola Group plc's business operations. Impairment testing was carried out separately for the Pohjola and A-Vakuutus (A-Insurance) brands, in accordance with IAS 36.

The value of brands is tested annually for impairment. The value of the brands was determined by using a method where their value was determined to be royalty savings accrued in the future from owning the brands, discounted to the present. The discount rate used in testing brands is the market-based equity cost defined for the non-life insurance business plus an asset-specific risk premium or 3%. The testing period of the brands has been determined to be five years under IAS 36.

9.6 Information systems

Information systems are measured at cost less amortisation and any impairment losses. In general, computer software and licences are amortised over 4 years and other intangible assets over 5 years.

The development costs of internally generated information systems are capitalised from the time when they can be determined reliably, completing the asset is technically feasible and the asset can be used or sold and it has been demonstrated that the software will generate future economic benefit. The capitalised expenditure includes, for example, licence fees, purchased services, other external costs related to projects and inhouse work. The asset will be amortised from the time it is ready for use. An asset that is not yet ready for use is assessed annually for impairment. Research costs are recognised as expenses for the financial year. Information systems are written off from accounting when they gone out of use. Acquisition costs of information systems in Note 24. Intangible assets contain only those assets whose acquisition costs have not yet fully recognised as amortisation expense.

9.7. Cloud computing arrangements

In cloud computing arrangements, in other words Software as a Service (SaaS) or Infrastructure as a Service (IaaS), the software vendor has partial or full control over the software or service concerned, and OP Financial Group does not capitalise fees for software or services controlled by the vendor as intangible assets.

The development costs of a cloud computing arrangement, before its implementation, are recognised in prepayments under other assets. The amount capitalised in prepayments constitutes costs related to the implementation project and customisation that are performed by the service provider before the service provider is able to produce the service for OP Financial Group. Costs capitalised in prepayments are an integral part of the service and they are not separable from the service itself. Prepayment costs are spread over the contract period from the date when the service is ready for use.

10. Property, plant and equipment

Property, plant and equipment (PPE) assets are carried at cost less accumulated depreciation and any impairment losses. These assets are depreciated on a straight-line basis over their estimated useful lives. Land is not subject to depreciation. Subsequent expenditures are capitalised at the asset's carrying amount only if it is probable that the asset will generate greater economic benefits than initially estimated (Note 25. Property, plant and equipment).

The estimated useful lives are mainly as follows:

Buildings	20–50 years
Emergency power units and generators	15 years
Machinery and equipment	3–10 years
ICT hardware	3–5 years
Cars	2–6 years
Other PPE assets	3–10 years

The assets' residual value and useful lives are reviewed on each balance sheet date and adjusted as appropriate if expectations differ from previous estimates with respect to economic benefits. PPE assets are written off from accounting when they have gone out of use.

10.1 Impairment of PPE and intangible assets

On each balance sheet date, OP Financial Group assesses whether there is any indication of an asset's impairment. If such indication exists, the amount recoverable from the asset will be estimated. Regardless of the existence of such indication, the recoverable amount is estimated for assets not yet available for use, goodwill and intangible assets with indefinite useful lives (brands). An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its future recoverable amount.

The recoverable amount is the higher of an asset's fair value less costs to sell (net selling price) or value in use. The recoverable amount is primarily determined on the basis of the asset's net selling price, but if this is not possible, the asset's value in use must be determined. The asset's value in use equals the present value of future cash flows expected to be recoverable from the asset. The discount rate used is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the asset. The need for impairment of the annually tested assets stated above is always determined on the basis of value-in-use calculations.

If the asset's net selling price cannot be determined and the asset does not generate cash flows independent of other assets, the need for impairment will be determined through the cash-generating unit, or the business segment or its company, to which the asset belongs. In such a case, the carrying amounts of the unit's assets are compared with the entire unit's recoverable amounts.

An impairment loss is reversed if there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. The increased carrying amount of the asset may not exceed the carrying amount of the asset that would have been determined had no impairment loss been previously recognised.

In respect of property in own use, OP Financial Group assesses as part of the financial statements whether there is any indication of an impaired property. Such indication includes a significant reduction in the market value and evidence of non-marketability or physical damage.

11. Leases

At the inception of the lease, OP Financial Group assesses whether the contract concerned is a lease or contains a lease. It is the question of a lease treated under IFRS 16 if the following conditions are fulfilled in all respects:

- The contract is based on control over an identified asset in such a way that OP Financial Group companies or its employees have the right to decide on the use of the asset throughout the lease period when OP Financial Group is the lessee and the customer and its Group companies have decision-making powers related to the use of the asset when OP Financial Group is the lessor.
- The contract includes rights and obligations and related payments.
- The asset identified in the contract is used only by OP Financial Group companies or employees when OP Financial Group is the lessee, and by the customer or its Group companies when OP Financial Group is the lessor.

11.1 Recognition of assets leased out

On the date of inception, OP Financial Group classifies leased assets as finance leases or operating leases depending on the substance of the transaction. A lease is classified as a finance lease if it transfers substantially all the risks and rewards incident to ownership to the lessee. All other leases are classified as operating leases. Lease classification is performed at the inception of the lease.

Assets leased out under finance lease are recorded as receivables from customers in the balance sheet. The asset is recognised to the amount equal to the net investment in the lease. Finance income from the lease is recognised in interest income based on a pattern reflecting a constant periodic rate of return on the lessor's net investment outstanding in respect of the finance lease.

Assets leased out under operating lease are shown under property, plant and equipment and are depreciated on a straight-line basis over the lease term. Lease income is presented under other operating income and is recognised on straight-line basis over the lease term. The fixed duration specified in the contract is determined as the lease term in the leased contracts that may not be extended or terminated without a good reason or sanction.

11.2 Recognition of leased right-of-use assets

Leased right-of-use assets are presented in PPE assets and are mainly derecognised during the lease term. The corresponding lease liability is presented in other liabilities and the related interest expenses are presented in net interest income. Service charges related to leases, which are separated from the lease amount, are presented in other operating expenses. Separating the service charge is performed by right-of-use asset class.

For leased contracts, OP Financial Group defines the lease term as follows:

- a fixed term that cannot be extended or terminated without any good reason or sanction or
- based on management judgement, for a maximum of three years when it is the question of a property lease until further notice to which a mutual notice period applies. If the lease is fixed at first and is renewed to be valid until further notice as described above, the lease term is a combination of these. When such a lease has been terminated, the notice period is defined as the lease term. When determining the lease term, OP Financial Group assesses that it is reasonably certain that the lessee stays on the premises longer because the property based on the lease has a central location and no substitutive property is necessarily available.
- the lessor's notice period if it is the question of a lease other than a property lease until further notice to which a mutual notice period applies. The lease term will always be renewed with a new notice period after the end of the notice period unless the lease has been terminated. When determining the lease term, OP Financial Group assesses that it is reasonably certain that leases have been concluded for a longer time because terminating and renewing such leases would not be profitable or
- The useful life of the leased property if it is shorter than the lease terms defined in a matter mentioned above.

In calculating lease liability, OP Financial Group usually uses the incremental borrowing rate of the lessor. The interest rate quoted by the OP Financial Group Treasury is used as the incremental borrowing rate that Treasury uses to lend OP cooperative banks and OP Financial Group's subsidiaries.

OP Financial Group applies entry concessions allowed for lessees. Expenses of low-value and short-term leases for the financial year are recognised in other operating expenses. These leases include laptops, mobile phones and smaller devices and devices and machines leased on a one-time basis.

OP Financial Group applies IAS 36 Impairment of assets to determine whether the right-of-use asset concerned has impaired. On every day at the end of the reporting period, OP Financial Group assesses whether there is any indication of impairment of an asset. If there is such indication, OP Financial Group will assess the asset's recoverable amount. An asset has impaired when its carrying amount exceeds its recoverable amount.

OP Financial Group's leased contracts are mainly those related to premises, company cars and safety devices (Note 26. Leases).

12. Employee benefits

12.1 Pension benefits

Statutory pension cover for OP Financial Group companies' employees is arranged by Ilmarinen Mutual Pension Insurance Company. Some OP Financial Group companies provide their employees with supplementary pension cover through OP Bank Group Pension Foundation or an insurance company.

Pension plans managed by Ilmarinen Mutual Pension Insurance Company are defined contribution plans. Pension plans managed by insurance companies may be either defined benefit or defined contribution plans. All of the plans managed by OP Bank Group Pension Foundation are defined benefit plans.

Expenses arising from pension plans are recognised under 'Personnel costs' in the income statement. Contributions under defined contribution plans are paid to the insurance company and charged to expenses for the financial year to which they relate. No other payment obligations are included in defined contribution plans. Curtailing the defined benefit pension plan or fulfilling or changing the related obligation is recognised through profit or loss at the time of occurrence.

Defined benefit plans managed by insurance companies and OP Bank Group Pension Foundation are funded through payments based on actuarial calculations.

The liability recognised in the balance sheet in respect of the defined benefit plan is the present value of the defined benefit obligation on the balance sheet date less the fair value of the plan assets of OP Bank Group Pension Foundation and acceptable insurance.

Defined benefit obligations are calculated separately for each plan using the Projected Unit Credit method. Pension costs are charged to expenses over the employees' expected working lives on the basis of calculations performed by authorised actuaries. The discount rate for the present value of the defined benefit obligation is determined on the basis of the market return on high-grade corporate bonds on the closing date of the reporting period.

Items resulting from remeasurements of the net defined benefit liability are recognised in other comprehensive income in the period they occur. Remeasurements of the net defined benefit liability recognised in other comprehensive income will not be reclassified to income statement in later financial periods.

12.2 Short-term employee benefits

OP Financial Group has a short-term and long-term remuneration scheme in place. Those included in the scheme may receive bonuses either in cash only or as a combination of cash and a reference instrument decided by OP Cooperative's Board of Directors. Bonuses will be paid for work performed during the performance year. The maximum estimated amount under the remuneration scheme is calculated on the grant date and the amount charged to expenses is recognised in personnel costs and deferred expenses over the vesting period.

The amount of compensation corresponding to the objectives reached is reviewed quarterly. Any effects resulting from reviewing the original estimates are recognised in personnel costs in the income statement and the corresponding adjustment is made in accrued expenses and deferred income.

OP Financial Group has a personnel fund into which bonuses are paid on the basis of pre-agreed principles, depending on the achievement of OP Financial Group's targets. Bonuses transferred to the Fund are recognised under 'Wages and salaries' in the profit and loss account and the counterpart as 'Deferred expenses' in the balance sheet until they are disbursed to their beneficiaries (Note 10. Personnel costs).

13. Insurance assets and liabilities

Notes 31. Insurance liabilities and 32. Liabilities from unit-linked insurance and investment contracts present itemised insurance liabilities. Notes 21. Investment assets and 22. Assets covering unit-linked contracts present investments related to insurance business.

13.1 Classification of financial assets within insurance business

The section 'Classification and recognition' under Financial Instruments contains information on the classification of financial assets within OP Financial Group's insurance operations.

13.2 Classification of insurance contracts issued by insurers

An insurance contract is a contract which transfers significant insurance risk from the policyholder to the insurer, as defined in IFRS 4. Other contracts which the insurance company may issue under its licence represent investment or claims management contracts. If a contract does not involve any significant insurance risk on the balance sheet date but the policyholder has the right to change the contract in such a way that the contract transfers significant insurance risk to the insurer, the contract is classified as an insurance contract. The contracts are categorised contract by contract or by type of contract containing homogeneous risks. If several contracts are concluded simultaneously with a single counterparty or if contracts are otherwise interdependent, the significance of insurance risk is assessed jointly.

The savings and insurance components of insurance contracts are not unbundled.

Almost all of the contracts issued by non-life insurers are insurance contracts. Contracts in which the difference between realised and estimated losses are balanced with a supplementary premium and which involve no underwriting risk are categorised as claims management contracts.

Capital redemption contracts issued by life insurers and such endowment and pension insurance contracts under which, in the case of the insured person's death, purely savings will be paid to beneficiaries or an amount that differs slightly from it, are classified as insurance contracts because they do not include any significant underwriting risk and their policyholder has no right to change the contracts to include underwriting risk.

Insurance contracts are classified into risk groups in such a way that the risks of contracts are homogeneous in each group. This classification of non-life contracts takes account of the insured object, differences in the duration of contracts or the average length of the period between the occurrence of a loss event and the date of the fully-paid claim (claim settlement period). As to life insurance policies, the Group takes account of whether savings are accumulated, how the return of the savings is determined and whether the contract is for life or death risk.

The main insurance contract categories are short-term non-life contracts, long-term non-life contracts and life insurance contracts.

Short-term non-life insurance contracts usually have a policy term of 12 months or less, very rarely more than 24 months. In particular, policies for private individuals, motor-vehicle policies and statutory workers' compensation policies are usually automatically renewable annual policies that are treated as short-term contracts.

Long-term non-life insurance contracts refer to contracts with an average minimum policy term of two years. These include perpetual insurance policies and latent defects insurance policies under the Housing Transactions Act.

Life insurance contracts include single and regular premium endowment policies where the sum insured is to be paid at termination of the policy, individual pension policies, group pension policies supplementing statutory pension cover, and term insurance policies issued mainly for death. Life and pension insurance savings can have either a guaranteed interest rate, with a discretionary participation in the profit of the insurer, or unit-linked in which the investment risk has been transferred to policyholders.

13.3 Recognition and measurement of insurance contracts issued by insurers

Contracts are recognised when an insurer's obligation to pay out the related claim begins following the occurrence of an insurance event.

Insurance contracts and investment contracts where the contract holder has the right of discretionary participation feature or the right to transfer the savings for a guaranteed interest rate and thereby be entitled to the discretionary participation feature are treated and measured according to Insurance Contracts standard IFRS 4. Other investment contracts are measured according to IFRS 9.

Liabilities of contracts issued by insurers and measured under IFRS 4 are calculated mainly in accordance with national accounting standards. However, equalisation provisions are not included in these liabilities but are included in equity capital less tax liability. In addition, part of the insurance liability is measured by taking account of the current market interest rate.

The liabilities comprise the provision for unearned premiums and the provision for outstanding claims. The life insurance provisions for unearned premiums consist of the liability calculated from the expected net claims and operating expenses during the contracts' remaining maturities less future insurance premiums during the remaining coverage periods of the recognised policies. The non-life insurance provisions for unearned premiums equal the liabilities arising from claims and other expenses expected for the remaining coverage periods of the recognised policies. Provision for outstanding claims arises from reported and non-reported claims incurred and from their claims and settlement expenses paid in the future.

13.3.1 Measurement of insurance contracts issued by non-life insurers

Premiums are primarily recognised as revenue over the term of the contract. However, revenue recognition in latent defects and perpetual insurance policies is based on the distribution of underwriting risk. In these policies, the portion of premiums written for the post-balance sheet date is recorded as provision for unearned premiums in the balance sheet and recognised as premium revenue relative to risk over the policy term.

Claims paid out and direct and indirect claim settlement expenses are charged to claims incurred on the basis of the date of loss occurrence. Claims unsettled on the balance sheet date for losses already occurred and their settlement expenses – including claims incurred but not yet reported (IBNR) – are reserved in the provision for outstanding claims, consisting of both claims reserved for individual cases and statistically reserved claims. The provision, included in the provision for outstanding claims, for the future settlement of expenses is based on estimated costs.

Provision for unearned premiums for latent defects insurance and perpetual insurance policies and insurance liability related to annuities are discounted. The general trend for the interest rate is taken into account in determining the discount rate. Change in the discount rate of the insurance liability for annuities is taken into account as one continuously updated variable of an accounting estimate. The discount rate may not exceed the expected return on the assets covering the liability or the level set by the authorities. An increase in liabilities due to the passage of time (unwinding of discount) is shown in the income statement as a separate item in non-life insurance items under net investment income.

Non-life insurance's interest rate risk associated with insurance liability is reduced by entering into interest rate derivative contracts and making direct fixed income investments that are recognised at fair value through profit or loss. The value of derivatives is included in the insurance liability so that the insurance liability reacts to changes in market interest rates.

Capital gain or loss on derivatives is recognised over the insurance liability's residual term to maturity mainly by decreasing or increasing the discount rate. A capital loss on a derivative may be recognised by increasing the discount rate only if the planned rate is not exceeded. By selling investment instruments that hedge the insurance liability, it is possible to cover the systematic decrease of the discount rate only to a limited extent. The limit at its most is the value change that has accrued from the rate movement exceeding the target level at that time.

13.3.2 Measurement of insurance contracts issued by life insurers

The portion of premiums written for risk insurance policies' post-balance sheet date, less any yet unpaid insurance premiums, is recognised as provision for unearned premiums in the balance sheet.

The liabilities of savings-type insurance contracts and those of insurance contracts measured under IFRS 4 are calculated as the capital value of future benefits, policy administration costs and future premiums. The capital value is calculated mainly by the discount rate, mortality and assumptions of operating expenses used for pricing. The decided additional customer bonuses are included in the insurance liability.

Provision for outstanding claims arises from reported and non-reported claims incurred and from their claims and settlement expenses paid in the future.

The liabilities' discount rate, according to the Insurance Companies Act, cannot be any higher than what was used for insurance pricing. The discount rate may not exceed the expected return on the assets covering the liability or the level set by the authorities.

The company has savings at its own risk with interest rate guarantees ranging between 0.5 and 4.5%. The insurance liability of contracts whose interest rate guarantee is 4.5% has been supplemented so that the technical interest rate of insurance liabilities in the financial statements is permanently 3.5% as the insurance liability discount rate. In addition to this, supplementary interest rate provisions have been applied to reduce the discount rate of the guaranteed-interest portfolio for a specific period. The provision for outstanding claims of life insurance other than pension insurance is not discounted.

Life insurance's interest rate risk associated with insurance liability is reduced by entering into interest rate derivative contracts and making direct fixed income investments that are recognised at fair value through profit or loss. The value of derivatives is included in the insurance liability because any benefit from the derivatives is used for the guaranteed cash flows of the contracts.

The main assumption when calculating the liability of unit-linked insurance contracts and investment contracts is that the market income of assets covering the insurance liability is credited as income to the policy.

Unit-linked investment contracts are presented under Liabilities from unit-linked insurance and investment contracts in the balance sheet.

13.4 Liability adequacy test on insurance contracts

On each balance sheet date, OP Financial Group tests for the adequacy of liabilities in the balance sheet, using current estimates of future cash flows from insurance contracts. If the test shows that the liability's carrying amount arising from insurance contracts is not sufficient, the liability amount will be increased by the shortfall and the shortfall will be recognised in the income statement.

13.5 Premiums written

Premiums written included in net insurance income in the income statement are a consideration of the insurance coverage that began during the period.

Insurance premium tax, but not commissions and credit loss on insurance premium receivables, is deducted from premiums written.

Insurance premiums based on non-life insurance contracts are recognised as premiums written when the insurance period begins.

Life insurance premiums and investment contract payments are recognised under premiums written on an accrual basis in such a way that contracts other than defined benefit group pension contracts do not generate insurance receivables. Neither commissions nor loan losses are deducted from premiums written (Note 6. Net insurance income).

13.5.1 Receivables and payables related to insurance contracts

Non-life insurance premium receivables are recognised at the beginning of the insurance period when the right to the receivable is established. These receivables are mainly those from policyholders and to a minor extent from insurance intermediaries. Prepaid insurance premiums are included in direct insurance liabilities under other liabilities.

Non-life insurance receivables based on insurance contracts are tested for impairment on each balance sheet date. If there is objective evidence of an impaired receivable, its carrying amount is reduced through profit or loss. Both final impairment losses (loan losses) and impairment losses established statistically on the basis of the phase of collecting the charge are deducted from receivables.

13.6 Salvage and subrogation reimbursements

Salvage property that has come to the company's possession in connection with claims settlement or undisputable subrogation reimbursements related to claims are reduced from insurance liability.

13.7 Reinsurance contracts

Reinsurance taken out by OP Financial Group refers to an insurance contract which meets the classification requirements set for insurance contracts and under which the Group may be paid compensation by another insurer if the Group becomes liable to pay compensation on the basis of other insurance contracts (ceded reinsurance).

Assets based on reinsurance contracts are tested for impairment on each balance sheet date. If there is objective evidence that OP Financial Group may not receive all amounts to which it is entitled on the basis of the contract terms, the carrying amount of the reinsurance asset is reduced to correspond to the recoverable amount and the impairment loss is recognised in the income statement.

Non-life insurance benefits received under reinsurance contracts held are included in other assets, reinsurance assets in the balance sheet, with the latter receivables corresponding to reinsurers' share of provision for unearned premiums and provision for outstanding claims of the insurance contracts reinsured by OP Financial Group. Premiums unpaid to reinsurers are included in other liabilities, reinsurance liabilities.

Amounts recovered from or due to reinsurers are measured consistently with the amounts associated with the reinsured insurance contracts and are recognised in the balance sheet either under other assets or other liabilities.

13.8 Coinsurance and pools

OP Financial Group is involved in a few coinsurance arrangements with other reinsurers. Of the coinsurance contracts, OP Financial Group treats only its share of the contract as insurance contracts and OP Financial Group's liability is limited to this share.

OP Financial Group also underwrites shares of insurance contracts through pools, whose members are primarily responsible for their own proportionate share of the underwriting risk. These shares are based on contracts confirmed annually. OP Financial Group treats as insurance contracts its own proportionate share of the direct insurance business managed by pools and of the reinsurance business from the pool to its members.

The pool's share of these insurance contracts is treated as reinsurance. In some pools, members are responsible for an insolvent member's liabilities in proportion to their shares in the pool. OP Financial Group recognises liabilities and receivables based on joint liability if joint liability is likely to materialise.

13.9 Principle of equity concerning life insurance

With the exception of unit-linked parts of life insurance contracts, almost all life insurance contracts and some capital redemption contracts entitle to a discretionary participation feature to the profit, in addition to guaranteed benefits, which may account for a significant portion of the total contractual benefits, but whose amount and timing is at the discretion of the company under the contract. Some unit-linked policies include an option for a discretionary participation feature. Additional benefits are distributed as additional return in excess of technical interest, additional death benefit or reduced premiums.

The distribution of the surplus is based on the principle of equity referred to in the Insurance Companies Act which requires that a reasonable amount of the surplus to which the contracts are entitled is distributed to these policyholders, provided the solvency requirements do not prevent this. It is necessary to aim at continuity with respect to the level of additional benefits. Nevertheless, the principle of equity will not enable policyholders to demand any funds as debt. OP Financial Group has published its life-insurance additional benefit principles and its realisation on its website.

Separated balance sheets with a profit distribution policy differing from other life insurance operations have been created from the endowment policies and individual pension policies transferred from Suomi Mutual Life Assurance Company. The amount with which the assets on the separated balance sheets exceed the insurance liabilities measured by discounting using a swap curve on a market consistency basis is reserved as liability for future bonuses.

14. Provisions and contingent liabilities

A provision is recognised for an obligation if the obligation is based on a past event and it is probable that an outflow of resources will be required to settle the obligation, but there is uncertainty about the timing or amount required in settlement. In addition, an entity must have a present legal or constructive obligation towards a third party as a result of past events. If it is possible to receive compensation for part of the obligation from a third party, the compensation is recognised as a separate asset, but only at the time when receipt of the compensation is actually certain (Note 34. Provisions and other liabilities).

A contingent liability is a possible obligation arising from past events, whose existence will be confirmed only by the realisation of an uncertain future event beyond OP Financial Group's control. A present obligation which probably does not require fulfilment of payment obligation or the amount of which cannot be defined reliably is also considered as contingent liability. A contingent liability is presented in a note (Note 43. Contingent liabilities and assets).

15. Equity capital

OP Financial Group categorises instruments it has issued on the basis of their nature either as equity or financial liability. Incremental costs directly attributable to the issue or purchase of equity instruments are shown in equity as an allowance.

Cooperative capital, divided into cooperative bank members' cooperative contributions and Profit shares, are classified as equity instruments. Cooperative banks have an unconditional right to refuse to redeem both cooperative shares and Profit Shares. However, cooperative banks may decide to redeem cooperative shares, within the limits set by the authorities.

Member cooperative contributions and the resultant owner-customer membership entitle owner-customers to take part in the bank's decision-making. Cooperative banks have an unconditional right to refuse redemption of cooperative contributions. No interest is paid on cooperative contributions.

Profit Shares confer no voting rights. Cooperative banks have an unconditional right to refuse payment of Profit Share capital or interest. Any interest payable on Profit Shares is the same for all Profit Shares. The interest is recognised as liability and deducted from equity once the decision for payment has been made (Note 36. Equity capital).

16. Income taxes

Income tax expense shown in the income statement includes current tax, based on the taxable income of OP Financial Group companies for the financial year, and income tax for prior financial years and deferred tax expense or income. Taxes are recognised in profit and loss except when they are directly linked to items entered into equity or other items in other comprehensive income. In such a case, the tax is recognised in the items in question. The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the balance sheet date in the countries where the companies operate and generate taxable income.

Deferred tax liabilities are recognised for temporary taxable differences between the carrying amount of assets and liabilities and their tax base. Deferred tax assets are calculated on tax-deductible temporary differences between the carrying amount and taxable value included in the financial statements, and on losses confirmed for tax purposes. Deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised. Deferred tax assets are not recognised where generation of taxable profits, against which taxable losses or refunds could be utilised, is not likely. The greatest temporary differences in OP Financial Group are caused by tax provisions (such as loan loss provision), measurement of investments at fair value, and elimination of equalisation provision within non-life insurance. (Note 16. Income tax expense).

17. Charges of financial authorities

OP Financial Group pays charges to various authorities. The Financial Stability Authority is in charge of deposit guarantee. Responsibility for banking supervision rests with the European Central Bank. The Finnish Financial Supervisory Authority is responsible for insurance supervision, macroprudential supervision and supervision of conduct of business. The EU's Single Resolution Board (SRB) is responsible for bank resolution. The financial authority charges and fees are in full recognised under other operating expenses at the beginning of the year (Note 12. Other operating expenses).

17.1 Stability contribution

Stability contributions will be paid to the euro-area Single Resolution Fund (SRF) until 2023 in such a way that the target of a minimum of 1% of the amount of covered deposits will be reached. The SRF is managed by the Single Resolution Board which also determines the amount of stability contributions. The SRF ensures that the financial industry, as a whole, finances the stabilisation of the financial system. The stability contribution is determined based on the bank's importance and risk profile.

17.2 Deposit guarantee contribution

Amounts contributed to the former Deposit Guarantee Fund currently exceed the EU requirements governing the deposit guarantee level. By virtue of its rules, the former Deposit Guarantee Fund takes charge of the deposit guarantee contributions payable by its member banks to the new Deposit Guarantee Fund in proportion to which each member bank has made contributions to the former Deposit Guarantee Fund over the years. The Financial Stability Fund determines the contribution for each member bank but charges the amount directly from the former Deposit Guarantee Fund. The deposit guarantee contribution had no effect on OP Financial Group in 2021 and 2022 in terms of expenses.

17.3 Financial Stability Authority's administrative fee

The administrative fee charged by the Financial Stability Authority is based on the same calculation method as the supervision fee charged by the Financial Supervisory Authority.

17.4 Financial Supervisory Authority's supervision fee

The supervision fee charged by the Financial Supervisory Authority comprises a relative supervision fee, which is based on an entity's balance sheet total, and a fixed basic fee.

17.5 European Central Bank's supervisory fee

The ECB supervisory fee is determined based on the bank's importance and risk profile.

18. OP bonuses to owner-customers

In the income statement, OP bonuses to owner-customers are presented as a separate item. OP cooperative banks' owner-customers earn OP bonuses through the use of banking, non-life insurance and wealth management services. OP bonuses are expensed in the income statement as they are earned and recognised as accrued liabilities in the balance sheet. Earned bonuses are used automatically for banking and wealth management service fees and non-life insurance premiums starting from the oldest ones, and the accrued liabilities are reversed (Note 14. OP bonuses to owner-customers).

19. Government grants

Government grants mean support by which resources are transferred to an entity that has followed or will follow certain conditions related to its business in consideration of the support. Benefit that is received at an interest rate lower than that for the market interest rate of the public authority for the loan is treated as a government grant. The benefit lower than the market interest rate for the loan must be determined based on the difference between the loan's original carrying amount and received payments. However, government grant will be recognised only when it is reasonably certain that the entity fulfils the related terms and condition and that the grant will be given. Grants related to income are reduced from respective expenses in the financial statements and are recognised through profit for the periods when the expenses are recognised as expenditure that the grant is meant to cover.

20. New standards and interpretations

The IASB (International Accounting Standards Board) has issued the following significant future IFRS amendments.

20.1 IFRS 17 Insurance Contracts

Note 3 to the financial statements provides information on the changes in the accounting policies and presentation regarding the adoption of the adoption of IFRS 17 Insurance contracts on 1 January 2023.

20.2 Other upcoming amendments to standards

Amendments to IAS 1, IAS 8 and IAS 12 took effect on 1 January 2023. The amendments will not have any significant effect on OP Financial Group's financial statements.

Note 2. OP Financial Group's Risk Appetite Framework

1 Overview of OP Financial Group's significant risks

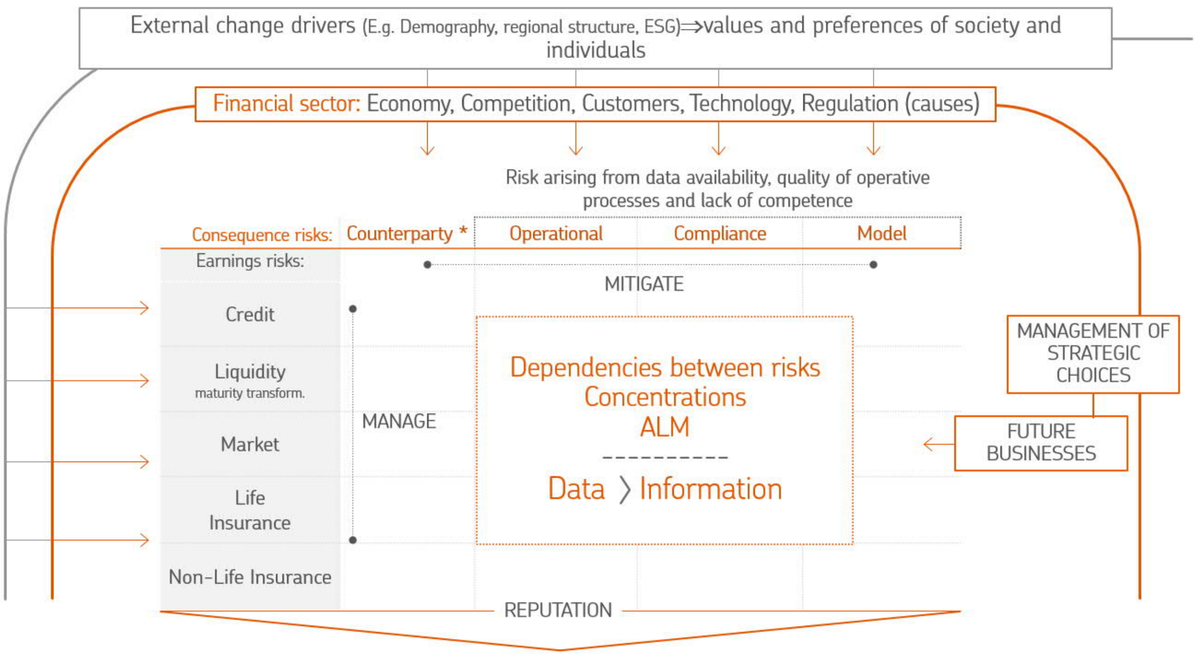
OP Financial Group prepares its Risk Appetite Statement and Risk Appetite Framework to cover all operations and these general risk management principles are further specified for each revenue logic (by product and service). The bases for establishing revenue generation models include services provided to customers, processes needed in the production of services, analyses reporting of operations and what risks will be caused to OP Financial Group by providing these services.

Due to the characteristics of OP Financial Group's business and industry, risks have two distinct fundamental principles: OP Financial Group may earn revenue through risks (earnings risks) or risks may be a consequence of something (consequential risks). Reviewing earnings risks involves the examination of OP Financial Group's critical success factors from the business perspective. For this reason, OP presents the sources and management of earnings risk in detailed descriptions of significant risks by revenue logic, except for Group-level risks that apply to all revenue logics. Risks are grouped in more detailed descriptions of significant risks at Group level because the majority of consequential risks are Group level ones and the review of consequential risks focuses on reducing the negative effect of potential risk materialisation.

The graph below shows a summary of OP Financial Group's significant risks and their sources. The sources and root causes of significant risks are presented in shaded grey and orange in the periphery of the figure's table. Similarly, the negative effect of the potential materialisation of risks on OP Financial Group's trust and reputation is also described outside the table.

It is highly important to note the following in the graph's table:

- Taking earnings risks may cause consequential risks in addition to the sources and causes of OP Financial Group's external risks.
- The combined effect of earnings and consequential risks may result in new Group-level risks, due, for example, to concentrations and interdependencies between risks.
- Due to the different functions of earnings and consequential risks, OP Corporate Bank primarily aims to manage earnings risks, whereas it primarily aims to reduce consequential risks.



* Counterparty of a financial contract or service provider

Banking's revenue generation models are used in both the Retail Banking segment and the Corporate Banking segment. They are grouped into three revenue logics within risk management: Banking through the balance sheet, Markets and Asset Management. The revenue logic, Banking through the balance sheet, is further divided by business segment between Corporate Banking, Retail Banking, and Group Treasury (included in other operations according to OP Financial Group's segment division). Life and Non-life Insurance revenue generation models belong to the Insurance segment.

OP Financial Group's risk management and compliance are based on the principle of three lines of defence. The first line of defence comprises business lines, the second line of defence comprises the Risk Management function and Compliance independent of the business lines/divisions and the third line of defence comprises Internal Audit. Each line of defence has its own role in performing the risk management process efficiently.

At OP Financial Group, the first line and the second line of defence in risk management cooperate on an ongoing basis. This is to ensure that all expertise needed to develop and manage operations is in use in advance. The lines of defence build the risk management process together where the special features of OP Financial Group's business are taken into consideration. Responsibilities of the first and second lines of defence have been clearly divided.

- The business units fulfil OP Financial Group's strategy, are responsible for planning their own operations and their efficient and effective implementation and for their internal control. Only the business concerned makes business decisions and is responsible for the quality of its customer service, its business continuity as well as its earnings and risks.
- For consideration by OP Financial Group's management, the second line of defence prepares a risk management framework within the limits of which the first line of defence implements risk-taking and risk management related to its daily business. The second line of defence supports the first line of defence by consulting it and constructively challenging especially in matters that are part of its own expertise. The second line of defence also oversees compliance with regulation and OP Financial Group's guidance framework; independently analyses the balance between earnings, risks and capital and liquidity acting as buffers; and ensures business continuity during incidents.
- Internal Audit that is independent of other lines of defence acts as the third line of defence.

2 OP Financial Group's significant risks: sources and management

2.1 Definitions and sources of significant risks

Below is a summarised description of the definitions and sources of OP Financial Group's significant risks.

Credit risks	Credit risk refers to the risk of a contracting party to a financial instrument being unable to fulfil its contractual repayment obligations, and thereby causing a financial loss to the other party.
Liquidity risks	A liquidity risk is the risk of liquidity or capital availability being insufficient to realise business goals as laid down in the strategy. It is caused by the timing of incoming or outgoing cashflows (payments) and/or imbalances between them. Liquidity risks include concentration risk, market liquidity risk and refinancing risk. Concentration risk is caused by the concentration of financing across time, or between certain counterparties or instruments. Market liquidity risk is the risk of failure to execute market transactions within a desired time and/or at an estimated price, or of a contraction in the liquid assets owned by a bank. Refinancing risk involves the risk that a debt cannot be refinanced on the market.
Market risks	Market risk refers to an unfavourable change related to the value of a contract or contract revenue due to price changes observed in the financial market. Market risks include interest rate, currency, volatility, credit spread, equity and property risks associated with on- and off-balance sheet items as well as other potential price risks.
Structural interest rate risk on the balance sheet	The risk arising from the effects of interest rate movements on Banking's annual net interest income, and on the insurance company's earnings (IFRS 17) and solvency (SII).
Non-life insurance risks	Non-life insurance risks comprise risk of loss or damage, and provision risk. Risk of loss or damage occurs when there are an above-average number of losses, or they are exceptionally large. Provision risk arises when the claims expenditure incurred for losses that have already occurred is higher than expected or the timing of the payment of claims deviates from expectations.
Life insurance risks	Life insurance risks comprise biometric risks, cost risk and customer behaviour risks. Biometric risk arises when forecasts of the insured's life expectancy differ in insurance products that include an endowment risk, or when mortality forecasts concerning the insured (e.g. unpredicted growth in mortality caused by a catastrophe) differ in products that cover the risk of death. Biometric risk also arises when forecasts, of when the insured person's incapacity for work will begin, differ in products that cover disability risk. However, such a risk is very small in OP Life Assurance Company.
Counterparty risks	Counterparty risk refers to the risk that a party to a derivative contract, repurchase agreement (Repo), trade or reinsurance contract will fail to fulfil its financial obligations, accompanied by a risk of growing costs due to the obtaining of a corresponding, replacement contract.

	A special feature of counterparty risk is a change in the risk level alongside the agreement’s market value, due to which contractual risk can grow after an agreement is made.
Operational risks	Operational risk is caused by all business operations and may result from insufficient or incorrect practices, processes, systems or external factors. OP Financial Group’s operational risks also include ICT and security risks. Operational risk related to data capital means potential losses, loss of reputation or deterioration of operations caused by uncertainty in decision-making, management and reporting related to data and the information derived from it.
Compliance risks	Risks caused by non-compliance with external regulation, internal policies, appropriate procedures or ethical principles governing customer relationships.
Model risks	Model risk refers to potential losses or loss of reputation caused by decisions made on the basis of the results of models, due to errors made in the development, implementation or use of such models. In this context, a model is a method used to translate source data based on mathematics, statistics and expert assessments into data guiding business decisions or quantitative data related to financial position or risk exposure.
Reputational risks	This is the risk of a weakening in reputation or trust, primarily due to the simultaneous materialisation of an individual risk or several risks, or to some other kind of negative publicity.
Concentration risks	Risks that may arise due to a business having an excess concentration of risk in individual customers, products, lines of business, maturity periods or geographical areas. Concentration risk can also arise due to a concentration of service providers or processes.
Risks associated with future business	Risk associated with the conditions and volumes on which similar or entirely new agreements are based. This also includes a risk that arises from inadequate internal reaction and inflexibility in the business and competitive environment, or changes in the values of customers or in technology.

Risks associated with future business are not dealt with as a separate whole, because such risks may emerge in the form of various significant risks, or as part of different risk types.

Customer behaviour risk may materialise in several risk types (the impact of a change in customer behaviour affecting matters such as the value of insurance contracts, volume of deposits or early repayments of contracts).

Residual risk is a lingering risk which a party cannot or does not want to eliminate, or that remains after possible risk reduction measures. Residual risk can be considered synonymous with risk. As such, residual risk is not an equivalent concept to the significant risks described above. Instead, residual risk can be considered to apply to any of the significant risks described above.

Integration of ESG factors as part of risk management

Change factors in the business environment, such as climate change and other sustainability (ESG) factors, have an impact on the needs and preferences of customers and other social actors. ESG factors are external megatrends, that is to say examples of root causes on OP Financial Group's risk map. They are defined as change factors affecting different risk types, not as separate risks, in risk identification processes.

Within OP Financial Group, such external risk factors are analysed to identify their impacts on OP's and its customer's operations, and future short and long-term success. Drivers of change in the business environment are channelled into financial risks in the Group's banking and insurance business through various impact chains. Impacts can be direct – or indirect as in credit, market, operational and reputational risk.

Like other changes and risk factors in the business environment, ESG factors include risk evaluation. The possible environmental and reputational impacts of risks must be evaluated in addition to financial impacts.

Reputational risk could affect OP Financial Group or the entire financial sector, for example as a result of changes in public opinion or customer preferences. Good governance and compliance with guidelines affect the reputational impact of OP Financial Group's operations. OP Financial Group's responsible approach to business fosters a positive public image.

For the time being, risk evaluation of ESG factors is focused on assessing events and impacts caused by climate and environmental factors. Worsening climate change and environmental damage create physical risk factors:

- Acute risk factors include extreme weather conditions such as events related to drought, floods and storms or, for example, an individual environmental catastrophe.
- Longer-term changes emerge more slowly: examples include global warming, rising sea levels, reduction in biodiversity, land and water pollution, and the destruction of living environments.

The transition towards a low-carbon and more environmentally sustainable economy will have direct and indirect impacts. These include, for example, climate or environmental policy decisions, technological development, market confidence, and changes in consumer choices.

Physical and transition risks will impact on OP Financial Group's business and financial success through stakeholders, in particular. If they materialise, such risks may affect the risk profile, capitalisation, liquidity and continuity of daily business in various ways. The Group draws up scenarios to reveal the effects of such potential shocks.

The integration of ESG factors in all risk taking, risk management and processes for evaluating the adequacy of capital and liquidity (ICAAP, ORSA and ILAAP) require extensive development work within business functions and assurance functions. ESG factors are being embedded in the management's risk reporting in stages, while seeking synergies with external sustainability reporting. As with other risks and risk factors affecting OP Financial Group, the inclusion of ESG factors in the limit system is evaluated at least annually during the updating of OP Financial Group's Risk Appetite Statement and risk policies. In addition to the Risk Taking and Risk Appetite Framework, this fulfils the risk-taking and risk-management goals of OP Financial Group's sustainability programme.

Because keeping up with rapidly developing ESG regulation can be challenging, there is a greater risk of failure to comply with regulations according to the required schedule. Development takes the most forward-looking account possible of regulatory adjustments and supervisory expectations. The rapid pace of research and keeping up to speed with the latest knowledge are additional challenges.

<u>Management of operational risks</u>

All companies in OP Financial Group must comply with shared operational risk management methods, which include the application of approaches to compliance and model risk management. ESG factors are a fixed element of operational risk identification and assessment, which enables monitoring of the risk profile in relation to OP Financial Group's operational risks, including a breakdown between ESG factors and the resulting risks.

ESG factors and the resulting operational risks are identified and evaluated through operational risk management methods: risk events, risk and control self-assessments, risk assessments of new and modified products, and management of continuity and outsourcing. Identification of the causes and effects of risks lies at the heart of risk identification and assessment. Possible environmental and reputational impacts are identified in addition to the financial impacts of risks.

In their continuity management, OP Financial Group's businesses must also prepare for the materialisation of physical risks caused by climate and environmental factors, in order to secure their services for customers if such circumstances materialise. Securing business continuity covers matters such as the efficiency and systematic nature of operational processes, which also include outsourcing management and knowledge of service providers.

Stress testing and scenarios related to operational risks complement the overall risk analysis and fulfil the economic capital requirement. Scenarios are used to forecast and prepare for different situations. They supplement overall operational risk management, particularly in cases, such as climate change, where the available historical data cannot be used to forecast a future event.

Economic impacts caused by ESG factors are covered by existing operational risk limits.

Means such as training investments are used to provide business functions with more advanced skills to ensure the identification of ESG factors, and their causes and effects, as part of operational risk management. It is also critically important to identify transition risks and react to them proactively.

Data governance and management

Requirements derived from the ESG factor for data governance and data are implemented as part of OP Financial Group's current models and practices. Such requirements are integrated with practices, and customer service and operational processes, in such a way that they form a natural part of the Group's activities. They are recognised in relation to data governance and acquisition, and the resulting changes are integrated with existing operating models and services.

Banking – Credit risk management

In credit risk management, the key issue is to assess the impact of climate, environmental and other ESG factors on customers' operations and success, and their repayment capacity.

In addition to making it difficult to operate in some sectors, external change drivers may provide opportunities. For example, climate change could weaken profitability in one sector due to changes in customer behaviour, lower collateral values in some areas, and cause higher than predicted growth in regulation-related costs. On the other hand, it could also create more favourable conditions for, and boost the competitiveness of, some customers' businesses.

At customer level, risks are managed by providing customers with advice and monitoring how the customer relationship develops. Pricing is based on risks. The ESG projects and/or investments to be financed must be financially sustainable. Attending to the customers' future success ensures that OP Financial Group's business remains profitable in the long term too and that the risk buffers for operations are sufficient for capital and liquidity. By providing customers with advice, the Group seeks added value that improves customers' financial standing and wellbeing.

Corporate customers are classified into ESG classes based on industry exposure to ESG categories. If an ESG category and the total exposures of a group of connected customers are significant, an ESG analysis will be performed. The need for an ESG analysis is assessed whenever new credit is granted to a customer, a proposal is being prepared to change a current exposure, or another, equivalent proposal related to a financial decision is being drawn up. The ESG score is used in loan decisions. We document it and prepare to report the ESG exposure of our customer base and decisions.

Residential property collateral is analysed and, on the basis of addresses, matched with flood maps produced by the Finnish Environment Institute (SYKE). Energy certificates for residential property collateral on home loans provide a rough account of the climate impacts of mortgages. An energy classification evaluation is modelled for all residential property collateral from the energy performance certificate on the register of The Housing Finance and Development Centre of Finland (ARA). The impact of ESG factors on collateral value is derived from flood maps and the energy efficiency of residential real estate.

Credit risk stress testing methods should be developed in such a manner that impact analyses of macro shocks lead to concrete conclusions about developments in the financial situation of customer companies (including EBITDA and equity ratio), while taking account of climate and environmental factors such as energy consumption. In addition, customer-specific sensitivity analyses are performed based on the customer's income statement and the location of collateral property. This enables recalculation of customer companies' credit rating and reporting – based on a customer-specific analysis – on how stress impacts on the Group's corporate loan portfolio. It also complements assessment of the economic capital need and the collateral eligibility of receivables, while account for the impact of climate and environmental change.

Banking – Management of interest rate risk in the banking book and liquidity risks

ESG factors can impact on market interest rates and credit spreads. Risk management reviews primarily focus on the liquidity buffer with regard to managing the interest rate risk in the banking book and liquidity risk. Financial impacts are assessed using regular scenarios that take account of climate and environmental factors. The impacts are not thought to be significant in the case of notes and bonds acquired for the portfolio.

Investment of the liquidity buffer is guided by the investment plan, based on which an own allocation target for responsible investments was set for the portfolio up to the end of 2022. From then on, no separate allocation target for responsible investments will be set but responsible investments will be made in such a way that tools, methods and practices adopted in OP Asset Management are integrated as part of the investment process of the liquidity buffer. Responsible investments are made by acquiring bonds classified as green (sustainability bonds, social bonds and green bonds). Investment of this kind could be investing in assets with positive social impacts, such as an energy-efficient hospital that takes account of environmental aspects (sustainability bonds). Taking account of climate and environmental factors involves, say, investing in the green residential buildings sector. Investments of this kind must also fulfil all other requirements set for liquidity buffer investments.

Corporate Banking's bond portfolio is based on ESG analyses by Corporate Banking. The portfolio primarily involves investment in companies that are important to OP Corporate Bank – credit and ESG analyses are performed on such companies. Investment decisions for the portfolio comply with OP Corporate Bank's corporate responsibility principles.

Banking – Markets

Markets aims for fast turnover in its management of the bond portfolio; the portfolio's structure reflects the demand present from time to time. The portfolio tends to be heavily weighted towards bonds issued by Nordic companies. ESG factors can have an impact on the credit spreads of bonds, even if this impact is regarded as minor.

Markets engages in FX trades and may hold uncovered risk positions on these, accounting for a small proportion of such trades. ESG factors seem to have no significant impacts on currency risk.

Markets produces structured investment products that are offered through the Group's sales channels. Selection of the underlying asset is a key element of such products. Asset Management's list of exclusions is applied to underlying assets – companies on the list are not selected for such investments.

Markets' clients mainly agree on derivatives for hedging purposes, in which the key risk is market interest rates. Based on underlying assets, the derivative service concerns brokerage, which does not normally lead to market risk and involves little counterparty risk. Risks associated with trading in commodity derivatives are covered on the market. ESG factors have no identified impact on market risk associated with derivatives.

In the case of Markets' activities, the economic capital requirement covering ESG factors must be assessed on the basis of stress tests, primarily regarding interest rate movements and, if necessary, credit spreads.

Banking – Asset Management

Asset Management services include discretionary investment management, advisory investment management and the related investment risk management services. The selection consists of products from the range of mutual funds, alternative investments, real estate investments, international partners' funds, and products intended exclusively for professional investors.

Sustainable development and responsibility are of growing importance to clients, as shown by the growth in popularity of sustainable investments. As client behaviour changes, product selections must include products that meet clients' sustainability preferences.

In asset management, ESG factors consist of tightening regulation. More details must be provided on the sustainability factors of investments, investment products must take increasing account of clients' sustainability preferences, and sustainability-related reporting obligations are growing.

Asset Management's responsible investment methods include taking account of ESG factors in investment decisions, shareholder engagement, negative screening, and thematic and impact investing. Account is taken of key sustainability factors in the target sector, so as to improve long-term returns and reduce risk. An ESG tool has been developed internally to assist with investment decisions. OP funds manage four sustainability-themed funds and impact investment is done via alternative funds.

Asset Management's investment activities include assessing the responsibility of investments and using shareholder engagement to promote corporate sustainability. OP Asset Management has its own responsible investment principles, which describe how OP Asset Management invests responsibly.

Insurance

Account is taken of the climate, the environment and other ESG factors in investment the trading by Pohjola Insurance and OP Life Assurance Company. Climate and environmental risks related to non-life insurance are highlighted in the case of loss due to natural phenomena, whereas impacts primarily occur through investment risks in the case of OP Life Assurance Company.

Account is taken of ESG factors in Pohjola Insurance's UW policy, for example in insurance policy exclusions. ESG risk factors are also part of insurance companies' normal risk identification process.

ESG factors show in the spread risk and equity risk of investments made by insurance companies. For example, climate and environmental factors can affect cash flows related to insurance liabilities via market interest rates, and thereby impact on the realisation of interest rate risk.

The responsible investment principles of Pohjola Insurance and OP Life Assurance Company provide detailed descriptions of the methods and means used to take account of the environment, social responsibility and good governance.

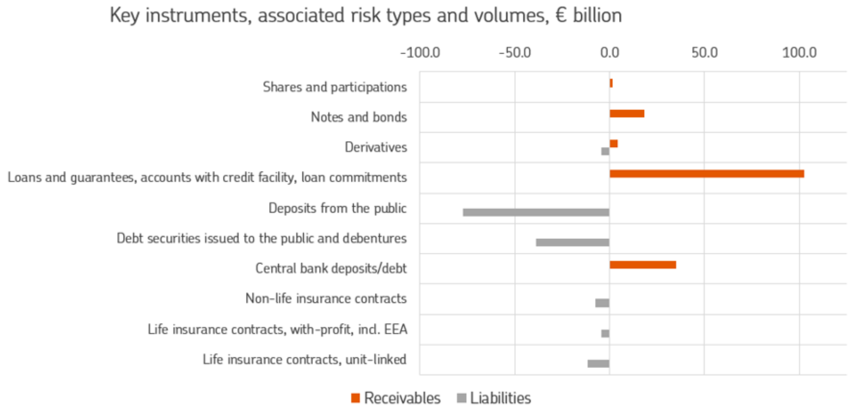
ESG analysis is included in investment analysis conducted in support of investment decisions. OP Asset Management's internally developed ESG tool helps with the objective assessment of sustainability factors in investment decisions.

Pohjola Insurance and OP Life Assurance Company manage social risks in accordance with the principles of responsible investment, through shareholder engagement and impact investing. Impact investing refers to investments in companies, organisations or funds made with the aim of bringing about material social or environmental change as well as making returns.

Pohjola Insurance and OP Life Assurance Company's annual risk and capital adequacy assessment (ORSA report) describes the identification and management of climate and environmental risks as part of company activities. These ORSA reports include climate scenarios used to identify and measure possible changes in value by investment product and sector, in the short and long term. Risks to companies' capital adequacy are assessed using climate scenarios in relation to both investment market risks and underwriting risks.

Key instruments and risk types

The graph below describes risk types associated with key financial instruments and illustrates the significance of risk types by means of the balance sheet values of each financial instrument (31 December 2022).



	Credit	Market	Operational	Under-writing	Liquidity
Shares and participations		X	X		X
Notes and bonds	X	X	X		X
Derivatives	X	X	X		X
Loans and guarantees, accounts with credit facility, loan commitments	X	X	X		X
Deposits from the public		X	X		X
Debt securities issued to the public and debentures		X	X		X
Central bank deposits/debt		X	X		X
Non-life insurance contracts		X	X	X	X
Life insurance contracts, with-profit, incl. EEA	X	X	X	X	X
Life insurance contracts, unit-linked		X	X	X	X

2.2 Banking risks

Credit risks

OP Financial Group manages its credit risk through the Group-level guidelines and principles and quantitative risk limits. These are specified in Banking risk-taking policy lines, limits and threshold values, qualitative and quantitative targets, as well principles governing customer selection, collateral and covenants. Quantitative and qualitative target levels balance out the business targets and moderate risk appetite. Limits and threshold values set maximum limits for risk-taking. These help to ensure sufficient diversification of the loan portfolio, while avoiding the emergence of overly large risk concentrations.

Credit risk management is based on careful customer selection, active customer relationship management, good knowledge of customers, strong professional skills and comprehensive documentation. The day-to-day credit process and its effectiveness play a key role in the management of credit risks. Credit risk is also managed through selection of the range of products and product terms and conditions. Risk associated with new lending is managed through well thought-out customer selection and the avoidance of risk concentrations. In addition, techniques are used to reduce credit risks (collateral and guarantees) and active use is made of covenants. Managing risk associated with the loan portfolio is based on good customer relationship management and the proactive and consistent management of problem situations.

The customer's sufficient repayment capacity is a prerequisite for all lending. Creating a group of connected clients properly provides a foundation for credit risk management. Without a clear picture of which parties constitute the group, what the structure of the group is like and what its repayment capacity comprises, it is not possible to get a true picture of the group and understand the risk involved in lending to it. Each business identifies the group of connected clients and their interdependencies and describes them in OP Financial Group's systems.

Sufficient up-to-date information must be collected for assessing the creditworthiness of customers that pose a credit risk. Creditworthiness comes from the customer's willingness to pay and repayment capacity. They both affect the customer's rating grade. Sufficient and correct basic information is used to ensure that the customer can be rated with a correct credit rating model, and that the rating grade gives a true picture of the customer's creditworthiness risk. Each business ensures that its customers' rating grades are constantly valid and up to date and, if necessary, updates the grade if the customer's situation changes. This is how the loan portfolio of the bank concerned and the entire OP Financial Group can be monitored on a real-time basis.

Collateral management is based on an independent collateral assessment, the validity of pledges and the realisability of collateral, enabling us to continuously maintain a realistic view of hard collateral securities used to secure receivables. The values of assets pledged in security of receivables must give a true and real-time picture of the collateral position related to the loan portfolio as well as individual customers. The financial standing of the collateral asset owner must be considered when valuing collateral securities. The weaker the asset owner's financial standing, the greater the weight of the realisation value must be when estimating the collateral asset.

Financing decision-making is based on the principle of segregation, based on which the person preparing financing may not make the financing decision alone. Because financing decisions are risk-taking decisions, those making such decisions must have all the relevant information. All credit risk decisions are made on a business-specific basis. Decision-making is guided by OP Financial Group's Risk Appetite Statement (RAS) and the target risk profile specified in the risk policy. Decisions that deviate from the target risk profile specified in the risk policy must be explained on a broader basis. The central cooperative's Risk Management assesses compliance of the most significant financing projects with the risk policy and provides the managements of OP Financial Group and Group banking entities with a situational picture of compliance with the risk policy.

The bank's senior management and management body closely monitor the bank's credit risk exposure. The bank's management is responsible for keeping the members of the management body informed if the bank's operational risk-taking deviates from the risk policy approved by the management body. This allows the Board of Directors, as its role requires, to monitor the trend in the bank's risk exposure and, if necessary, issue instructions to senior management on risk-taking.

From the bank's perspective, credit risk materialises in a situation where the customer becomes insolvent and cannot fulfil its credit obligations without the bank taking measures, such as realising collateral. It is therefore important that customers whose repayment capacity has weakened or a significant threat is posed to their repayment capacity are promptly identified in both the financing process and the customer relationship management process.

Customers that are most significant to the bank and whose risk of default has clearly increased, or whose repayment capacity is subject to another significant threat, must be placed under special control. For these customers, the bank must prepare an action plan on what measures should be taken to resolve the customer's situation from the bank's perspective, and to minimise the possibly materialised risk to the bank. The monitoring and documenting of customers in potential or actual default is more intensive and extensive than the documentation of less risky customers, to ensure that the bank is actively aware of changes in the customer's situation and can react immediately if necessary.

Measuring credit risk

OP Financial Group measures credit risk using the ratio of economic capital need for credit risk to exposures at default, the ratio of non-performing receivables to the loan and guarantee portfolio, and the ratio of expected credit losses to the loan and guarantee portfolio. The proportion of corporate exposures in different rating grade baskets, and the average rating of corporate exposure, are also measured. The risk policy sets limits for these metrics. In addition, loan portfolio concentrations are monitored by customer, industry and country. OP Corporate Bank also measures the growth differential of the loan portfolio and credit risk economic capital, to ensure a balance between growth and risk-taking. Limits derived from Group-level limits have been set for the business segments engaged in banking.

Limits set in the risk policy can be supplemented with qualitative targets set in the operating instructions of each business segment. These targets may be business segment or entity-specific. These targets may be segment or entity-specific. Targets may be set for the entire loan portfolio or separately in relation to personal or corporate customer financing. It is also possible to set targets measuring the quality of the credit risk process.

Customer segmentation is used to manage the loan portfolio, in order to ensure sufficient diversification of the loan portfolio and efficient capital allocation. To enable a coordinated risk policy, customer segments have been defined so as to ensure that each segment's receivables are homogenous in terms of credit risk. Based on segmentation and the breakdown by rating grade, the loan portfolio target status is presented in the risk policy. This status is not binding on the business concerned, but the business must control credit risk-taking in order to achieve the target status.

OP Financial Group's internal credit rating system

Rating means models, methods, processes, supervision, data collection and IT systems that support credit risk management, credit risk assessment, the assignment of exposures to rating grades or pools, and the quantification of default and loss estimates that have been developed for certain types of exposures. OP Financial Group's internal rating system applies to all Group entities. The Board of Directors of OP Cooperative considers and approves the credit rating principles as part of the Risk Appetite Framework document.

OP Financial Group uses an internal 16-level scale of A–F to assess the probability of default for its personal customer agreements, with F representing borrowers in default. The Group assesses monthly all personal customer agreements' PD using a loan portfolio rating model. The loan portfolio rating is based on a customer's basic data, payment behaviour and other transaction history data. Average PDs have been calculated for each rating grade for a period of 12 months.

For now, an application stage rating model supports the loan approval process, credit risk assessment and the pricing of new loans. OP cooperative banks and the Group's asset and sales finance solutions and unsecured consumer loans have their own application stage models.

The probability of default of **corporate customers** is assessed using the 20-level credit rating system on a scale of 1.0–12.0, with 11–12 rating grades representing customers in default.

The R rating for mid-size and large corporate customers is based on the company's financial indicators and qualitative background data on the basis of which a statistical model generates a proposal for rating. An expert familiar with the customer makes a rating proposal on the basis of the rating suggested by the model and of any other information available. Any changes and uncertainties relating to the future outlook will be regarded as warning signs and exceptions to the rating provided by the model. The rating grade is determined by the central cooperative's independent Risk Management, based on the rating proposal, at least once a year and, in respect of weak customers, on a half yearly basis.

Suomen Asiakastieto's automated rating model, Rating Alfa, forms the basis of small corporate customers' A rating. The rating Alfa variables include information on payment default and payment practices of the company and its persons in charge, key indicators based on financial statements and the customer's basic data. The rating Alfa risk scores and OP Financial Group's internal payment behaviour data resulting in default are used to generate OP Financial Group's rating grades that will be changed based on expert assessments, if need be. The banks must at least once a year assess the validity of the rating grade of A rated customers and they must assess customers with a low rating grade and those on the watch list on a half-yearly basis. Responsibility for the assessment rests with the bank in charge. The rating grade for the most significant A-rated customers is approved by the central cooperative's Risk Management.

Low exposure corporate customers are rated using a rating model for low exposures (P). The rating model is an automated rating model calculated on a monthly basis that is created on the basis of the customer's basic data, transaction data and payment behaviour data.

Liquidity risks

Identifying liquidity risks

OP Financial Group's Treasury and other business units plus Risk Management continuously identify and assess risks associated with funding and business and other business environment. In the risk assessment of new products, services, business models, processes and systems, every business unit must take account of liquidity risks, too. At least once a year, Risk Management and business representatives perform a comprehensive liquidity risk assessment to ensure that the capital adequacy assessment process (ILAAP) is appropriate and adequate in relation to the Group's liquidity risks.

Assessment and measurement

OP Corporate Bank assesses the future cash flows of receivables, liabilities and off-balance-sheet commitments based on the contract maturity date, repayment programme, expert assessments or statistical models based on customer behaviour history.

Structural funding risk is measured as the difference between cash inflows and cash outflows in different maturities. In addition, OP Corporate Bank calculates the regulatory Net Stable Funding Ratio (NSFR), which determines the amount of stable funding sources expected to span over one year in proportion to assets requiring stable funding.

From the perspective of the relevant authority, funding liquidity risk is measured using the Liquidity Coverage Ratio (LCR). The sufficiency of the liquidity requirement in terms of time is assessed though maturing items on the balance sheet, wherein agreements are not renewed but ended at maturity. Based on the economic perspective, OP Financial Group measures the sufficiency of the liquidity buffer through stress testing.

The Group measures funding concentration risk by calculating the amount of bond funding with a maturity of rolling 12 months and 3 months. In the time horizon of less than 12 months, OP Financial Group measures the total wholesale funding amount, comprising short- and long-term wholesale funding, for 3 months. When it comes to deposit funding, the Group monitors the concentration of the largest deposit volumes. Concentrations by counterparty and instrument are also subject to monitoring.

The central cooperative consolidated measures its asset encumbrance by proportioning encumbered assets to the aggregate amount of balance sheet assets and collateral securities.

Risk assessment and measurement methods related to liquidity buffer investments are described as part of market risks.

Liquidity stress testing

The adequacy of OP Financial Group's liquidity buffer and buffer items is assessed through various scenarios. OP Financial Group-specific and market-specific scenarios, as well as their combination, are used as stress scenarios. The scenarios must cover both short- and long-term stress conditions. When measuring member bank-specific structural funding risk, the liquidity requirement based on the regulatory stress scenario is counted as a deposit in Treasury on a bank-specific basis. A reverse stress test is used in connection with the Group's Recovery Plan. Senior management confirms the scenarios to be used, use and reporting of stress test results.

Funding plan

OP Financial Group's funding plan defines guidelines for wholesale funding for the next few years. In its funding plan, OP Financial Group must take account of its member banks' estimate of the funding need for years to come. Implementation of the plan is monitored regularly and the plan is updated, where needed, during the year. Deposit funding is primarily based on the business strategy and plan. The funding plan specifies the sources of wholesale funding and presents how the Group covers its need for key wholesale funding sources in view of market depth and sufficient diversification. It also defines the related decision-making powers. The funding plan must also take account of unfavourable scenarios lasting several years and of abrupt changes in key funding items.

Non-euro liquidity management

OP Financial Group carries out non-euro funding due to the diversification of funding sources. Since almost all the Group's receivables are in euros, the Group mainly converts its non-euro funding into euros through derivative transactions in connection with an issue.

According to liquidity regulation, a non-euro currency is significant if non-euro liabilities account for over 5 per cent of the amalgamation's balance sheet total. The Group monitors significant currencies every month when it produces its liquidity report for the supervisor. Foreign currencies account for only a small proportion of the balance sheet and the liquidity risk due to currency availability has been minimised by the operating model.

Management of intraday liquidity

OP Financial Group's Treasury monitors intraday funding sources and anticipates and monitors the execution of intraday payments. It holds intraday funding sources at an amount that allows it to make payments due on the banking day.

Based on the liquidity contingency plan, the Group can raise its level of preparedness even if intraday liquidity is disturbed in order to ensure efficient operations in the case of an increased threat of a crisis.

Liquidity buffer

From the financial perspective, the liquidity buffer consists of deposits in the Bank of Finland and unencumbered notes and bonds eligible as collateral for central bank refinancing held by OP Corporate Bank. It also includes other notes and bonds held by OP Corporate Bank marketable on the secondary market and unencumbered corporate loans eligible as collateral for central bank refinancing.

From the regulatory perspective, OP Financial Group's liquidity buffer consists of the liquidity buffer that fulfils the criteria for liquidity buffer requirement provisions (LCR buffer).

The Group's Treasury is responsible for preparing the investment plan at least once a year. The bond investments in the liquidity buffer held by the Treasury are included in it. OP Corporate Bank's Board of Directors approves the plan.

The investment plan applies the restrictions and objectives set in OP Financial Group's Risk Appetite Statement (RAS) and Risk Policy for market risk, credit risk and funding liquidity risk. To the appropriate extent, the investment plan establishes a framework for testing the liquidity of notes and bonds.

OP Corporate Bank diversifies investments, for example, by product, counterparty and country, in view of both internal risk appetite and external regulatory requirements.

Collateral management and asset encumbrance

In this context, collateral securities mean OP Financial Group's assets used as collateral to fulfil liquidity needs, either in normal or stress conditions. Group Treasury monitors collateral on a centralised basis, and is responsible for its use and transfer.

Home loans serving as collateral for covered bonds issued by OP Mortgage Bank constitute the largest source of asset encumbrance in the balance sheet. Central bank operations and the derivatives business are the other main sources of asset encumbrance. From the perspective of preparing for liquidity needs, the central cooperative consolidated restricts asset encumbrance through the quantitative limits specified in its Risk Policy.

To increase liquidity potential, it is necessary to identify the eligibility of the balance sheet receivables as collateral and create readiness to use receivables as collateral.

Securing liquidity in stress conditions

OP Financial Group's liquidity contingency plan establishes a framework that safeguards the Group's ability to meet its payment obligations, even during a liquidity crisis. The plan provides well-defined operational guidelines and operating models for identifying an increased liquidity risk. It also steers OP Financial Group towards timely and appropriate measures for reducing liquidity risk, by ensuring efficient organisation and actions if the threat of a crisis grows. The contingency plan specifies control and monitoring practices for each liquidity level, which become more rigorous when moving up to the next level.

Furthermore, OP Financial Group's Recovery Plan includes liquidity management recovery measures.

Liquidity risk reporting

The Group reports liquidity risks to the central cooperative's management on a regular basis and, with a heightened threshold level of the liquidity status, will adopt weekly or daily progress reporting practices whenever necessary. OP Financial Group companies report liquidity risks to their boards of directors regularly, applying at least the level which has been set for limits. As part of OP Financial Group's risk analysis, Risk Management reports quarterly to the Risk Committee, which operates under the central cooperative's Board of Directors, on liquidity risks.

Liquidity management and control within the amalgamation

Liquidity regulation as such is not applied to the amalgamation's companies. However, with the ECB's permission, the central cooperative may give member banks special permission to deviate from the liquidity regulation. As the central institution of the amalgamation of cooperative banks, OP Cooperative has granted its member credit institutions special permission, under the Act on the Amalgamation of Deposit Banks. Pursuant to the Act, the liquidity requirements set for credit institutions mentioned in Part VI of the EU Capital Requirements Regulation are not applied to OP Cooperative's member credit institutions. Liquidity based on the regulation is subject to supervision and reporting at the level of the cooperative banks' amalgamation. To fulfil the prerequisite for granting special permission, the central cooperative gives the amalgamation's companies instructions on the risk management needed to secure liquidity and meet other qualitative requirements, and supervises compliance with these instructions.

The central cooperative senior management is responsible for organising OP Financial Group's centralised liquidity risk management according to liquidity strategy policy lines. It must ensure that management and supervision of the amalgamation's liquidity accord with the scope and quality of business, and fulfil regulatory requirements, at all times.

In the sales control of borrowing and lending, the management pays attention not only to growth and profitability targets but also to liquidity features. Product development related to customer service must also aim to reduce risks associated with the liquidity and funding structure.

OP Financial Group's liquidity and wholesale funding plan and authorisations to raise capital on the financial markets are subject to approval by the Boards of Directors of OP Corporate Bank and OP Mortgage Bank. The central cooperative's senior management approves the Liquidity Contingency Plan which contains the control and supervision procedures of the liquidity status based on various threshold levels as well as funding sources.

As OP Financial Group's treasury, OP Corporate Bank plc is tasked with securing the liquidity of the entire Group and each OP cooperative bank or Group company. OP Financial Group places its entities' liquidity in its Treasury's cheque account with the Bank of Finland. This means that the Group always manages its overall liquidity position through the account on a centralised basis. OP Financial Group's Treasury is in charge of the Group's wholesale funding, manages the Group's short-term liquidity, maintains the liquidity buffer, manages the Group's minimum reserve on a centralised basis and is responsible for managing intraday liquidity risk. OP Corporate Bank manages on a centralised basis the Group's wholesale funding in the form of debt capital and equity capital, while OP Mortgage Bank manages wholesale funding based on covered bonds.

Based on the decision by the Board of Directors or a body it has authorised, Group Treasury may use the collateral securities in the entire OP Financial Group in a normal circumstance. In a severe liquidity crisis caused by money and capital market disruptions or by other reasons or in preparing for it the central cooperative's Board of Directors, or a body it has authorised, obliges the amalgamation's member banks to either sell loans to OP Mortgage Bank or to place part of their loan portfolio as collateral for the covered bond issued by OP Mortgage Bank through an intermediary loan. The amounts of the loans to be needed are based on the Group-level need and are determined for each bank. The decision may be put into practice based on a decision made by the central cooperative's Board of Directors or a body it has authorised. Member banks are committed to immediately executing any measures related to the decision.

The primary funding sources of OP cooperative banks' lending include equity capital, deposit funding and funding for intermediary loans from OP Mortgage Bank. The use of intermediary loans reduces the need for OP Financial Group's senior funding.

If surplus liquidity emerges in an OP cooperative bank's customer business, it will be channelled to investment products provided by the Group's Treasury to support the implementation of the entire OP Financial Group's mission. Investment is not counted among the basic tasks of OP cooperative banks.

Allocation of liquidity risk costs within the amalgamation

The costs of wholesale funding and liquidity buffer maintenance are allocated among member banks based on the matching principle adopted by the central cooperative senior management. The costs of liquidity maintenance are allocated through liquidity deposits and the costs of wholesale funding are allocated through the margin added to the base rate of OP Financial Group's loans/deposits, or by using another practice.

Market risks

Interest Rate Risk in the Banking Book (IRRBB) management strategy

The interest rate risk in the banking book is posed by retail banking transactions and the size of risk is affected by developments in customer credit and deposits. The interest rate risk in the banking book has been defined as one of OP Financial Group's significant risks.

The general principles for managing interest rate risk in the banking book are as follows:

- Senior management is responsible for arranging the management of interest rate risks in the banking book as part of OP Financial Group's banking activities, in line with the interest rate risk management strategy and grounded, stable and documented practices. Such methods must ensure that realisation of interest rate risk in the banking book (IRRBB) remains at Group level and within the limits set for each bank, and that the IRRBB is compliant with regulations.

- IRRBB limits set the size of interest rate risk at a level matching each member bank's risk-bearing capacity, taking account of each bank's deposit funding structure. This is particularly necessary when an attempt is made to increase net interest income using spreads between long-term and short-term interest rates.
- Member banks of the amalgamation manage interest rate risk in the banking book within the scope of the risk policy and limits, other guidelines and targets issued by the central cooperative, and the terms and conditions of accounts, deposits and loans. Member banks must understand how interest rate movements and customer behaviour affect net interest income and have sufficient expertise in the use of derivatives in order to manage interest rate risks related to products provided by the Group Treasury. As part of their annual planning, member banks prepare an ALM plan that includes a management plan for their interest rate risk in the banking book.
- Overall interest rate risk in the banking book (IRRBB) is monitored by OP Financial Group's Treasury, and the Banking ALM Committee can provide member banks with recommendations on how to manage interest risk. Such recommendations can be binding.
- The central cooperative must ensure that, through centralised hedge accounting, the financial statements of the Group and its major companies take account of interest rate risk transfer, in accordance with the nature of businesses in question.
- Interest income risk metrics are used to assess changes in net interest income and present value risk metrics to measure changes in the value of on-balance sheet and off-balance sheet items over the entire term to maturity assumed for the contracts. The interest rate outlook must include an assessment of how changes in the general interest rate and the shape of the rate curve will impact on net interest income and the present value of balance sheet items.
- When measuring interest rate risk, account must be taken of optionalities included in assets and liabilities, so as to make their impact visible in future cash flows. The models' functionality is ensured in accordance with the model risk management principles.
- When measuring interest rate risk, equity items – equity capital, cooperative capital and retained earnings – are non-interest-bearing liabilities which are placed on a timeline in accordance with the term structure set for them. In risk calculation, subordinated loans in own funds are treated in accordance with their contractual terms and conditions. In the case of Profit Shares, cash flows must be set in accordance with the customer promise in each case.
- Regular stress tests must be performed regarding interest rate risk. In particular, this involves testing any change in customer behaviour in relation to how credit, deposits and Profit Shares have performed historically as portfolios. Other changes in key business assumptions, such as the removal of zero floors for reference interest rates, must also be tested.
- The risk assessment procedure applied to OP Financial Group's new products, services, operating models, processes and systems must ensure that the requirements of interest rate risk management are appropriately described and taken into account when developing customer business.
- Economic capital is allocated for interest rate risk in the banking book in relation to interest rate risk.

Management of other market risks in Banking through the balance sheet

Other market risks associated with revenue logic arising from banking through the balance sheet are chiefly due to the management of OP Financial Group's liquidity buffer and OP Corporate Bank's portfolio of bonds.

OP Corporate Bank's Group Treasury manages OP Financial Group's banking liquidity buffer. The regulatory liquidity coverage ratio (LCR) determines the constraints on the size and allocation of the liquidity buffer. Alongside Group Treasury deposits, the liquidity buffer contains the liquidity buffer portfolio, and items in the liquidity buffer portfolio must conform to the regulatory creditworthiness and liquidity requirements. For this reason, the portfolio includes securities carrying a very low likelihood of credit losses materialising. Because these securities most often have fixed interest rates, their value varies depending on movements in market rates and credit spreads.

The liquidity buffer portfolio is monitored and managed using market risk management methods:

- The Banking risk policy determines the risk measurement methods and risk-taking limits, as well as other restrictions.
- An investment plan is prepared for the investment portfolio, describing the goals of investment activities and the principles of portfolio management. OP Corporate Bank's Board of Directors approves the investment plan.
- The Group ensures sufficient portfolio diversification by means of restrictions by issuer.

In addition, OP Corporate Bank invests in corporate bonds. OP Corporate Bank's bond portfolio is OP Corporate Bank's equivalent to lending. An investment plan is prepared for each portfolio, describing the goals of investment activities and the principles of portfolio management.

OP Corporate Bank manages equity and real estate risk in Banking primarily through instructions which strictly limit risk-taking. Real estate risk chiefly involves real property units used by OP cooperative banks. The current Banking business models do not call for an increase in equity or real estate risk.

If surplus liquidity emerges in an OP cooperative bank's customer business, it will be channelled to investment products provided by OP Financial Group's Treasury to support the implementation of the entire OP Financial Group's mission. Investment is not counted among the basic tasks of OP cooperative banks. In their social role, OP cooperative banks may invest in local private equity funds in their operating region. With their investments, the banks, according to their cooperative values, support prosperity in their region and economic activity in their region and among the bank's customer base.

In car dealer financing, OP Financial Group can offer products where the risk of the car's resale value at the end of the contract period is borne by OP Corporate Bank. If the actual selling prices are less than the estimate used in the pricing of the contract, revenue will be lower than targeted or a loss will be made. To manage risks, it is important to limit the financed assets so that their prices can be predicted and their realisation goes smoothly.

Risk management in Markets

OP Financial Group's trading in capital market products has been centralised in OP Corporate Bank's Markets function. This includes the price setting and market hedging of interest rate hedging products for loans granted by OP cooperative banks and OP Corporate Bank, separate interest rate hedges, foreign exchange trading, structured investment products, trading in bonds and commodity derivatives. The risks taken include market risks such as interest rate risk in different currencies, currency risk, volatility risk related to options, credit spread risks, and credit risks such as counterparty and issuer risks. Repurchases of structured investment products also generate a degree of equity risk. Markets is responsible for managing the Group's currency exposure and does foreign exchange transactions on the market according to needs. Markets manages risk exposures by actively trading on the market. Markets monitors risks and earnings on a daily basis. In addition, Risk Management reports Markets' risks to the Board of Directors' Risk Committee and the senior management, as part of OP Financial Group's risk analysis.

The Markets function is exposed to risks associated with liquidity and market liquidity. The risk associated with liquidity is due to secured derivative contracts' collateral requirements dependent on market values. This is managed as part of other liquidity management conducted by Treasury. The low market liquidity of some markets and products, general market liquidity weakening or technical malfunction on the part of the central counterparty may lead to a situation where the needed transactions cannot be executed at the expected price or following the selected hedging strategy is not possible. Regarding risks associated with the liquidity of markets, it is necessary to ensure that customers have been proactively informed of the consequences of any possible differing market situations. Furthermore, it is necessary to create preparedness to use, if needed, an alternative central counterparty to ensure the continuity of customer business.

Market risks taken by the Markets function are measured using the expected shortfall measure, as well as various sensitivity and nominal value metrics for specific products and positions. The impacts of market movements that are significant to the business are assessed via stress tests. This is important in order to understand the risks of rare market movements and those with a major impact. Economic capital need is calculated in relation to market risks taken by the Markets function. The risk policy sets limits and frameworks for business models. The risk policy is prepared in such a way that the risks are visible for each business model and any risk-taking that goes beyond the business model is tightly constrained.

Entering into derivative contracts gives rise to counterparty credit risk, which is managed by applying customer-specific limits. OP Corporate Bank's credit decision process decides on the limits. The counterparty risk posed by derivatives is included in the economic capital requirement related to credit risk. To take account of the risk, OP Corporate Bank adjusts the valuations of derivatives using Credit Valuation Adjustment (CVA and DVA). The size of the valuation adjustment is affected by the credit-risk-free valuation of derivatives, interest rates, volatility of interest rate options, exchange rates, and credit risk market price. Fluctuations in adjustments to the value of credit risk due to the valuation adjustment are mitigated by entering into derivative contracts.

Ownership of bonds and money market instruments causes issuer risks, which are limited using issuer-specific limits, or allocation limits on the corresponding limits used by the Markets function.

Some risks arising from interest-rate hedges for loans are transferred to Markets, which trades on the market to cover them. Risks associated with operations include interest rate and volatility risk. In some products, the forecast client behaviour has a significant effect on the pricing of the product and risk hedging. If, on the whole, the client's behaviour differs significantly from the predicted one, the realised client return may be lower or higher than expected and the risk position over-hedged or under-hedged. Client behaviour risk differs from market risks in that the risk cannot be hedged on inter-bank markets. Risk management is based on OP cooperative banks' client relationship management, real-time monitoring of client behaviour and the use of accumulated data in the development of forecast models.

Risk management for the Asset Management business model

Key risks of the asset management function include operational and compliance risks related to service provision, and prospective business risks such as changes in the economic situation, competition or customer behaviour. The sale of asset management products is subject to detailed regulation seeking to ensure that clients understand the risks, costs and environmental and social impacts of their investment decisions. The sale of investment products carries a reputational risk. The effect of market developments on assets under management exposes to market risks involved in the revenue earned by business.

In asset management business activities, low liquidity may be a feature of an investment (for example, real property) or liquidity may become weaker in exceptional market conditions, in which case, for example, certain securities are not traded actively or differ greatly in their bid and asked prices. Liquidity risk may also be shown due to unexpected customer behaviour, especially in turbulent markets, for example in terms of larger-than-usual redemption requests sent to a mutual fund. This may result in a situation where the fund cannot perform the redemptions. Liquidity risk associated with the asset management business must be managed in advance by informing customers of liquidity risks associated with the investment product in marketing materials. In problem situations, liquidity risk is managed by delaying and interrupting redemptions, charging redemption fees or changing pricing and possibly increasing cash allocation.

Operational risk management processes often include risk assessments of products, services and investments, and at least annual risk and control self-assessments of existing processes and practices. In addition, development processes for new products, services and investments include internal discussions involving representatives of the supporting assurance functions. Such discussions ensure that development takes account of risk management and regulatory compliance, and that internal control forms part of operating models and product monitoring. Risk statements on new products and services are drawn up by independent risk management and compliance functions. OP Asset Management's risk management processes also include internal committee work. The risk management and compliance functions take part in committees and consideration of new products and operating models.

By ensuring that the product range meets customer demand and needs, customer retention can be improved in situations where clients want to switch or diversify their investments. A capital requirement is set for risks within the risk type, Other assessable risks.

2.3 Risks of insurance operations

Life insurance risks

Biometric risks associated with life insurance products consist of higher claim payouts than expected in most cases of death, or longer periods of pension disbursements than expected. Mortality and life expectancy affect a life insurance company’s risk exposure in pure life insurance policies and pension policies. Longevity risk is particularly significant for group pension insurance policies under a defined benefit plan and in other portfolios of lifelong pensions, because these contracts do not contain any significant mortality risk to counterbalance the risk exposure.

The policyholders’ customer behaviour gives rise to lapse risk. Policyholders have the right to stop paying their premiums, terminate the contract early, or change the contract based on an embedded option in a way which results in higher risk for the company. One example of such options is the customer’s right to change the profit type of their assets from unit-linked to one with technical interest, which increases interest expenses. Another example is the postponement of pension, which increases the longevity risk and lapse risk. Endowment policies and capital redemption contracts with the right of surrender, and term life policies (which the policyholder can terminate anytime), are particularly susceptible to lapse risk related to customer behaviour. Pension insurance can only be surrendered in exceptional circumstances.

Expense risk refers to a situation in which incurred insurance contract management, maintenance and claims management expenses differ from those estimated in premium rating. The early lapse of insurance policies may also jeopardise the accuracy of cost assumptions used for premium rating and thereby contribute to the materialisation of expense risk.

The need for capital required by life insurance underwriting risks is assessed by applying the Solvency Capital Requirement (SCR) and the economic capital need. Stress tests are used to supplement the assessment.

Life insurance underwriting risks are managed by means of strict risk selection and pricing and by ensuring that insurance liabilities are accurate and sufficient. The customer and risk selection policies are described in the customer and risk selection guidelines, which are updated frequently.

Risks related to mortality and longevity are priced in a secure way on the basis of the conditions and situation prevailing when the policy is issued. The company can only change the prices of these long-term contracts to a very limited extent. This is why risk caused by any later changes in the premium rating bases is borne by the insurance company, which raises the premiums of new policies and records an insurance liability supplement for sold policies. Offering insurance policies with the opposite risk exposures reduces the net risk incurred by the entire insurance portfolio.

Early lapse risks related to customer behaviour, and the risk of customers exercising their option to change the profit type of their assets to a guaranteed-interest model, are managed through a competitive range of products, suitable product structures, and incentives and sanctions in the contract terms and conditions.

Expense risk is managed through adequate cost control and prudent pricing. Realisation of assumptions concerning premium rating is regularly monitored and, if necessary, the premiums of new policies are raised and additional insurance liabilities are recorded for sold policies.

Reinsurance is also used to mitigate risk. The reinsurance level is determined in the reinsurance principles approved by OP Life Assurance Company’s board of directors. The reinsurance principles set limits for the maximum retention and catastrophe protection capacity. The reinsurance principles also restrict the authority to take reinsurance counterparty risk – the document sets limits based on the counterparty’s rating grade and the reinsurance contract type (contract business, facultative).

The actuary in charge annually makes the company’s board of directors a statement of continuous compliance with the insurance liability requirements, the requirements set by the nature of the underwriting business and the opinions given by the actuarial analysis function on the insurance policy and reinsurance arrangements.

OP Financial Group limits the economic capital requirement tied up in underwriting risks relative to OP Financial Group's internal capital. Underwriting risks are, for their part, also guided by a target set in the capital plan for own funds and the requirement for solvency capital.

Non-life insurance risks

OP Financial Group manages non-life insurance underwriting risks by means of strict risk selection and pricing and by ensuring that insurance liabilities are accurate and sufficient.

Premium rating is based on risk correlation, which means that the insurance risk premium corresponds to at least the claims incurred from the insurance. The insurance premium also includes components for operating expenses and capital cost.

The bases for risk selection (customer selection and related criteria, as well as decision-making limits by insurance line) are specified in the risk policy, which is updated annually, and the guidelines, which supplement the risk policy. The documents specify decision-making powers on a multistage basis according to the size of underwriting risk, as well as risks by insurance line underwritten only to a limited extent and at the discretion of the Insurance Customers Management Team.

Insurance periods within non-life insurance are mainly one year or less, and changes in the underwriting risk level can usually be passed quickly onto insurance premiums. In respect of long-term insurance lines where risk inter-independence does not perhaps materialise, risk is managed by setting underwriting limits.

Reinsurance is also used to mitigate risk. The reinsurance level is determined in the reinsurance principles approved by the boards of directors. Reinsurance is implemented mainly through risk-specific (insured object) and loss-event-specific reinsurance cover. Potential gaps in reinsurance cover are eliminated in accordance with detailed underwriting guidelines. The risk arising from reinsurance availability is subject to strict supervision. Irrespective of the insurance line, large individual risks, such as claim accumulations arising from natural disasters or human activity, are reinsured.

The reinsurance principles set limits for the maximum retention and catastrophe protection capacity. The reinsurance principles also restrict authorisations to take reinsurance counterparty risk because the document sets limits based on the counterparty's rating grade and the reinsurance contract type (contract business, facultative, fronting). Local risk concentrations are included in the Estimated Maximum Loss (EML) for property and business interruption risks, and through EML breakthrough cover included in reinsurance cover.

The amount of insurance liabilities is estimated securely in such a way that it would be sufficient to fulfil the obligations arising from insurance contracts. This is performed by first estimating the expected value for insurance liabilities, and then determining a safety loading based on the degree of uncertainty. The actuary in charge annually makes the company's board of directors a statement of continuous compliance with the insurance liability requirements, the requirements set by the nature of the underwriting business and the opinions given by the actuarial analysis function on the insurance policy and reinsurance arrangements.

Non-life insurance underwriting risks are assessed by applying the Solvency Capital Requirement (SCR) and the economic capital need. Stress tests are used to supplement the assessment. The economic capital need tied up in underwriting risks is limited relative to OP Financial Group's internal capital. Underwriting risks are also restricted by a target set in the capital plan for the ratio of own funds to the solvency capital requirement.

Market and counterparty risk management in life and non-life insurance

Management of structural interest rate risk and other investment risks

The management of market risks in life and non-life insurance covers all of the market risks on the balance sheet, consisting of insurance liabilities, investments and derivatives. Investment operations aim to ensure customer income, obtain assets covering insurance liabilities, and invest profitably to generate returns. Investment operations take account of factors such as the structural interest rate risk arising from the cash flow structure of insurance liabilities, and the other requirements that insurance liabilities impose on investment assets and their liquidity. For this reason, companies must divide future cash flows, the related uncertainties and causes of uncertainty by insurance type and asset class. In addition, in their investment plan, companies must define and give grounds for which investment instruments are covered by which part of insurance liabilities and how large a deviation will be allowed between the duration of investment portfolio and insurance liability cash flows, interest rate sensitivity and other relevant key figures. Application of the principle of equity in life insurance also affects investment targets and the amount of risk taken.

An analysis of structural interest rate risk – interest rate risk on the balance sheet – begins by assessing how well cash flows from fixed income investments and insurance liability match each other (Asset and Liability Management, ALM). Interest rate movements affect the value of insurance liabilities as well as investments and hedging derivatives. The companies' market risks on the balance sheet are managed in line with investment plans, using investment allocation and insurance liabilities as hedging, while taking account of expected returns.

In the Solvency II framework and the economic capital need model, the insurance liability discounting curve includes a volatility adjustment, which also exposes to credit spread risk on the balance sheet in terms of structural interest rate risk. In respect of the level of the credit spread related to interest rate risk on the balance sheet, the consistency of the risk profiles of assets and liabilities is essential. Differences between the companies' fixed income investments and volatility adjustment portfolio may be related to geographical distribution, corporate loan sectors, credit ratings or maturities. Fixed income investments involve a risk of credit loss and a lower credit rating for the investment in question; sufficient diversification is used to manage such risk.

The magnitude of market risks is measured and limited by the Value at Risk metric and various sensitivity indicators, as well as the amount of the economic capital need and the solvency capital requirement (SCR). Stress tests are used to supplement the assessment. Insurance companies' risk concentrations within asset classes are assessed by examining the asset class allocation distribution.

Market risks are limited using risk limits, which are set in revenue logic-specific risk policies and investment plans confirmed by the Board of Directors. Risk policies set limits for market risks that are determined based on the limits based on OP Financial Group's Risk Appetite Statement. Insurance liability hedging targets are set in the companies' investment plans. Asset class limits are set for liquid and illiquid investments. Credit rating limits are used to manage credit risks related to the investment portfolio. Separate investment plans are prepared for the life insurance portfolio (ETA 1) and the pension insurance portfolio (ETA 2) transferred from Suomi Mutual Life Assurance Company to OP Life Assurance Company. The boards of directors of the insurance companies also approve principles for the use of derivatives for inclusion in the investment plans. In addition to the Group's risk policy lines and limits, investment portfolios are restricted by the responsible investment principles confirmed by the companies' boards of directors.

Insurance companies' investment activities involve a country risk due to the geographical distribution of investments. Such risk is limited by setting a maximum limit based on a credit rating from outside the country in question (the risk country) – a credit rating given by an international rating agency. On the basis of OP Financial Group's maximum limits for each country, company-specific country limits are allocated separately to OP Life Assurance Company and Pohjola Insurance in order to limit geographical concentrations in their investments. The geographical distribution of investment risks is regularly monitored.

The insurance companies' insurance liabilities do not, in principle, cause currency risks because their insurance liabilities are normally denominated in euros. For OP Life Assurance Company, all insurance liabilities are denominated in euros. For this reason, a substantial proportion of investments covering insurance liabilities are allocated to euro-denominated securities, or open currency risks are hedged.

Counterparty risk management

The counterparty risk of reinsurers is managed using limits for specific rating grades and counterparties in accordance with the reinsurance principles confirmed by the Board of Directors and in the investment plans.

The counterparty risk related to the investment portfolio is limited using risk limits, being included in the investment plan on this basis. Diversification limits are set for direct and fund investments. Sufficient diversification of insurance companies' investment portfolios is ensured by issuer limits set in the companies' investment plans. Derivative-related counterparty risk is limited on the basis of the counterparties' credit ratings. The derivative instruments to be used and related practices are described in the documentation, approved by the Board of Directors, on the principles underlying the use of derivatives.

Capital is reserved for counterparty risks in the economic capital need model and the SCR measurement.

Note 3. Changes in accounting policies and presentation

1. Effective interest rate of TLTRO III loans

OP Financial Group's TLTRO III funding amounted to a total of EUR 12 billion (16) at the end of December. The interest rate for TLTRO III funding for each loan between 23 June 2022 and 22 November 2022 is the average of the ECB's deposit facility rate between the start date of the loan concerned and 22 November 2022, and after that the ECB's deposit facility rate. The effect of items related to TLTRO III funding and its hedging amounted to EUR -10 million (103) during the reporting period.

The effective interest rate for TLTRO funding has been calculated by taking account of all the loan's contractual terms and management judgement of expected payments. If changes occur later in the loan's contractual terms or management judgement, they will be treated as changes in the loan's carrying amount. The gross carrying amount of the loan is recalculated in such a way that it corresponds to the present value of the reassessed cash flows that is discounted at the loan's original effective interest rate. The resulting adjustment is recognised through profit or loss.

2. Adoption of IFRS 17 Insurance Contracts

OP Financial Group has applied IFRS 17 Insurance Contracts since 1 January 2023, which is the mandatory effective date. The European Union adopted IFRS 17 on 19 November 2021. In addition, OP Financial Group has applied an amendment to IFRS 17 that allows a classification overlay for financial assets. This removed an accounting mismatch between insurance contract liabilities and related financial assets due to the adoption of IFRS 17 for the adjusted comparative information. The European Union adopted the amendment on 8 September 2022.

IFRS 17 affects the measurement and recognition of OP Financial Group's non-life and life insurance products as well as their presentation in the financial statements. For the presentation of the balance sheet, the rights and obligations involved in insurance contracts are netted and presented either in assets or liabilities. In the income statement, the insurance service result is presented as a subtotal and separately investment income. In addition, the new standard means more qualitative and quantitative requirements for notes to the financial statements, such as reconciliation statements for changes in the net carrying amounts of insurance contracts during the period and an analysis of insurance service income per valuation component.

The most important goal of the standard is to harmonise the measurement of insurance contract liability on a global basis; the measurement under the existing insurance contracts standard is based on national measurements. Under IFRS 17, measurement is based on current estimates, as is the case in insurance companies' solvency measurement. However, IFRS 17 differs from solvency measurement in terms of its purpose and principle basis. The current practice, in which insurance contract liability may contain implicit margins of risk-bearing and future profits, will cease to exist. leading to explaining changes in liability in a transparent way.

Significant changes to OP Financial Group's accounting policies of the financial statements under IFRS are shown below.

IFRS 17 is applied to contracts under which OP Financial Group accepts significant insurance risk from another party. When making an assessment, OP Financial Group takes account of all terms included in a contract, explicit or implied, but OP Financial Group shall disregard terms that have no commercial substance. Contracts held by OP Financial Group that transfer significant insurance risk of underlying insurance contracts to another party are classified as reinsurance contracts and are included within the scope of the standard. Insurance contracts and reinsurance contracts expose OP Financial Group to financial risk too. Changes in assumptions of financial risk and changes in liability arising from market changes can be reversed with changes in the fair value of assets in income/expenses.

Insurance contracts with no direct participation features are measured using the General Measurement Model (GMM). This measurement model is applied to typical non-life insurance contracts and the life insurance contracts that do not fulfil the criteria of the variable fee approach (VFA). Insurance contracts with direct participation features are measured using the VFA. These are unit-linked insurance contracts which have a significant insurance risk. On initial recognition, OP Financial Group assesses whether the contract includes direct participation features using the following criteria:

- The contractual terms specify that the policyholder participates in a share of a clearly identified pool of underlying items (e.g. investment basket).
- OP Financial Group expects to pay to the policyholder an amount equal to a substantial share of the fair value returns on the underlying items.
- OP Financial Group expects a substantial proportion of any change in the amounts to be paid to the policyholder to vary with the change in fair value of the underlying items.

For initial measurement, insurance contracts are identified and grouped into those subject to similar risks and managed together. Insurance contracts are measured at cohort level that is created by means of a product line, customer group and cohort year. Contracts are grouped further based on their level of profitability and if the group of contracts is onerous on initial recognition or the existing group becomes onerous, the loss is immediately recognised in the income statement.

Insurance acquisition expenses are capitalised in assets in the balance sheet to the extent they can be deemed to relate to the renewal of the contracts. Capitalised acquisition expenses are allocated to the groups of future insurance contracts based on experience data using a systematic and rational method, which is presented in Other assets in the balance sheet. Capitalised cash flows are derecognised and are included in the measurement of the related new group of insurance contracts at the date of initial recognition. OP Financial Group regularly assesses the recoverability of an asset for insurance acquisition cash flows. OP Financial Group recognises an impairment loss in profit or loss if facts and circumstances indicate that the asset may be impaired. This is applied to the non-life insurance products where it is typical that some customers renew short 12-month policies, when the capitalisation criteria are fulfilled.

OP Financial Group recognises a group of insurance contracts are from the earliest of the following:

- the beginning of the coverage period of the group of contracts
- the date when the first payment from a policyholder in the group becomes due
- the date when the group of contracts becomes onerous.

The fulfilment cash flow of the group of insurance contracts is a sum of the following components:

- the fulfilment of cash flows adjusted with the time value of money
- risk adjustment that reflects OP Financial Group's risk appetite
- the contractual service margin that is a residual item and represents unearned profit.

If the contractual service margin is negative, the group of contracts is onerous and the loss is immediately recognised in loss.

The following items are included in the cash flows of groups of insurance contracts:

- cash flows within the boundary of an insurance contract and those that relate directly to the fulfilment of the contract (such as claims settlement expenses and administrative expenses as well as net commission expenses), including cash flows for which OP Financial Group has discretion over the amount and timing
- investment components with a high interrelation with insurance contracts as master agreements
- any potential embedded derivatives closely related to insurance contracts as the master agreement
- a promise that may be included in insurance contracts to provide non-insurance services or products when it is the question of ancillary cash flows.

Some life insurance contracts include investment components where their determination varies by contract type. The expenses of these investment component are presented separate from other incurred insurance service expenses.

Subsequently, at the end of each reporting period, the carrying amount in the balance sheet of the group of insurance contracts includes:

- the liability for remaining coverage (LRC) period that includes measurements of the components defined in initial recognition on the reporting day, cash flows of the contracts related to the future service to be provided and the value of contractual service margin
- the liability incurred for claims (LIC) that includes claims and expenses for past service allocated to the group of insurance contracts at that date that have not yet been paid and claims that have occurred but have not yet been reported.

When measuring groups of insurance contracts, estimates of future cash flows reflect future assumptions made at the measurement date, the discount rate used is the rates at the measurement date and the estimate of risk adjustment for non-financial risk is revised. Discount rates used to determine the rate accreting on the contractual service margin are locked-in rates determined for contracts under the GMM model at the beginning of the group of contracts and for contracts under the VFA model the rate at the reporting date.

The contractual service margin represents the unearned profit of the group of insurance contracts and an amount of the contractual service margin is recognised in profit or loss in each period to reflect the insurance contract services provided under the group of insurance contracts in that period. The amount recognised in profit or loss is determined by:

- identifying the coverage units in the group of insurance contracts. The number of coverage units in a group is the quantity of insurance contract services provided by the contracts in the group, determined by considering for each contract the quantity of the benefits provided under a contract and the contract's duration
- allocating the contractual service margin at the end of the period (before recognising any amounts in profit or loss to reflect the insurance contract services provided in the period) equally to each coverage unit provided in the current period and expected to be provided in the future
- recognising in profit or loss the amount allocated to coverage units provided in the period.

At OP Financial Group, coverage units are determined for the forecast lifecycle of the contract. For typical non-life insurance contracts of short duration, insurance service is interpreted to be provided evenly during the coverage period and insurance premiums received from contracts in the same insurance group are used as the basis for the coverage unit at insurance group level. The forecast lifecycle recognition of the contractual service margin of life insurance products in profit or loss, depending on the contract type, is affected by the saved amount by group, expected duration of the contract, amount of compensation or savings, lapses and future insurance premiums. Release of the contractual service margin and the basis of coverage units vary by insurance line: the basis is the development of the amount of assets for endowment-type insurance products and the development of capital at risk for term life insurance. In the reference year 2022, the basis is, however, an insurance premium with respect to term life insurance products.

In the VFA model, a company's share of changes in the fair value of underlying investments is included in the contractual service margin that changes on each reporting date.

Reinsurance contracts are grouped using the same principle as direct insurance contracts, but proportional and non-proportional reinsurance contracts are additionally grouped separately. The date of initial recognition of reinsurance contracts held is earlier of the following:

- the start date of the coverage period of the group of reinsurance contracts. If this date is later than the start date of the coverage period of the group of reinsurance contracts, recognition is delayed until the underlying insurance contract has been initially recognised.
- The date when OP Financial Group recognises an onerous group of underlying direct insurance contracts when OP Financial Group entered into the related reinsurance contract held in the group of reinsurance contracts held at or before that date.

OP Financial Group adjusts the contractual service margin of reinsurance contracts held and, as a result, recognises income when recognising a loss either in connection with initial recognition of the group of underlying onerous reinsurance contracts or when adding underlying onerous insurance contracts to the group. This adjustment to the contractual service margin and the resulting income are determined by multiplying:

- the loss recognised on the underlying insurance contracts
- the percentage of claims on the underlying insurance contracts OP Financial Group expects to recover from the group of reinsurance contracts held.

Income of the group of insurance contracts is presented in the row Insurance premium revenue in the income statement, comprising the measurement of the following components: future cash flows, risk adjustment for non-financial risk and contractual service margin. Expenses related to the group of insurance contracts consist of claims incurred, losses from onerous contracts, changes related to prior periods and operating expenses and they are presented in the row Insurance service expenses. Expenses and income related to reinsurance contracts are presented in the row Net income from reinsurance contracts. The income statement item Net insurance finance income and expenses includes the effect of change in the discount rate and other financial changes on the value of insurance contract liability and the effect of the passage of time, meaning unwinding of discount. In addition, the item includes an option of risk mitigation to apply to certain life insurance contracts. Applying this option gives an opportunity to adjust accounting for contracts under the VFA model in such a way that those changes in cash flows involving a hedgeable position in respect of funding risk are transferred from the contractual service margin to the income statement. In the balance sheet, future cash flows related to contracts are presented in net terms and grouped into insurance contract liabilities or assets at portfolio level and into reinsurance contract liabilities or assets at portfolio level. The current presentation based on expense types in the income statement will change because, as a result of IFRS 17, a proportion of personnel costs, depreciation/amortisation and other operating expenses is included in the calculation of insurance contract liability under IFRS 17 and presented in Insurance service expenses.

OP Financial Group has made the following significant choices related to the accounting policies:

- Presenting financial income and expenses related to the insurance for the period through profit or loss; discounting curves are derived as the sum of the risk-free interest rate and the liquidity premium dependent on the characteristics of insurance contracts (bottom-up approach), extrapolating long-term interest rates. Similarly, investments related to insurance contract liability are reclassified in such a way that their fair value is presented through profit or loss. The overlay approach applied to equity investments allowed by IFRS 4 ceases to be effective at the date of initial application.
- A risk mitigation option is used for certain contracts based on the VFA that are hedged according to the goal and strategy of the management of market risks in interest rate risk on the balance sheet. This removes the result mismatch.
- The Cost of Capital Method is used to determine risk adjustment.
- OP Financial Group does not apply the Premium Allocation Approach (PAA), nor does it apply the option allowed by IFRS 17 adopted in the European Union to group together several annual cohorts.

In the transition to IFRS 17, the modified retrospective approach is applied to non-life insurance contracts covering all types of insurance contracts to which fully retrospective transition approach cannot be applied. The modification is especially used to adjust cash flows that have already realised and to determine the discount rate. Insofar as complete data are not in all respects available for applying the full retrospective approach, the modified retrospective approach, permitted by the standard, is applied to in situations where reasonable and supportable information can, however, be used that is available without undue cost or effort. The end results of the modified retrospective approach will quite closely correspond to those of the full retrospective approach.

In addition, the fair value approach is applied to life insurance contracts and other non-life insurance contracts to which the modified retrospective approach is not applied. According to the option allowed by the transitional provisions, all contracts are grouped on a portfolio basis into one transition cohort. The full retrospective approach is the primary transition model, but it must be able to be applied without hindsight relating, for example, to data concerning cash flows received and paid before the transition, their estimates and changes itemised for each group of insurance contracts in view of the inception year of contracts.

As a result of the IFRS 17 transition, OP Financial Group's equity capital on 1 January 2022 decreases by 52 million euros on the date of transition. Solvency II valuations are used in FiCo calculation, so this change to OP Financial Group's equity capital will not affect the FiCo ratio.

The change in equity capital on the date of transition on 1 January 2022 is itemised in the table below. Equity capital was increased by the non-life insurance capitalised acquisition costs recognised in "Other assets", totalling 238 million euros. On the date of transition, insurance contract liabilities measured under IFRS 17 were higher than those measured under IFRS 4, which lowered equity capital. Risk adjustment added to insurance contract liabilities under IFRS 17 was higher than the margin included in the calculation under IFRS 4.

Estimated effect of the date of transition to IFRS 17 on equity capital on 1 January 2022

€ million	Cooperative capital	Fair value reserve	Other reserves	Retained earnings	Total
Equity capital 31 Dec 2021	3,459	323	2,184	8,090	14,057
Effect of non-life insurance on the transition date		-121		324	202
Effect of life insurance on the transition date		-99		-123	-223
Effect of consolidation adjustments		15		4	19
Change in deferred tax asset/liability				-51	-51
Effect of IFRS 17 transition 1 Jan. 2022, in total		-205		153	-52
Equity capital on 1 Jan 2022 (capital and reserved attributable to parent company owners)	3,459	118	2,184	8,244	14,004

OP Financial Group's 2022 earnings before tax measured under IFRS 17 are estimated to be EUR 100–140 million lower than those reported in the financial statements bulletin 2022 (EUR 1,265 million lower). This earnings difference comes mainly from a change in life insurance earnings that is caused, for example, by timing differences. Furthermore, changes in the provisions for upcoming customer bonuses due to higher interest rates caused the difference. Entry into force of IFRS 17 will have no effect of the overall profitability of insurance contracts. There may be differences in the timing of recognition in profit or loss between the measurement models under IFRS 4 and IFRS 17.

In the income statement, Insurance service result will replace Net insurance income. Insurance premium revenue and Insurance service expenses are included in insurance service result. Insurance premium revenue includes recognition of the contractual service margin (CSM) in profit or loss, change of expected claims and operating expenses as well as risk adjustments and changes to prior period payments. Insurance service expenses include operating expenses of insurance contract, claims incurred and the losses of onerous contracts and changes related to prior periods. Insurance contract operating expenses include operating expenses and net commission expenses. In the income statement, these have been included as part of the insurance service result. Net income from reinsurance contracts in the income statement is presented in its specific row as part of Insurance service result.

"Net insurance finance income and expenses" is a new item in the income statement. The item includes the effect of change in the discount rate and other financial changes on the value of insurance contract liability and the effect of the passage of time, meaning unwinding of discount. In addition, the item includes an option of risk mitigation to apply to certain life insurance contracts. Applying this option gives an opportunity to adjust accounting for contracts under the VFA model in such a way that those changes in cash flows involving a hedgeable position in respect of funding risk are transferred from the contractual service margin to the income statement. This acts as a counterpart to the value change of the hedging portfolio.

Net investment income shows return on investment assets in terms of fair value. Net investment income together with net insurance finance income and expenses describes investment profitability.

Expenses in the income statement decreased because the operating expenses of insurance contracts measured under IFRS 17 were transferred to insurance service result. The item OP bonuses to owner-customers decreased because the cash flows payable from insurance contracts are included in the cash flows under IFRS 17 calculation, in case they are included as part of the insurance service result.

In OP Financial Group's balance sheet, assets of reinsurance contracts measured under IFRS 17 are in the balance sheet assets. The acquisition costs capitalised in non-life insurance are recognised in "Other assets". Insurance contract liabilities in the balance sheet replaced insurance liabilities under IFRS 4.

The fair value reserve in equity capital decreased because investments related to the insurance contract liability of non-life and life insurance has been reclassified so that their fair value is now entirely presented in profit or loss based on the option allowed by IFRS 17.

On the date of transition of 1 January 2022, the contractual service margin amounted to an estimated EUR 780 million of which life insurance accounted for an estimated EUR 690 million and non-life insurance for an estimated EUR 90 million. Non-life insurance contracts have mainly duration of one year. At the beginning of the period, new insurance contracts involve a contractual service margin, releasing during the period. In life insurance, the contractual service margin is released in the result through long-term contracts, even in the course of decades. A new contractual service margin is also created in new sales of portfolios. Recognition of the contractual service margin in profit or loss in relation to a new CSM was around 7% in the reference year. In the reference year, term life insurance coverage units were determined using premiums and capital at risk is used in coverage units from the beginning of 2023. This change has no significant effect on OP Financial Group's result.

Differences between Solvency II solvency measurement and measurement under IFRS 17

IFRS 17 changes the measurement of insurance contracts for those contracts to which the standard is applied. Measurement is market-based and close to measurement in line with Solvency II solvency measurement. Mainly the same cash flows of insurance contracts as in solvency measurement form the basis. These cash flows are discounted at a risk-free interest and liquidity premium. The risk-free interest is the same as the risk-free interest in solvency measurement and the liquidity premium corresponds to the volatility adjustment, but its size is determined based on the nature of the insurance contract liability of the Group's insurance companies and the investment universe. The risk adjustment calculated using the Cost of Capital method is added to the value of insurance contracts that conceptually corresponds to the risk margin in solvency measurement but it has been calculated using the company's own parameters. As part of the IFRS 17 insurance contract liability, a contractual service margin is reserved that spreads out the profits of insurance contracts for the coverage period. In solvency measurement, the item corresponding to the contractual service margin is not deducted from own funds but the profit of insurance contracts increases own funds directly on the first measurement date. Of the acquisition expenses of insurance contracts under IFRS 17, the portion that is considered to be allocated to future annual cohorts are capitalised in the balance sheet assets. Capitalised acquisition costs are not taken into account in Solvency II own funds.

3. Changes in the 2023 income statement and balance sheet format

OP Financial Group changed its official income statement and balance sheet format as of 1 January 2023. The key changes in income statement and balance sheet format are as follows:

a) The rows Total income and Total expenses were removed because insurance income and expenses (such as personnel costs) have been presented in the row Insurance service result since the entry into force of IFRS 17 on 1 January 2023.
b) The sub-rows of Net interest income (interest income and interest expenses) and Net commissions and fees (commission income and commission expenses) have been broken down in presentation.
c) Impairment loss on receivables was transferred from the end of the income statement next to net interest income to operating items.
d) New items under IFRS 17, Insurance service result and Net insurance finance income were added to the income statement. The former row Net insurance income was removed.
e) Net income from financial assets held for trading is presented on a specific row separate from Net investment income. Net income from financial assets held for trading includes only Banking and Group Functions items. Net investment income includes net income from financial assets at fair value recognised through comprehensive income, net income from financial assets recognised through profit or loss, net income from investment property, net income from financial assets carried at amortised cost, the result of the associate or joint venture as well as net income from life insurance investment contract liabilities recognised according to IFRS 9.
f) Operating expenses Personnel costs, Depreciation/amortisation and impairment loss and Other operating expenses are mainly presented the same way as previously, showing OP Financial Group's total expenses, but item Transfers to insurance service result next to these items has been added. It describes how much of these expenses are presented in Investment service result.
g) A new row, Operating profit, is presented in the income statement. OP bonuses are presented next to Operating profit before the row Earnings before tax. The OP bonuses row no longer includes OP bonuses earned from insurance because they are presented in the insurance service result.
h) The balance sheet presents new balance sheet items under IFRS 17: Insurance contract assets, Reinsurance contract assets, Insurance contract liabilities and Reinsurance liabilities.
i) The balance sheet item Investment contract liabilities presents life investment contracts measured in accordance with IFRS 9.

Income statement

	Explanation of the format change:
Interest income	b) New row
Interest expenses	b) New row
Net interest income	No change
Impairment loss on receivables	c) Moved to another place in the format
Commission income	b) New row
Commission expenses	b) New row
Net commissions and fees	No change
Insurance premium revenue	d) New row under IFRS 17
Insurance service expenses	d) New row under IFRS 17
Net income from reinsurance contracts	d) New row under IFRS 17
Insurance service result	d) New row under IFRS 17
Net insurance finance income (+) /expenses (–)	d) New row under IFRS 17
Net interest income from financial assets held for trading	e) New row
Net investment income	e) Item content has changed
Other operating income	No change
Personnel costs	No change
Depreciation/amortisation and impairment loss	No change
Other operating expenses	No change
Transfers to insurance service result	f) New row related to the adoption of IFRS 17
Operating expenses	f) New row related to the adoption of IFRS 17
OP bonuses to owner-customers	g) Item content has changed
Operating profit (loss)	**g) New row**
Earnings before tax	**No change**
Income tax	No change
Profit for the period	**No change**

Balance sheet

	Explanation of the format change:
Cash and cash equivalents	No change
Receivables from credit institutions	No change
Receivables from customers	No change
Derivative contracts	No change
Investment assets	No change
Assets covering unit-linked contracts	No change
Insurance contract assets	h) New row under IFRS 17
Reinsurance contract assets	h) New row under IFRS 17
Intangible assets	No change
Property, plant and equipment	No change
Other assets	No change
Tax assets	No change
Total assets	No change
Liabilities to credit institutions	No change
Liabilities to customers	No change
Derivative contracts	No change
Insurance contract liabilities	h) New row under IFRS 17
Reinsurance contract liabilities	h) New row under IFRS 17
Liabilities from investment agreements	i) New row under IFRS 17
Debt securities issued to the public	No change
Provisions and other liabilities	No change
Tax liabilities	No change
Subordinated liabilities	No change
Total liabilities	No change
Equity	No change
Cooperative capital	No change
Membership capital contributions	No change
Profit Shares	No change
Fair value reserve	No change
Other reserves	No change
Retained earnings	No change
Non-controlling interests	No change
Total equity	No change
Total liabilities and equity	No change

Note 4. Segment reporting

Segment information

OP Financial Group's business segments are Retail Banking, Corporate Banking, and Insurance. Non-business segment operations are presented under the Group Functions segment. OP Financial Group prepares its segment reporting in compliance with its accounting policies. Defining segments and presentation are based on management reporting. The segments' earnings and profitability is assessed in terms of earnings before tax.

Companies in the Retail Banking segment include OP cooperative banks, OP Koti real estate agencies, OP Retail Customers plc, OP Mortgage Bank and Pivo Wallet Oy. Net interest income forms the most significant income item of the segment. Income also comes from commissions and fees and investment. Expenses arise mainly from personnel and ICT costs and the costs of the branch network and OP bonuses to owner-customers. The most significant risk category pertains to credit risk but business also involves market risks and operational risks.

Companies in the Corporate Banking segment include OP Corporate Bank plc (excl. treasury functions), OP Custody Ltd, OP Asset Management Ltd, OP Property Management Ltd and OP Fund Management Company Ltd. Net interest income forms the most significant income item of the segment. Income also comes from banking and wealth management in terms of commission income and from investment operations. Expenses mainly come from personnel and ICT costs. The most significant risk category pertains to credit risk but business also involves market risks and operational risks.

The Insurance segment consists of OP Financial Group's non-life insurance company Pohjola Insurance Ltd and life insurance company OP Life Assurance Company Ltd. The segment's products include non-life and life insurance products sold to corporate and personal customers. Income generated by the segment derives mainly from income from insurance premium revenue, commission income and net investment income. The Insurance segment's most significant risks are underwriting and investment risks.

The Group Functions segment consists of functions that support other segments. The segment includes the majority of OP Cooperative Ltd and OP Corporate Bank plc's treasury functions. Costs of the services for the business segments are allocated to the segments in the form of internal service charges. Income from the Other Operations segment mainly consists of Treasury income and OP Financial Group's internal charges recognised in other operating income.

Segment accounting policies

OP Financial Group's segment reporting is based on accounting policies applied in its financial statements. Income, expenses, assets and liabilities which have been considered to relate directly to and be reasonably attributable to the segments are allocated to the segments. Income, expenses, investments and capital which have not been allocated to segments, and inter-segment Group eliminations are reported under 'Group eliminations'.

Q1-4 earnings 2022, EUR million	Retail Banking	Corporate Banking	Insurance	Group Functions	Eliminations	OP Financial Group
Net interest income	1,194	457	-5	-62	35	1,618
of which internal net income before tax		-35		35		
Net insurance income			901		-12	889
Net commissions and fees	773	166	73	0	-6	1,005
Net investment income	-9	136	-230	-11	-34	-149
Other operating income	39	18	36	657	-686	63
Total income	1,996	776	774	583	-703	3,426
Personnel costs	455	95	150	195	-1	894
Depreciation/amortisation	53	8	51	103	-2	214
Other operating expenses	720	218	263	376	-704	874
Total expenses	1,229	321	464	674	-708	1,981
Impairments loss on receivables	-96	-18	0	0	0	-115
OP bonuses to owner-customers	-168	-20	-21		0	-209
Temporary exemption (overlay approach)			143	0	0	143
Earnings before tax	502	416	433	-91	4	1,265

Net income of OP Corporate Bank's Baltic branches totalled EUR 30 million.

Q1-4 earnings 2021, EUR million	Retail Banking	Corporate Banking	Insurance	Group Functions	Eliminations	OP Financial Group
Net interest income	959	414	-2	10	29	1,409
of which internal net income before tax		-9		9		
Net insurance income			754		-11	743
Net commissions and fees	753	204	96	-2	-18	1,034
Net investment income	-16	171	288	-5	-62	376
Other operating income	78	97	0	684	-804	54
Total income	1,773	886	1,135	687	-866	3,616
Personnel costs	447	93	160	216	-1	914
Depreciation/amortisation	69	14	66	137	-2	283
Other operating expenses	705	211	267	444	-819	810
Total expenses	1,221	318	493	797	-822	2,007
Impairments loss on receivables	-84	-74	0	0	0	-158
OP bonuses to owner-customers	-165	-20	-21		0	-205
Temporary exemption (overlay approach)			-117		-1	-118
Earnings before tax	304	474	504	-109	-46	1,127

Net income of OP Corporate Bank's Baltic branches totalled EUR 29 million.
Value change arising from market changes in derivative contracts between Corporate Banking and Retail Banking is included in Group eliminations.

Balance sheet at 31 December 2022, EUR million	Retail Banking	Corporate Banking	Insurance	Group Functions	Eliminations	OP Financial Group
Cash and cash equivalents	52	154	0	34,797		35,004
Receivables from credit institutions	29,713	310	904	13,173	-43,302	798
Derivative contracts	1,266	5,612	76	169	-3,007	4,117
Receivables from customers	70,729	27,803	0	383	-369	98,546
Investment assets	537	298	8,714	20,485	-9,280	20,754
Assets covering unit-linked contracts			11,597			11,597
Intangible assets	23	181	717	202	29	1,153
Property, plant and equipment (PPE)	285	4	2	136	-4	423
Other assets	635	1,756	1,201	-493	-280	2,819
Tax assets	137	3	91	24	48	303
Total assets	**103,378**	**36,120**	**23,304**	**68,877**	**-56,163**	**175,516**
Liabilities to credit institutions	11,615	-36	65	42,621	-41,965	12,301
Derivative contracts	1,667	5,295	60	443	-3,033	4,432
Liabilities to customers	63,951	14,043		4,876	-1,402	81,468
Insurance liabilities			7,638			7,638
Liabilities from unit-linked insurance and investments contracts			11,662			11,662
Debt securities issued to the public	16,941	1,672		23,537	-4,711	37,438
Provisions and other liabilities	846	891	382	1,954	-224	3,849
Tax liabilities	514	2	117	372	4	1,008
Subordinated liabilities	0	-51	380	1,435	-380	1,384
Total liabilities	**95,535**	**21,816**	**20,303**	**75,239**	**-51,712**	**161,181**
Equity						**14,335**

Net assets of OP Corporate Bank's Baltic branches totalled EUR 619 million.

Balance sheet at 31 December 2021, EUR million	Retail Banking	Corporate Banking	Insurance	Group Functions	Eliminations	OP Financial Group
Cash and cash equivalents	57	183	0	32,606	0	32,846
Receivables from credit institutions	26,228	138	1,908	13,950	-41,683	541
Derivative contracts	324	3,441	85	271	-653	3,467
Receivables from customers	70,952	25,666	0	580	-251	96,947
Investment assets	624	492	9,472	21,714	-9,356	22,945
Assets covering unit-linked contracts			13,137		0	13,137
Intangible assets	27	189	768	234	-5	1,212
Property, plant and equipment (PPE)	299	4	13	137	-7	446
Other assets	397	567	988	827	-360	2,419
Tax assets	48	0	26	19	49	141
Non-current assets held for sale			8		0	8
Total assets	**98,957**	**30,679**	**26,405**	**70,337**	**-52,267**	**174,110**
Liabilities to credit institutions	12,196	111	68	43,439	-39,163	16,650
Derivative contracts	285	2,553	27	117	-715	2,266
Liabilities to customers	62,222	15,448		2,801	-2,573	77,898
Insurance liabilities			8,773			8,773
Liabilities from unit-linked insurance and investments contracts			13,210			13,210
Debt securities issued to the public	16,420	1,406		21,355	-4,286	34,895
Provisions and other liabilities	707	776	430	1,454	-232	3,134
Tax liabilities	471	11	226	399	1	1,109
Subordinated liabilities			380	1,994	-392	1,982
Liabilities associated with non-current assets held for sale			8		0	8
Total liabilities	**92,301**	**20,304**	**23,123**	**71,559**	**-47,360**	**159,926**
Equity						**14,184**

Net assets of OP Corporate Bank's Baltic branches totalled EUR 1,677 million.

Notes to the income statement

Note 5. Net interest income

EUR million	2022	2021
Interest income		
Receivables from credit institutions	111	0
Receivables from customers		
Loans	1,623	1,238
Finance lease receivables	35	31
Total	1,658	1,269
Notes and bonds		
Measured at fair value through profit or loss	0	0
At fair value through other comprehensive income	66	52
Amortised cost	0	0
Total	66	52
Derivative contracts		
Fair value hedge	-43	-144
Cash flow hedge	43	49
Ineffective portion of cash flow hedge	-17	-4
Other	0	
Total	-16	-99
Liabilities to credit institutions		
Negative interest	-23	172
Liabilities to customers		
Negative interest	24	35
Other	24	12
Total	**1,843**	**1,441**
Interest expenses		
Liabilities to credit institutions	-2	-1
Liabilities to customers	82	12
Notes and bonds issued to the public	207	136
Subordinated liabilities		
Subordinated loans		0
Other	35	58
Total	35	58
Derivative contracts		
Cash flow hedge	-159	-262
Other	-40	-35
Total	-200	-296
Receivables from credit institutions		
Negative interest	75	120
Other	14	5
Total	**211**	**34**
Net interest income before fair value adjustment under hedge accounting	**1,632**	**1,408**
Hedging derivatives	-481	-154
Value changes of hedged items	467	156
Total	**1,618**	**1,409**

Interest income calculated using the effective interest method totalled EUR 1,770 (1,472) million.

Note 6. Net insurance income

EUR million	2022	2021
Net insurance premium revenue		
Premiums written	1,606	1,543
Insurance premiums ceded to reinsurers	-6	14
Change in provision for unearned premiums	-14	-13
Reinsurers' share	0	0
Total	**1,587**	**1,545**
Net Non-life Insurance claims		
Claims paid	-1,043	-892
Insurance claims recovered from reinsurers	35	47
Change in provision for unpaid claims*	130	-5
Reinsurers' share	148	17
Total	**-731**	**-834**
Other Non-life Insurance items	-2	-1
Life Insurance risk premiums collected	35	34
Total	**889**	**743**

* The item includes EUR –286 million (-42) as a result of changes in reserving bases of insurance liability.

Note 7. Net commissions and fees

Q1–4 2022, EUR million	Retail Banking	Corporate Banking	Insurance	Group Functions	Eliminations	OP Financial Group
Commission income						
Lending	104	48		0	-1	150
Deposits	22	3		0	0	25
Payment transfers	298	32		11	-12	329
Securities brokerage	8	22			-8	22
Securities issuance	0	6		0	0	6
Mutual funds	47	237	90	0	-109	265
Asset management	33	27		1	-13	48
Legal services	27	0			0	27
Guarantees	12	13		0	0	25
Housing service	72				0	72
Insurance brokerage	96		27		-70	53
Life insurance total expense loadings			87			87
Health and wellbeing services			1		0	1
Other	94	8	0	2	-90	15
Total	814	395	206	14	-302	1,126
Commission expenses						
Lending	0	2		0	-1	0
Payment transfers	29	3	1	2	-10	25
Securities brokerage		4	0	0	0	4
Securities issuance	0	4		0	-4	0
Mutual funds		110	0		-109	1
Asset management		9	0	4		13
Guarantees		0				0
Insurance brokerage	-5		131		-70	56
Health and wellbeing services			0		0	0
Other	16	98		8	-102	21
Total	41	229	133	15	-296	121
Total net commissions and fees	773	166	73	0	-6	1,005

Q1–4 2021, EUR million	Retail Banking	Corporate Banking	Insurance	Group Functions	Eliminations	OP Financial Group
Commission income						
Lending	96	51		0	-1	146
Deposits	21	3		0	0	24
Payment transfers	282	39		12	-12	321
Securities brokerage	11	28			-10	28
Securities issuance	0	6			0	6
Mutual funds	47	253	95	0	-115	279
Asset management	30	40		1	-25	45
Legal services	25	0			0	25
Guarantees	11	13		0	0	24
Housing service	78				0	78
Insurance brokerage	106		24		-76	53
Life insurance total expense loadings			104			104
Health and wellbeing services			14		0	14
Other	84	2		1	-81	7
Total	790	436	237	13	-321	1,155
Commission expenses						
Lending	0	1		0	-1	0
Payment transfers	27	5	1	3	-10	25
Securities brokerage		4	0	0	0	4
Securities issuance	0	2		1	-2	1
Mutual funds		116	0		-115	1
Asset management		10	0	4	0	14
Guarantees		0				0
Insurance brokerage	-6		134		-76	53
Health and wellbeing services			5		0	5
Other	16	93	0	8	-98	20
Total	37	231	141	15	-303	121
Total net commissions and fees	753	204	96	-2	-18	1,034

Note 8. Net investment income

EUR million	2022	2021
Net income from assets at fair value through other comprehensive income		
Notes and bonds		
Interest income	44	37
Other income and expenses	-7	-3
Capital gains and losses	-10	14
Currency fair value gains and losses	3	18
Impairment losses and their reversal*	-1	2
Total	29	67

* Expected credit losses (ECL) on notes and bonds of insurance.

Net income recognised at fair value through profit or loss	2022	2021
Financial assets held for trading		
Notes and bonds		
Interest income and expenses	4	3
Fair value gains and losses	-24	-5
Total	-20	-2
Shares and participations		
Fair value gains and losses	9	1
Dividend income and share of profits	2	4
Total	11	5
Derivatives		
Interest income and expenses	-8	35
Fair value gains and losses	-456	-130
Total	-464	-95
Total	-474	-92
Financial assets that must measured at fair value through profit or loss		
Notes and bonds		
Interest income	19	18
Fair value gains and losses	-6	-55
Total	13	-38
Shares and participations		
Fair value gains and losses	-209	219
Dividend income and share of profits	89	71
Total	-120	290
Total	-107	252

Financial assets designated as at fair value through profit or loss		
Notes and bonds		
Interest income	20	37
Fair value gains and losses	-279	-57
Total	-259	-20
Shares and participations		
Fair value gains and losses	-24	-4
Dividend income and share of profits	9	7
Total	-16	3
Derivatives		
Fair value gains and losses	0	-15
Total	0	-15
Total	**-275**	**-32**
Total net income from financial assets recognised at fair value through profit or loss	**-855**	**129**
Net income from investment property		
Rental income	51	51
Fair value gains and losses	6	31
Maintenance charges and expenses	-42	-37
Other	1	1
Net income from investment property total	**16**	**45**
Net income from loans and receivables measured at amortised cost		
Loans and receivables		
Interest income	7	8
Interest expenses	1	-8
Impairment losses and their reversal	-2	3
Loans and receivables total	**6**	**3**
Non-life Insurance		
Unwinding of discount, Non-life Insurance	-21	-17

The increase in the discounted insurance liabilities in Non-life Insurance due to passage of time is unwinding of discount. Unwinding of discount is computed monthly applying the discount rate at the end of the previous month and the insurance liabilities discounted at the beginning of the current month. The discount rate stood at 2.0% (0.85).

Life Insurance		
Interest credited on customers' insurance savings	-76	-79
Change in supplementary interest rate provisions	356	135
Other technical items**	370	66
Total	**650**	**122**

** Other technical items include changes in other technical provisions than those in supplementary interest rate provisions.

Associates and joint ventures		
Accounted for using the fair value method	17	18
Consolidated using the equity method	8	10
Total	**25**	**27**
Total net investment income	**-149**	**376**

The investment environment was challenging due to higher market interest rates and lower stock prices.

Note 9. Other operating income

EUR million	2022	2021
Rental income from property in own use	9	9
Capital gains on property in own use	2	3
Leasing agreements	1	1
ICT income	1	1
Debt collection	1	2
Other*	50	39
Total	63	54

* The sale of Pohjola Hospital increased other operating income by EUR 32 million. A year ago, the sale of Checkout Finland Ltd increased other operating income.

Note 10. Personnel costs

EUR million	2022	2021
Wages and salaries	664	653
Variable remuneration	75	105
Pension costs		
Defined contribution plans	121	113
Defined benefit plans*	7	8
Other personnel related costs	27	36
Total	894	914

* Note 34.

Personnel fund

About 95% of all personnel are members of OP Financial Group's Personnel Fund.

Payment of profit-based bonuses to OP Financial Group's Personnel Fund in 2022 was based on the achievement of the following targets: growth differential between OP Financial Group's income and expenses with a weight of 50% and net growth in customers using OP as their main bank and insurer with a weight of 50%. Profit-based bonuses for 2022 transferred to the Fund account for some 1.5% (2.8) of the combined salaries and wages earned by the Fund's members. The bonuses recognised in 2022 totalled EUR 5 million (14.7).

Long-term remuneration schemes

OP Financial Group's variable remuneration comprises a performance-based bonus scheme and the personnel fund. Group-level strategic goals and targets are taken into account in the metrics of short-term remuneration and the personnel fund.

Expenses for the schemes are recognised from the beginning of the performance period up to the date of payout (vesting period) as personnel costs, and the equivalent liability is recognised under deferred expenses.

Performance-based bonus scheme

The performance period of the performance-based bonus scheme is 6 or 12 months. Performance-based bonuses are based on targets set for each company, team and person derived from the annual plan, covering all personnel of OP Financial Group.

The bonus is determined by the job grade and the maximum bonuses correspond to a 1–12-month annual salary. Thus, the proportion of fixed remuneration to variable remuneration is 8–100%, depending on the maximum bonuses.

Performance metrics of the performance-based bonus scheme in 2022

A factor applies to the bonus created through the achievement of the targets achieved in the central cooperative consolidated that is based on the central cooperative consolidated's EBT. Targets shown in the balanced scorecards and derived from annual planning are decided by the business lines/functions.

Short-term performance-based remuneration in OP cooperative banks is based on shared bank-level targets and personal targets. Customer experience, sales and the strategy-based targets, among other things, are highlighted in the metrics.

The Group-level metrics common to all OP Financial Group's executives were 'Growth differential between OP Financial Group's income and expenses' with a 20% weight and 'Net growth in customers using OP as their main bank and insurer' with a 20% weight.

In addition to the achievement of the performance metrics related to the performance-based bonus, qualitative assessment affects bonus payout, where the supervisor assesses a person's performance in view of compliance with regulation and instructions. The assessment also takes account of sustainability risks regarding the roles of persons for whom consideration of sustainability risks is an integral part of their duties. The performance-based bonus will be cut on the basis of the severity and number of offences using a factor of 0–1.

Conditions for payment of variable remuneration in 2022

Bonuses will be paid to their beneficiaries provided that OP Financial Group's CET1 ratio exceeds the CET1 ratio on the payout date which, if exceeded, no restrictions on profit distribution occur +2% and the LCR exceeds 110% in the financial statements preceding the year of the bonus payout date. Another condition is that the person has not resigned from OP Financial Group until before the payout date and an OP Financial Group company or the customer business shows a profit.

If it is noted in retrospect that an employee has been paid a bonus in violation of the performance-based bonus scheme, the company's Board of Directors has the right to decide on the non-payment of all or part of the variable remuneration, or on the clawback of paid bonuses, if the bonus payout is in violation of regulation or OP Financial Group's internal guidelines.

Expenses for the scheme are recognised from the beginning of the performance period up to the date of payout (vesting period) as personnel costs, and the equivalent liability is recognised under deferred expenses.

OP Cooperative's Board of Directors decides on the terms and conditions of OP Financial Group's performance-based bonus scheme, maximum bonuses based on job grades and a structural framework within which companies belonging to the Group can select the scheme metrics and set related targets.

Deferment of variable remuneration

The Act on Credit Institutions (233/2021), the Act on Investment Services (213/2012) and the Commission Delegated Regulation on the taking-up and pursuit of the business of Insurance and Reinsurance (2015/35) prescribe payment of variable remuneration to persons whose action may cause significant risk to the company ('identified staff'). OP Financial Group's identified staff includes CEOs/Managing Directors and other key management personnel as well as those involved in internal control.

If the bonus of a member of identified staff for the performance year exceeds €50,000 or accounts for at least a third (in credit institutions and insurance companies) or a quarter (in investment firms, real estate asset management and fund management company) of the combined annual bonuses, 60% of the bonus will be paid during the year following the performance year. The remaining part 40% of the bonus will be paid in four equal instalments over the course of four years (five years for Executive Management Team members) in such a way that the time between the payments is at least one year. If an identified staff member's variable remuneration for the performance year is exceptionally large, in other words is equivalent to at least 8 months' salary and equals at least 200,000 euros, 40% of the bonus will be paid in the year after the performance year and the remainder (60%) in four instalments over the course of four years (five instalments over the course of five years for members of OP Cooperative's Executive Management Team), with at least one year between each payment.

Half of the variable remuneration is paid in cash and half is tied to the value of the reference instrument decided by OP Cooperative's Board of Directors. The bonus tied to the reference instrument will be paid to its beneficiary after a one-year retention period. A synthetic financial instrument tied to the Profit Share is used as the reference instrument in credit institutions and insurance companies and investment firms, real estate asset management and the fund management company use the return of OP Private Strategy 50 as a synthetic financial instrument.

Remuneration for persons in charge of control duties

The remuneration objectives of persons in charge of control duties independent of business lines, such as risk management, internal audit, compliance and actuarial duties, may not jeopardise the independence of the duties. Variable remuneration must be independent of the business line under control and the Chief Risk Officer's metrics may not include any direct sales-based targets. It is also recommended that the balanced scorecard also includes a qualitative metric that measures the performance of control duties.

Monitoring of OP Financial Group's remuneration
OP Financial Group monitors the market consistency of its total remuneration on a regular basis using various salary surveys.

OP Cooperative' Board of Directors annually monitors how paid bonuses are in proportion to OP Financial Group's success vis-à-vis benchmark companies and refunds paid to customers. OP Financial Group also makes internal, Group-level comparisons of remuneration and structures on a regular basis.

Expenses recognised for variable remuneration*

EUR million	2022	2021
Personnel fund	5	19
Performance-based bonuses	71	86
Long-term schemes:		
Scheme for 2014–16	0	
Scheme for 2017–20		1
Total	**76**	**105**

* Excl. social expenses.

More information on the remuneration schemes is available at www.op.fi.

Note 11. Depreciation/amortisation and impairment loss

EUR million	2022	2021
Depreciation and amortisation		
Buildings	11	17
Machinery and equipment	9	10
Intangible assets related to business combinations	10	10
Information systems and other	148	192
Right-of-use assets	26	31
Leased out assets	-1	-1
Other	2	1
Total	205	260
Impairment loss		
Property in own use	6	17
Information systems	0	0
Right-of-use assets	2	4
Other		1
Total	8	22
Total	**214**	**283**

Note 12. Other operating expenses

EUR million	2022	2021
ICT costs		
Production	228	231
Development	153	133
Buildings	56	53
Government charges and audit fees*	88	69
Purchased services	123	115
Data communications	32	32
Marketing	39	31
Corporate social responsibility	14	9
Insurance and security costs	9	10
Other	133	125
Total	874	810

* In 2022, audit fees paid to auditors totalled EUR 3.4 million (3.0), whereas assignments as referred to in chapter 1, section 1, subsection 1, paragraph 2 of the Auditing Act totalled 0.1 million (0.2), fees for tax advisory services EUR 0.2 million (0.3) and fees for other services EUR 1.1 million (1.0). Non-audit services provided by KPMG Oy Ab to OP Financial Group companies totalled EUR 1.3 million (1.3) (excl. VAT). The corresponding figures for 2021 are shown in brackets.

OP Financial Group's stability contribution calculated for 2022 amounted to EUR 68.0 million (53.0).

The deposit guarantee contribution of EUR 37.7 million (33.5) calculated for OP Financial Group for 2022 has been fully covered by payments accounted for from the old Deposit Guarantee Fund.

OP Financial Group reduced the indoor temperature of its offices by one degree and took several other energy-saving measures.

Development costs

€ million	2022	2021
ICT development costs	153	133
Share of own work	63	62
Total development costs in the income statement	**216**	**195**
Capitalised ICT costs	81	84
Capitalised share of own work	16	15
Total capitalised development costs	97	99
Total development costs	313	294
Depreciation/amortisation and impairment loss	145	177

OP Financial Group invests in developing its operations and improving customer experience on an ongoing basis. The central cooperative with its subsidiaries is responsible for the development of OP Financial Group's products and services, digital channels and shared technology, data and cybersecurity capabilities, while safeguarding the high quality, availability and data security of the services.

Note 13. Impairment losses on receivables

EUR million	2022	2021
Receivables written down as loan and guarantee losses	133	126
Recoveries of receivables written down	-15	-13
Expected credit losses** (ECL) on receivables from customers and off-balance-sheet items	-3	46
Expected credit losses** (ECL) on notes and bonds*	0	0
Total	115	158

* The expected credit losses on notes and bonds in insurance operations are presented in net investment income.

** Loss allowance is itemised in Note 37. Loss allowance regarding receivables and notes and bonds.

Note 14. OP bonuses to owner-customers

EUR million	2022	2021
New OP bonuses accrued to owner-customers	215	210
Unused, expired OP bonuses	-5	-5
Total	209	205

Note 15. Temporary exemption (overlay approach)

	2022	2021
Net investment income within the scope of the overlay approach recognised according to IFRS 9		
Financial assets that must measured at fair value through profit or loss		
Shares and participations		
Fair value gains and losses	-209	221
Total (A)	-209	221
Net investment income within the scope of the overlay approach measured according to IFRS 39		
Shares and participations		
Capital gains and losses	12	115
Impairment losses and their reversals	-78	-13
Total (B)	-66	103
Effect of the overlay approach on the income statement (-A+B)	143	-118
Effect of the overlay approach on the statement of comprehensive income - (-A+B)	-143	118

Section 7.3.5 of the accounting policies deals with the overlay approach.

Note 16. Income tax

EUR million	2022	2021
Current tax	221	213
Tax for previous financial years	0	-3
Deferred tax	21	13
Income tax expense	**242**	**224**
Corporate income tax rate	20.0	20.0

Reconciliation between tax expense in the income statement and tax expense

	2022	2021
Earnings before tax	1,265	1,127
Tax calculated at a tax rate of 20%	253	225
Tax for previous financial years	0	-3
Tax-exempt income	-10	-7
Non-deductible expenses and income portions of limited partnerships	4	6
Re-evaluation of unrecognised tax losses	0	-3
Tax adjustments	-5	5
Effect of capital gain on intra-Group transaction	0	
Other items	0	0
Tax expense	**242**	**224**

Notes to assets

Note 17. Liquid assets

EUR million	31 Dec 2022	31 Dec 2021
Cash	183	181
Deposits with central banks repayable on demand		
OP Corporate Bank plc's minimum reserve deposit	882	863
Cheque account*	34,820	32,665
Total liquid assets	**35,004**	**32,846**

* The cheque account includes EUR –471 (–11) million in cash resulting from central counterparty clearing.

In accordance with the minimum reserve system under the euro system, credit institutions are obligated to have a minimum reserve deposit with their national central bank. The reserve deposit equals the required percentage of the reserve base, as specified by the European Central Bank. The reserve base includes deposits (extensive) and debt securities with a maximum maturity of two years. The reserve base does not include deposits from other parties subject to the minimum reserve obligation. The reserve deposit is currently 1% of the reserve base. Credit institutions within OP Financial Group place a reserve deposit with OP Corporate Bank plc, which acts as an intermediary authorised by OP Financial Group credit institutions and is responsible for OP Financial Group's obligation to place a deposit with the Bank of Finland.

Note 18. Receivables from credit institutions

EUR million	31 Dec 2022	31 Dec 2021
Receivables from credit institutions		
Deposits		
Repayable on demand	652	283
Other	69	70
Total	721	353
Loans and receivables		
Repayable on demand	0	0
Other	79	189
Total	79	189
Total	800	542
Loss allowance*	-2	-1
Total receivables from credit institutions	**798**	**541**

* Loss allowance is itemised in Note 37. Loss allowance regarding receivables and notes and bonds.

Note 19. Derivative contracts

Assets

EUR million	31 Dec 2022	31 Dec 2021
Held for trading		
Interest rate derivatives	2,107	2,262
Currency derivatives	717	401
Equity and index derivatives	0	0
Credit derivatives		0
Commodity derivatives	42	7
Total	2,866	2,672
Hedging derivative contracts*		
Fair value hedging		
Interest rate derivatives	1,190	556
Currency derivatives	62	239
Total	1,252	796
Total derivative contracts	**4,117**	**3,467**

* The balance sheet item includes positive changes in fair value of derivative contracts as well as premiums paid.

Liabilities

EUR million	31 Dec 2022	31 Dec 2021
Held for trading		
Interest rate derivatives	2,057	1,492
Currency derivatives	683	412
Credit derivatives		0
Other	39	29
Total	2,779	1,933
Hedging derivative contracts*		
Fair value hedging		
Interest rate derivatives	1,514	333
Currency derivatives	135	1
Cash flow hedge		
Interest rate derivatives	4	0
Total	1,653	333
Total derivative contracts	**4,432**	**2,266**

* The balance sheet item includes negative changes in value of derivative contracts as well as premiums received.

Derivatives held for trading 31 December 2022

EUR million	Nominal values/residual maturity <1 year	1–5 years	>5 years	Total	Fair values* Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	11,949	24,758	46,177	82,884	845	1,980
Cleared by the central counterparty	10,000	16,055	29,841	55,896	114	73
Settled-to-market (STM)	7,979	15,524	29,621	53,124	113	71
Collateralised-to-market (CTM)	2,022	531	220	2,772	1	2
Forward rate agreements						
OTC interest rate options						
Call and caps						
Purchased	1,089	2,529	-643	2,976	286	-56
Written	589	4,223	2,919	7,731	46	417
Put and floors						
Purchased	953	7,390	5,237	13,581	522	85
Written	1,082	7,120	1,452	9,654	22	375
Total OTC interest rate derivatives	15,661	46,021	55,142	116,824	1,722	2,801
Interest rate futures	838	1,050		1,888	0	0
Total exchange traded derivatives	838	1,050		1,888	0	0
Total interest rate derivatives	16,499	47,071	55,142	118,712	1,722	2,801
Currency derivatives						
Forward exchange agreements	51,317	604	4	51,924	705	674
Interest rate and currency swaps	91	2,826	401	3,318	185	175
Currency options						
Call						
Purchased	192	1		193	3	0
Written	190	1		191	0	3
Put						
Purchased	187			187	2	2
Written	208			208	1	2
Total OTC currency derivatives	52,184	3,431	405	56,020	896	856
Total currency derivatives	52,184	3,431	405	56,020	896	856
Credit derivatives						
Credit default swaps	34	63	13	110	1	34
Total credit derivatives	34	63	13	110	1	34
Other						
Other forward contracts	102	57		159	10	5
Other swaps	286	816	26	1,128	79	75
Total other OTC derivatives	387	873	26	1,287	89	80
Other futures contracts	52	16		68	1	2
Total other derivatives	439	889	26	1,355	91	82
Total derivatives held for trading	**69,157**	**51,453**	**55,587**	**176,197**	**2,710**	**3,772**

Derivatives held for trading 31 December 2021

	Nominal values/residual maturity				Fair values*	
EUR million	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	6,958	21,900	45,220	74,078	1,611	826
Cleared by the central counterparty	4,675	14,536	26,779	45,990	6	8
Settled-to-market (STM)	4,434	14,316	26,611	45,361	6	8
Collateralised-to-market (CTM)	241	219	168	629	0	0
Forward rate agreements						
OTC interest rate options						
Call and caps						
Purchased	2,901	4,139	964	8,005	154	8
Written	2,281	4,819	2,950	10,051	58	224
Put and floors						
Purchased	852	4,699	3,609	9,160	199	49
Written	1,235	7,456	1,412	10,104	39	137
Total OTC interest rate derivatives	14,228	43,014	54,156	111,397	2,061	1,244
Interest rate futures	517	950		1,467	0	0
Total exchange traded derivatives	517	950		1,467	0	0
Total interest rate derivatives	14,745	43,964	54,156	112,864	2,061	1,244
Currency derivatives						
Forward exchange agreements	38,834	1,354	3	40,191	389	400
Interest rate and currency swaps	568	2,937	403	3,908	151	182
Currency options						
Call						
Purchased	111			111	1	0
Written	138			138	0	2
Put						
Purchased	132			132	1	0
Written	101			101	0	1
Total OTC currency derivatives	39,885	4,291	406	44,582	543	585
Total currency derivatives	39,885	4,291	406	44,582	543	585
Equity and index derivatives						
Equity index options						
Call						
Purchased	2			2	0	
Total OTC equity and index derivatives	2			2	0	
Total equity and index derivatives	2			2	0	
Credit derivatives						
Credit default swaps	34	783	110	926	2	35
Total credit derivatives	34	783	110	926	2	35
Other						
Other forward contracts	36	44		81	3	24
Other swaps	196	500	28	724	101	19
Other options						
Put						
Purchased		600		600	0	
Written		600		600		0
Total other OTC derivatives	233	1,744	28	2,005	104	43
Total other derivatives	260	1,744	28	2,032	104	43
Total derivatives held for trading	**54,925**	**50,782**	**54,700**	**160,406**	**2,710**	**1,908**

Derivative contracts for hedging purposes - fair value hedging 31 December 2022

	Nominal values/residual maturity				Fair values*	
EUR million	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	11,471	40,499	23,786	75,756	76	108
Cleared by the central counterparty	11,451	40,469	23,688	75,608	76	100
Settled-to-market (STM)	3,364	18,079	7,679	29,121	13	49
Collateralised-to-market (CTM)	8,088	22,390	16,009	46,487	62	51
Forward rate agreements						
OTC interest rate options						
Call and caps						
Purchased	1,300	7,652	7,253	16,205	1,105	92
Put and floors						
Purchased		43	150	193	3	2
Written		5,703	994	6,697	67	74
Total OTC interest rate derivatives	12,771	53,897	32,183	98,851	1,250	276
Total interest rate derivatives	12,771	53,897	32,183	98,851	1,250	276
Currency derivatives						
Forward exchange agreements	42			42	38	10
Interest rate and currency swaps		1,872	681	2,553	11	166
Total OTC currency derivatives	42	1,872	681	2,595	49	176
Total currency derivatives	42	1,872	681	2,595	49	176
Total derivative contracts, fair value hedge	**12,813**	**55,769**	**32,864**	**101,446**	**1,300**	**452**

Derivative contracts for hedging purposes – cash flow hedge 31 December 2022

	Nominal values/residual maturity				Fair values*	
EUR million	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	693	4,242	2,087	7,021	9	18
Cleared by the central counterparty	692	4,192	2,072	6,956	0	18
Settled-to-market (STM)	192	1,592	1,912	3,696	0	14
Collateralised-to-market (CTM)	500	2,600	159	3,259	0	5
Total OTC interest rate derivatives	693	4,242	2,087	7,021	9	18
Total interest rate derivatives	693	4,242	2,087	7,021	9	18
Currency derivatives						
Forward exchange agreements	3,735			3,735	12	125
Total OTC currency derivatives	3,735			3,735	12	125
Total currency derivatives	3,735			3,735	12	125
Total derivative contracts, cash flow hedge	**4,428**	**4,242**	**2,087**	**10,756**	**21**	**143**
Total derivative contracts held for hedging	**17,241**	**60,010**	**34,951**	**112,202**	**1,321**	**596**

Derivative contracts for hedging purposes – fair value hedging 31 December 2021

	Nominal values/residual maturity				Fair values*	
EUR million	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	5,591	22,216	22,646	50,454	31	9
Cleared by the central counterparty	5,511	22,216	22,498	50,226	5	4
Settled-to-market (STM)	1,581	9,243	8,226	19,051	2	1
Collateralised-to-market (CTM)	3,930	12,973	14,272	31,175	2	3
OTC interest rate options						
Call and caps						
Purchased	690	5,855	6,790	13,335	356	164
Put and floors						
Written		1,358	313	1,671	4	28
Total OTC interest rate derivatives	6,281	29,430	29,749	65,460	391	201
Total interest rate derivatives	6,281	29,430	29,749	65,460	391	201
Currency derivatives						
Forward exchange agreements	17			17	18	0
Interest rate and currency swaps	730	1,217	351	2,297	63	83
Total OTC currency derivatives	746	1,217	351	2,314	81	84
Total currency derivatives	746	1,217	351	2,314	81	84
Total derivative contracts, fair value hedge	**7,028**	**30,646**	**30,100**	**67,774**	**473**	**285**

Derivative contracts for hedging purposes – cash flow hedge 31 December 2021

	Nominal values/residual maturity				Fair values*	
EUR million	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	151	1,593	2,604	4,347	1	1
Cleared by the central counterparty	141	1,543	2,589	4,272	0	1
Settled-to-market (STM)	141	1,043	2,474	3,657	0	1
Collateralised-to-market (CTM)		500	114	614	0	0
Total OTC interest rate derivatives	151	1,593	2,604	4,347	1	1
Total interest rate derivatives	151	1,593	2,604	4,347	1	1
Currency derivatives						
Forward exchange agreements	3,978			3,978	158	0
Total OTC currency derivatives	3,978			3,978	158	0
Total currency derivatives	3,978			3,978	158	0
Total derivative contracts, cash flow h	**4,129**	**1,593**	**2,604**	**8,325**	**159**	**1**
Total derivative contracts held for hedging	**11,156**	**32,240**	**32,704**	**76,099**	**632**	**287**

Total derivatives 31 December 2022

	Nominal values/residual maturity				Fair values*	
EUR million	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives	29,963	105,209	89,412	224,584	2,981	3,096
Cleared by the central counterparty	22,144	60,716	55,600	138,460	190	191
Settled-to-market (STM)	11,535	35,194	39,212	85,941	126	134
Collateralised-to-market (CTM)	10,609	25,521	16,388	52,519	64	58
Currency derivatives	55,961	5,303	1,086	62,350	958	1,157
Credit derivatives	34	63	13	110	1	34
Other derivatives	439	889	26	1,355	91	82
Total derivatives	**86,398**	**111,463**	**90,538**	**288,399**	**4,031**	**4,368**

Total derivatives 31 December 2021

	Nominal values/residual maturity				Fair values*	
EUR million	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives	21,176	74,987	86,509	182,671	2,453	1,447
Cleared by the central counterparty	10,327	38,295	51,866	100,487	11	13
Settled-to-market (STM)	6,155	24,603	37,311	68,069	9	11
Collateralised-to-market (CTM)	4,171	13,692	14,554	32,418	2	3
Currency derivatives	44,610	5,508	757	50,874	782	669
Equity and index-linked derivatives	2			2	0	
Credit derivatives	34	783	110	926	2	35
Other derivatives	260	1,744	28	2,032	104	43
Total derivatives	66,081	83,021	87,403	236,506	3,342	2,195

* Fair values include accrued interest which is shown under other assets or provisions and other liabilities in the balance sheet.

Interest rate derivatives for central counterparty clearing are offset in the balance sheet. The effects of netting can be found in Note 44 below. Other derivative contracts are presented on a gross basis in the balance sheet. In its capital adequacy measurement, OP Amalgamation also applies netting of derivatives.

Average interest rates of interest rate derivative contracts in hedge accounting – fair value 31 December 2022

	<1 year	1–5 years	>5 years	Total
Interest rate derivatives				
Cleared by the central counterparty	0.701	0.642	0.586	0.635
OTC interest rate derivatives		3.086	3.006	3.040
Total interest rate derivatives	0.701	0.646	0.596	0.640

Average interest rates of interest rate derivative contracts in hedge accounting – fair value 31 December 2021

	<1 year	1–5 years	>5 years	Total
Interest rate derivatives				
Cleared by the central counterparty	1.103	0.297	0.205	0.341
OTC interest rate derivatives	3.362		3.040	3.169
Total interest rate derivatives	1.144	0.297	0.223	0.354

Average prices of currency derivatives in hedge accounting concerning significant currencies 31 December 2022

	<1 year	1–5 years	>5 years	Total
Forward exchange agreements: EUR:USD	1.0406			1.0406

Average prices of currency derivatives in hedge accounting concerning significant currencies 31 December 2021

	<1 year	1–5 years	>5 years	Total
Forward exchange agreements: EUR:USD	1.1327			

Average interest rates of interest rate swaps and currency swaps in hedge accounting related to significant currencies 31 December 2022

	<1 year	1–5 years	>5 years	Total
AUD			2.440	2.440
GBP		2.151		2.151
HKD		2.959		2.959
JPY		0.700	1.300	1.000
SEK			4.432	4.432
NOK		4.454		4.454
USD	2.328	1.675	3.611	2.538

Average interest rates of interest rate swaps and currency swaps in hedge accounting related to significant currencies 31 December2021

	<1 year	1–5 years	>5 years	Total
AUD			2.440	2.440
GBP	2.500	1.326	0.880	1.569
HKD		2.959		2.959
JPY			1.300	1.300
NOK			3.800	3.800
USD	1.943	1.954	3.611	2.783

Average interest rates of interest rate derivative contracts in hedge accounting – cash flow hedge 31 December 2022

	<1 year	1–5 years	>5 years	Total
Interest rate derivatives				
OTC interest rate derivatives	0.940	0.792	0.876	0.841
Total interest rate derivatives	0.940	0.792	0.876	0.841

Average interest rates of interest rate derivative contracts in hedge accounting – cash flow hedge 31 December 2021

	<1 year	1–5 years	>5 years	Total
Interest rate derivatives				
OTC interest rate derivatives	1.048	0.750	0.881	0.854
Total interest rate derivatives	1.048	0.750	0.881	0.854

Average prices of currency derivatives in hedge accounting concerning significant currencies 31 December 2022

	<1 year	1–5 years	>5 years	Total
Currency derivatives				
Forward exchange agreements				
Average EUR:AUD	1.4896			1.4896
Average EUR:CHF	0.9703			0.9703
Average EUR:GBP	0.8618			0.8618
Average EUR:USD	1.0645			1.0645

Average prices of currency derivatives in hedge accounting concerning significant currencies 31 December 2021

	<1 year	1–5 years	>5 years	Total
Currency derivatives				
Forward exchange agreements				
Average EUR:CHF	1.0769			1.0769
Average EUR:GBP	0.8934			0.8934
Average EUR:SGD	1.6250			1.6250
Average EUR:USD	1.1998			1.1998

Effects of hedge accounting on financial position and result

EUR million	Interest rate risk hedge 31 Dec 2022	31 Dec 2021
Fair value hedges		
Carrying amount of hedged receivables*	35,445	32,235
- of which the accrued amount of hedge adjustments**	-3,139	94
Carrying amount of hedged liabilities***	34,780	26,440
- of which the accrued amount of hedge adjustments	-3,166	264
Remaining hedge adjustment amount of discontinued hedges	86	53

* Presented under Receivables from customers and Investment assets in the balance sheet.

** The figures also take account of adjustments between the fair value reserve and the income statement related to hedge accounting.

*** Presented in the balance sheet under Liabilities to customers, Debt securities issued to the public and Subordinated liabilities.

EUR million	Interest rate risk hedge 31 Dec 2022	31 Dec 2021
Fair value hedges		
Changes in fair value of hedging derivatives	-481	-154
Change in value of hedged item that is used as basis for recognition of ineffective hedge during period	465	156
Hedge ineffectiveness presented in income statement	-16	2

EUR million	Interest rate risk hedge 31 Dec 2022	31 Dec 2021
Cash flow hedges		
Changes in fair value of hedging derivatives	-558	-127
Change in value of hedged item that is used as basis for recognition of ineffective hedge during period	540	131
Hedge ineffectiveness presented in income statement	-17	4
Change in cash flow hedge reserve concerning continuous hedges	-540	-131
Change in cash flow hedge reserve concerning terminated hedges	2	2

Note 20. Receivables from customers

EUR million	31 Dec 2022	31 Dec 2021
Loans to the public and public sector entities	96,946	95,535
Finance lease receivables*	2,228	2,120
Guarantee receivables	5	6
Total	99,180	97,662
Loss allowance**	-634	-715
Total receivables from customers	**98,546**	**96,947**

* Finance lease receivables are itemised in Note 26.

** Loss allowance is itemised in Note 37. Loss allowance regarding receivables and notes and bonds.

OP Financial Group has developed two products based on the international framework for sustainable finance: green loans and sustainability-linked loans. In green loans, corporate customers are committed to using the borrowed funds to promote specific projects. In sustainability-linked loans, corporate customers are committed to sustainability goals selected together when granting the loan. These targets affect the loan margin. At the end December, total exposures from these loans and facilities stood at EUR 5.2 billion (3.0).

Note 21. Investment assets

EUR million	31 Dec 2022	31 Dec 2021
Financial assets held for trading		
Notes and bonds	295	331
Shares and participations	86	78
Total	381	409
Financial assets that must measured at fair value through profit or loss		
Notes and bonds	283	356
Shares and participations (Overlay approach)	1,405	1,557
Shares and participations (other than those under Overlay approach)	51	68
Total	1,739	1,981
Financial assets designated as at fair value through profit or loss		
Notes and bonds	1,420	1,987
Shares and participations	199	218
Total	1,619	2,206
Financial assets at fair value through other comprehensive income		
Notes and bonds	16,259	17,411
Shares and participations	0	0
Total	16,259	17,412
Amortised cost		
Notes and bonds	1	1
Other	46	50
Total	47	51
Investment property	561	724
Associated companies		
Associates	148	163
Joint ventures	0	0
Total	148	163
Total investment assets	**20,754**	**22,945**

Changes in investment property, EUR million	2022	2021
Acquisition cost 1 Jan.	687	653
Increases	24	13
Decreases	-134	-86
Transfers between items	13	107
Acquisition cost 31 Dec.	590	687
Accumulated changes in fair value 1 Jan.	37	-30
Changes in fair value during the financial year	-17	31
Decreases	-35	21
Other changes	-15	15
Accumulated changes in fair value 31 Dec.	-29	37
Carrying amount 31 Dec.	561	724

Increases in investment property include EUR 28 million (13) in capitalised expenses recognised after the acquisition. Any changes in the fair value of investment property are recognised under net investment income. OP Financial Group sold five hospital buildings in March 2022.

OP Financial Group companies do not own investment property to which restrictions concerning their transfer and sales price under the legislation on state-subsidised housing loans would apply.

Breakdown of investment property leased out under operating lease can be found in Note 26.

Investment property contains property used as collateral worth EUR 1 million (2).

Information on associated companies can be found in Note 23. Investments accounted for using the equity method.

Note 22. Assets covering unit-linked contracts

EUR million	31 Dec 2022	31 Dec 2021
Shares and participations	11,237	12,873
Other investments	360	264
Total	**11,597**	**13,137**

Note 23. Investments accounted for using the equity method

Amounts entered in the balance sheet:

EUR million	31 Dec 2022	31 Dec 2021
Associates	148	162
Joint ventures	1	1
Total	**148**	**163**

Amounts entered in the income statement:

EUR million	31 Dec 2022	31 Dec 2021
Associates and joint ventures	25	27
Total	**25**	**27**

Investments in associates and joint ventures

OP Financial Group has 14 (16) associates and 3 (3) joint ventures which are not significant when reviewing them one by one. The table below shows OP Financial Group's share of the profit/loss of these associates and joint ventures. Four (4) of the private equity funds treated as associates have been measured at fair value in accordance with IAS 28.

OP Financial Group's investments in associates and joint ventures have no quoted market price.

No contingent liabilities are involved in the associates or joint ventures. No such unrecognised commitments are related to the joint ventures that concern the provision of financing or resources or an obligation to buy another investor’s interest in case certain future events occur.

	Associates consolidated using equity method		Associates measured at fair value		Joint ventures	
EUR million	31 Dec 2022	31 Dec 2021	31 Dec 2022	31 Dec 2021	31 Dec 2022	31 Dec 2021
Profit of continuing operations	7	8	16	17	2	2
Comprehensive income	**7**	**8**	**16**	**17**	**2**	**2**

Note 24. Intangible assets

Changes in intangible assets, EUR million	Goodwill	Brands	Customer relationships related to insurance contracts and policy acquisition costs	Information systems and other	Total
Acquisition cost 1 January 2022	631	166	507	932	2,236
Increases*				97	97
Decreases				-201	-201
Other changes				2	2
Acquisition cost 31 December 2022	631	166	507	831	2,135
2022	-3	-4	-461	-558	-1,025
Amortisation during the financial year			-10	-147	-157
Impairments during the financial year				0	0
Decreases				199	199
Other changes				0	0
Acc. amortisation and impairments 31 December 2022	-3	-4	-470	-506	-983
Carrying amount 31 December 2022	629	162	37	325	1,153

* Internal development work accounts for EUR 16 million.

Changes in intangible assets, EUR million	Goodwill	Brands	Customer relationships related to insurance contracts and policy acquisition costs	Information systems and other	Total
Acquisition cost 1 January 2021	633	166	507	1,460	2,767
Increases*				108	108
Decreases	-2			-637	-639
Transfer of itemised non-current assets held for sale				-1	-1
Transfers between items				1	1
Acquisition cost 31 December 2021	631	166	507	932	2,236
2021	-3	-4	-450	-998	-1,455
Amortisation for the period			-10	-192	-202
Impairments for the period				0	0
Decreases				634	634
Other changes				-2	-2
Accumulated amortisation and impairments 31 December 2021	-3	-4	-461	-558	-1,025
Carrying amount 31 December 2021	629	162	46	374	1,212

* Internal development work accounts for EUR 15 million.

** The decrease in goodwill, EUR 2 million, has been caused by the sale of all shares of Checkout Finland Ltd.

Information systems and other

Carrying amount, EUR million	31 Dec 2022	31 Dec 2021
Information systems	180	302
Information systems under development	149	76
Other	-4	-5
Total	**325**	**374**

An intangible right not yet available for use is tested for impairment twice a year and whenever there is any indication that the value of the unfinished intangible right may be impaired. An unfinished intangible asset is tested for its ability to generate sufficient future economic benefits to recover its carrying amount.

Intangible assets with indefinite economic lives

EUR million	31 Dec 2022	31 Dec 2021
Goodwill	629	629
Brands	162	162
Total	**791**	**791**

The useful lives of brands acquired through business combinations are estimated to be indefinite, since they will generate cash flows for an indefinable period.

Customer relationships pertaining to insurance contracts and policy acquisition costs

An intangible asset related to customer relationships and insurance contracts has been allocated to OP Financial Group's balance sheet that arose as part of the acquisition of Aurum Investment Insurance Ltd in 2012 and the transfers of Suomi Mutual's portfolio in 2015 and 2016. Intangible assets originating from life insurance customer relationships as well as from life insurance contracts are charged to expenses according to planned amortisation, over their estimated useful lives.

Goodwill impairment test

Goodwill, EUR million

Segment	Acquired business	31 Dec 2022	31 Dec 2021
Insurance	Acquisition of Pohjola Group plc's non-life and life businesses and the ICT functions of Pohjola Group plc.	449	449
Corporate Banking	The acquisition of Pohjola Group plc's fund and asset management services and the acquisition of Pohjola Finance Ltd's businesses	180	180
Total		**629**	**629**

Testing goodwill for impairment

At the end of 2022, goodwill amounted to a total of EUR 629 million (629).

The testing period and the duration of cash flows for the forecast period were determined to be five years under IAS 36. A growth expectation in cash flows for the post-forecast period was reviewed for each cash-generating unit and a growth expectation for the previous forecast period or a maximum of 2% was used as the constant growth of the terminal period. Cash flow forecasts derive from the strategy process based on the guidelines for OP Financial Group's development confirmed by the Supervisory Council of OP Cooperative and the related derived expectations of the future development of businesses. The goals of OP Financial Group's sustainability programme have been taken into account in the planning of businesses and the business target setting. Cash flow forecasts for each testing unit has been approved by the board of directors of the business that made the forecast. Income tax has been deducted from the cash flow forecasts, according to the valid income tax rate. In testing, the surplus/deficit after return on equity requirements for the forecast cash flows of cash-generating units was discounted at present value using a discount rate corresponding to the return on equity requirement. Market information available in each sector has been used as the basis for calculating the discount rate, and the discount rate reflects investors' view of business risks and of the expected return on capital tied to the investment. In 2022, the discount rate used in the calculations before tax varied from 6.3 to 7.9%. In 2021, the discount rate varied from 5.4 to 7.2%. Based on market information, OP Financial Group increased the discount rate for non-life and life insurance by 0.2 percentage points to 7.4 percentage points. For asset management and mutual fund business, the discount rate was increased by 1.7 percentage points to 7.9 percentage points. The discount rate for Transaction Banking increased by 0.9 percentage points to 6.3 percentage points. Impairment testing in 2022 proved that the recoverable amount of the tested cash-generating units exceeded their requirement for return on equity, and the surplus/deficit was positive in each tested cash-generating unit. So, no need for impairment loss recognition of goodwill was discovered based on the testing. Accounting policies governing testing goodwill for impairment are described in Note 1 under 9.2.

Sensitivity analysis of goodwill

A sensitivity analysis applied to the cash-generating units was carried out separately for each cash-generating unit on the basis of key variables of each cash-generating unit. Sensitivity was reviewed as a change in one variable in relation to values used in forecasts. The sensitivity analysis does not include simultaneous changes in all key variables. In addition, a relative change of each cash-generating unit's key variable, which would cause goodwill impairment risk, was derived from the sensitivity analysis.

Key assumptions used in calculating the recoverable amount of a cash-generating unit and a relative change that would cause goodwill impairment risk.

Segment	Cash-generating unit	Goodwill € million	Key variables	Value used in cashflow forecasts, %	Change caused by impairment risk, pp
Insurance	Pohjola Insurance Ltd	400	Discount rate, %	7.4	10.7
			Combined ratio, %	88.0–90.4	9.8
			Net investment income, %	1.2–1.9	-4.2
	OP Life Assurance Company Ltd	49	Discount rate, %	7.4	5.0
			Growth in operating expenses, %	-0.1–4.4	3.7
			Net investment income percentage, %	0.8–1.7	-0.9
Corporate Banking	OP Asset Management Ltd	97	Discount rate, %	7.9	11.6
			Growth in assets under management, %	8.0-9.2	-10.6
			Growth in expenses, %	1.5-4.9	9.8
	OP Fund Management Company Ltd	71	Discount rate, %	7.9	25.5
			Growth in mutual fund assets, %	8.0-9.2	-16.4
			Growth in expenses of fixed type, %	0.6-8.3	22.5
	Transaction Banking business division	13	Discount rate, %	6.3	5.6
			Loan portfolio growth, %	0.5-3.3	-43.0
			Growth in expenses, %	-3.2–9.0	32.0

Impairment testing of brands

Impairment testing for brands was carried out separately for the Pohjola and A-Vakuutus (A-Insurance) brands. Forecasts used in cash flow statements are based on long-term plans approved by the Non-life Insurance management and on cash flow forecasts for the next 5 years derived from them. A 2% growth expectation was used as growth in cash flows for post-forecast periods. On the basis of impairment testing, there is no need to recognise any impairment loss on brands in the financial statements 2022. The principles related to the valuation of brands and their impairment loss are described in Note 1 under 9.5.

Note 25. Property, plant and equipment

EUR million	31 Dec 2022	31 Dec 2021
Property in Group use		
Land and water areas	35	40
Buildings	190	201
Machinery and equipment	27	27
Other tangible assets	13	13
Right-of-use assets	158	165
Total property, plant and equipment	**422**	**446**
of which construction in progress	1	1

Changes in property, plant and equipment (PPE), and investment property, EUR million	Property in Group use	Machinery and equipment	Other tangible assets	Leased-out assets	Total PPE
Acquisition cost 1 January 2022	669	48	15	1	733
Increases	35	14	1		51
Decreases	-75	-26	-1	0	-103
Transfers to liabilities associated with non-current assets held for sale		0			0
Transfers between items	-13			0	-13
Acquisition cost 31 December 2022	616	36	15	1	667
Accumulated depreciation and impairments 1 January 2022	-428	-21	-1	-1	-452
Depreciation for the financial year	-13	-9	0		-22
Impairments for the financial year	8				8
Reversal of impairments during the financial year	0		1		0
Decreases	42	21			63
Other changes	0		0		0
Accumulated depreciation and impairments 31 December 2022	-391	-9	-1	-1	-402
Right-of-use asset*					158
Carrying amount 31 December 2022	225	27	13	0	422

Changes in property, plant and equipment (PPE), and investment property, EUR million	Property in Group use	Machinery and equipment	Other tangible assets	Leased-out assets	Total PPE
Acquisition cost 1 January 2021	857	84	15	2	958
Increases	31	7	1		40
Decreases	-74	-43	-1	0	-119
Transfers to liabilities associated with non-current assets held for sale		0			0
Transfers between items	-146	1	0	0	-146
Acquisition cost 31 December 2021	669	48	15	1	733
Accumulated depreciations and impairments 1 January 2021	-477	-49	-2	-1	-530
Depreciation for the financial year	-17	-10	0		-28
Impairments for the financial year	-17				-17
Reversal of impairments during the financial year	1				1
Decreases	45	38	1		85
Transfers between items	38				38
Other changes	0	0	0		0
Accumulated depreciations and impairments 31 December 2021	-428	-21	-1	-1	-452
Right-of-use asset*					165
Carrying amount 31 December 2021	241	27	14	0	446

* Note 26.

Note 26. Leases

Right-of-use assets, EUR million	Buildings	Cars	IT equipment	Machinery and equipment	Total
Carrying amount 1 January 2022	154	2	2	7	165
Increases	17	1	1	1	19
Decreases	0	0	0	-4	-5
Depreciation for the financial year	-22	-1	-1	-2	-26
Impairment loss on receivables in financial year	-1				-1
Value changes for the financial year	4	0		0	4
Other changes	2				2
Carrying amount 31 December 2022	**153**	**2**	**1**	**2**	**158**

Right-of-use assets, EUR million	Buildings	Cars	IT equipment	Machinery and equipment	Total
Carrying amount 1 January 2021	188	2	2	11	205
Increases	8	2	0	2	11
Decreases	0	0	0	-1	-1
Depreciation for the financial year	-23	-1	-1	-5	-31
Impairment loss on receivables in financial year	-4				-4
Value changes for the financial year	-15	0		0	-15
Other changes	1				1
Carrying amount 31 December 2021	**154**	**2**	**2**	**7**	**165**

Lease liabilities, EUR million	31 Dec 2022	31 Dec 2021
* Carrying amount	231	242
Contractual maturities		
< 1 year	32	34
1–2 years	30	30
2–3 years	27	28
3–4 years	23	22
4–5 years	19	21
Over 5 years	118	124

* Note 34 Provisions and other liabilities.

Items entered in the income statement, EUR million	31 Dec 2022	31 Dec 2021
Interest expenses	-3	-3
Depreciation on right-of-use assets	-26	-31
Impairment of right-of-use assets	-1	-4
Lease income received from sublease	2	1
Expenses related to variable lease payments not included in lease liabilities	0	1
Gains or losses arising from sale and leaseback transactions	-1	-1
Expenses of short-term and low-value leases	-11	-10
Total cash flow from leases	-47	-49

Lessor's operating leases

OP Financial Group companies have leased out investment property they own.

Minimum lease payments receivable under operating leases

EUR million	31 Dec 2022	31 Dec 2021
< 1 year	41	37
1–2 years	30	26
2–3 years	26	23
3–4 years	21	19
4–5 years	19	15
Over 5 years	86	64
Total	**223**	**183**

Finance lease receivables

OP uses finance leases to finance moveable capital assets, real property units and other premises.

EUR million	31 Dec 2022	31 Dec 2021
Maturity of finance lease receivables		
< 1 year	763	666
1–2 years	590	569
2–3 years	390	380
3–4 years	294	220
4–5 years	138	170
Over 5 years	216	202
Gross investment in finance leases	2,391	2,207
Unearned finance income (–)	-162	-83
Present value of minimum lease payments	**2,229**	**2,124**
Present value of minimum lease payment receivables		
< 1 year	707	637
1–2 years	552	550
2–3 years	366	369
3–4 years	280	213
4–5 years	131	167
Over 5 years	192	189
Total	**2,229**	**2,124**

Items entered in the income statement, € million	31 Dec 2022	31 Dec 2021
Interest income from finance lease receivables	35	31
Capital gain/loss accrued from finance leases	1	1

Note 27. Other assets

EUR million	31 Dec 2022	31 Dec 2021
Payment transfer receivables	163	252
Pension assets	183	86
Accrued income and prepaid expenses		
Interest	436	360
Interest on derivatives receivables	41	41
Commission receivables from asset management	4	5
Performance-based management fees from asset management		1
Subscription, redemption and management fee receivables	28	31
Other	117	122
Derivatives receivables, central counterparty clearing	47	8
CSA receivables from derivative contracts	353	488
Securities receivables	1	5
Direct insurance receivables	162	142
Claims administration contracts	156	165
Reinsurance receivables	88	90
Reinsurers' share of provisions for unearned premiums	7	7
Reinsurers' share of provisions for unpaid claims	271	123
Other receivables	761	492
Total	2,819	2,419

Note 28. Tax assets and liabilities

EUR million	31 Dec 2022	31 Dec 2021
Income tax assets	59	7
Deferred tax assets	244	135
Total tax assets	**303**	**141**

EUR million	31 Dec 2022	31 Dec 2021
Income tax liabilities	66	75
Deferred tax liabilities	942	1,034
Total tax liabilities	**1,008**	**1,109**

Deferred tax assets	31 Dec 2022	31 Dec 2021
Due to financial assets at fair value through other comprehensive income	82	0
Due to depreciation and impairments	13	12
Due to provisions and impairments on loans	2	1
Due to losses related to taxation	0	4
Cash flow hedge	81	0
Due to hedging of interest rate risk associated with technical provisions		41
Due to timing difference of derivatives	50	8
Due to defined-benefit pension plans	15	15
Due to consolidation of Group accounts	32	27
Due to other temporary differences	76	72
Set-off against deferred tax liabilities	-108	-46
Total	244	135

Deferred tax liabilities	31 Dec 2022	31 Dec 2021
Due to appropriations	770	749
Due to financial assets at fair value through other comprehensive income	-1	38
Cash flow hedge	1	32
Due to hedging of interest rate risk associated with technical provisions	27	
Due to elimination of equalisation provision	86	82
Due to fair value measurement of investment	66	112
Allocation of price of corporate acquisitions	38	39
Defined benefit pension plans	46	26
Due to consolidation of Group accounts	17	17
Set-off against deferred tax assets	-108	-62
Total	**942**	**1,034**
Net deferred tax asset (+)/liability (-)	**-699**	**-899**

Changes in deferred taxes	31 Dec 2022	31 Dec 2021
Deferred tax assets / liabilities 1 January	-899	-888
Recognised in the income statement		
Appropriations	-34	-19
Amortisation/depreciation and impairments	-1	3
Eliminations of equalisation provisions	-4	-14
Defined-benefit pension plans	1	1
Due to hedging of interest rate risk associated with technical provisions	-56	-22
Due to timing difference of derivatives	30	19
Investment valuation	30	8
Other	14	12
Recognised in statement of comprehensive income		
Available-for-sale financial assets		
Changes in fair value	137	-12
Cash flow hedge	111	27
Transfers to the income statement	-3	-3
Actuarial gains/losses on post-employment benefit obligations	-24	-10
Other	0	
Total deferred tax assets 31 December, asset (+)/liability (-)	**-699**	**-899**
Income tax assets, asset (+)/liability (-)	**-6**	**-68**
Total tax assets, asset (+)/liability (-)	**-705**	**-968**

Tax losses for which a deferred tax asset was not recognised came to EUR 8 million (EUR 38 million) at the end of 2022. The losses will expire before 2033.

Notes to liabilities and equity capital

Note 29. Liabilities to credit institutions

EUR Million	31 Dec 2022	31 Dec 2021
Liabilities to central banks	11,977	16,000
Liabilities to credit institutions		
Repayable on demand		
Deposits	246	503
Other liabilities	1	1
Total	247	503
Other than repayable on demand		
Deposits	69	68
Other liabilities	9	79
Total	78	147
Total liabilities to credit institutions and central banks	**12,301**	**16,650**

Note 30. Liabilities to customers

EUR million	31 Dec 2022	31 Dec 2021
Deposits		
Repayable on demand		
Private	45,997	44,826
Companies and public-sector entities	29,690	29,983
Total	75,688	74,809
Other		
Private	901	790
Companies and public-sector entities	533	13
Total	1,434	803
Total deposits	77,121	75,612
Other financial liabilities		
Repayable on demand		
Private	7	6
Companies and public-sector entities	7	1
Total	14	7
Other		
Companies and public-sector entities	4,333	2,280
Total	4,333	2,280
Total other financial liabilities	4,347	2,287
Total liabilities to customers	**81,468**	**77,898**

Note 31. Insurance liabilities

EUR million	31 Dec 2022	31 Dec 2021
Non-life Insurance insurance liabilities	3,213	3,297
Insurance liability of Life Insurance other than guaranteed portions of unit-linked insurance	4,423	5,559
Life Insurance liability other than guaranteed portions of unit-linked investment contracts	2	1
Total	7,638	8,858

The figures in the note include provision for outstanding claims related to unit-linked contracts. As a result, the figures in the note do not match with the balance sheet.

Non-life Insurance contract liabilities and reinsurers' share

	31.12.2022			31.12.2021		
EUR million	Gross	Reinsurers' share	Net	Gross	Reinsurers' share	Net
Provision for unpaid claims for annuities	1,300	-6	1,294	1,535	-7	1,528
Other provisions by case	479	-248	230	275	-103	172
Special provision for occupational diseases	5		5	7		7
Collective liability (IBNR)	711	-17	693	770	-13	757
Reserved loss adjustment expenses	134		134	151		151
Provision for unearned premiums	621	-7	614	606	-7	600
Interest rate hedge for insurance liabilities	-37		-37	-48		-48
Total Non-life Insurance insurance liabilities	3,213	-278	2,935	3,297	-130	3,168

Changes in insurance liabilities arising from insurance contracts and in receivables arising from reinsurance contracts

	2022			2021		
EUR million	Gross	Reinsurers' share	Net	Gross	Reinsurers' share	Net
Provision for unpaid claims						
Provision for unpaid claims 1 Jan.	2,691	-123	2,568	2,733	-106	2,627
Claims paid in financial year	-1,180	35	-1,145	-1,042	47	-995
Change in liability/receivable	1,050	-183	868	1,047	-64	983
Current period claims	1,399	-173	1,226	1,180	-64	1,116
Increase (decrease) from previous financial years	-63	-10	-73	-91	0	-91
Changes in reserving bases	-286		-286	-42		-42
Unwinding of discount	20		20	17		17
Value change in interest rate hedges	11		11	-64		-64
Foreign exchange gains (losses)	0	0	0	0		0
Provision for unpaid claims 31 Dec.	2,592	-271	2,321	2,691	-123	2,568
Liability for remaining contract period						
Insurance liability 1 Jan.	606	-7	600	593	-7	586
Increase	573	-7	565	555	-7	548
Decrease	-558	7	-552	-542	7	-536
Unwinding of discount	1		1	1		1
Insurance liability 31 Dec.	621	-7	614	606	-7	600
Total Non-life Insurance insurance liabilities	3,213	-278	2,935	3,297	-130	3,168

The insurance liability for the remaining contract period of insurance contracts has mainly been determined in accordance with the pro rata parte temporis rule for each contract.

Determination of insurance liabilities arising from non-life insurance contracts

a) Methods and assumptions used

The amount of insurance liability has been estimated in such a way that it is, in reasonable probability, sufficient to cover the liabilities arising from insurance contracts. This has been performed by estimating an expected value for the insurance liability and, after that, by determining a safety margin based on the degree of uncertainty related to the liability.

The provision for unpaid claims for annuities corresponds to the discounted present value of cash flow of compensation for loss of income payable as continuous annuity. The discount rate is determined taking account of the current interest rate, security required by law and the maximum discount rate set by the authorities and expected reasonable return on assets covering insurance liabilities. On 31 December 2022, the discount rate used was 2.0 % (0.85). The mortality model applied is the cohort mortality model which is based on Finnish demographic statistics and which assumes the current trend of an increase in life expectancy to continue.

The provision for unpaid claims includes asbestos liabilities which arise from occupational diseases coverable under statutory workers' compensation insurance. The forecasted cash flow of these claims is based on an analysis which takes account of to what extent asbestos was used annually as raw material in Finland and how the latency periods of different asbestos diseases are distributed. Trends in asbestos-related claims are monitored annually and the outcome has corresponded well to the forecast.

Determining collective liability is based on different statistical methods: Bornhuetter-Ferguson, Cape Cod and Chain Ladder. When applying these methods, other selections must also be made, in addition to the selection of the method, such as deciding on how many occurrence years' statistics the methods will be applied.

In the valuation of collective liability, the largest risks relate to
- Estimating the future rate of inflation (excl. indemnities for loss of income payable on the basis of statutory insurance)
- Adjustment of changes due to changed compensation practices and legislation in the development triangle of claims
(i.e. whether history provides a correct picture of the future)
- Adequacy of historical information over dozens of years.

Of the collective liability, only the liability for annuities has been discounted.

For the assessment of collective liability, the Group's non-life insurance portfolio is divided into several categories by risk and eg maturity of the cash flow applying to compensation paid. In each category, collective liability is first calculated using each statistical method stated above, and the method that best suits the category under review is chosen. The selection criteria used includes how well the model would have predicted developments in prior years of occurrence and the sensitivity of the estimate generated by the model with respect to the number of statistical years used. The safety margin of 2–15% is added to the expected value generated by the selected model. The safety margin is determined by the uncertainty associated with future cash flows and duration, as well as the quality of historical data.

When estimating the collective liability for medical expenses and rehabilitation expenses benefits in statutory workers' compensation and motor liability insurance, the Group has taken account of the fact claims paid for losses occurred more than 10 years ago are financed through the pay-as-you-go system.

Effect of changes in methods and assumptions on amount of liability	2022	2021
Effect of changes in methods and assumptions on amount of liability	-286	-42
Total	**-286**	**-42**

b) Claims development

The claims triangle compares the actual claims incurred with previous estimates. The triangles describing claims development have been drawn up by occurrence year.

With the exception of long-term liabilities, claims development for the gross business is presented over a period of ten years. The claims triangle does not monitor the shares of pools. The capital value of finalised annuities is treated as if the annuities had been paid equalling the capital amount in connection with confirmation as final. For long-term liabilities, i.e. annuities confirmed as final and asbestos-related claims, information on the adequacy of insurance liabilities is provided.

Claims triangles, gross business, EUR million

Occurrence year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Estimated total claims expenditure											
0*	903	931	976	1,000	1,043	1,121	1,116	1,052	1,180	1,399	10,721
n+1	879	905	887	1,006	1,063	1,149	1,116	1,041	1,170		
n+2	861	920	902	995	1,078	1,164	1,097	1,030			
n+3	885	939	910	998	1,079	1,161	1,087				
n+4	891	929	912	996	1,080	1,152					
n+5	888	930	912	1,000	1,070						
n+6	900	931	913	990							
n+7	903	931	903								
n+8	903	922									
n+9	894										
Current estimate of total claims expenditure											
	894	922	903	990	1,070	1,152	1,087	1,030	1,170	1,399	10,617
Accumulated claims paid											
	-864	-886	-868	-941	-1,012	-1,089	-1,015	-882	-973	-692	-9,222
Provision for unpaid claims for 2013-2022											
	30	**36**	**35**	**49**	**58**	**63**	**73**	**148**	**196**	**707**	**1,395**
Provision for unpaid claims for previous years											206

* = at the end of the occurrence year

Development of claims due to latent occupational diseases, EUR million

Financial year	Collective liability	Known liabilities for annuities	Claims paid	Claims incurred	Changes in reserving basis*	Adequacy
2013	28	53	-4	-1	1	0
2014	22	53	-4	-2	2	0
2015	19	54	-4	-2	2	-1
2016	17	53	-5	-1	2	1
2017	14	53	-5	-3	3	0
2018	13	51	-6	-2		-2
2019	10	52	-5	-3	3	0
2020	9	54	-5	-6	1	-5
2021	7	52	-6	-3	1	-2
2022	5	47	-6	1	-1	0

Development of annuities confirmed as final, EUR million

Financial year	Year-start	Year-end	New annuity capital	Annuities paid	Changes in reserving basis*	Adequacy
2013	940	965	51	37	23	12
2014	965	1,010	54	40	36	5
2015	1,010	1,046	53	44	30	2
2016	1,046	1,080	54	49	31	3
2017	1,080	1,141	54	52	75	16
2018	1,141	1,145	56	54		-2
2019	1,145	1,206	38	56	80	1
2020	1,206	1,245	82	54	25	14
2021	1,245	1,240	116	63	-31	27
2022	1,240	1,055	55	61	-166	14

* Effect of changes in the discount rate and the mortality model on final annuity capital.

Claims triangles, net business, EUR million

Occurrence year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Estimated total claims expenditure											
0*	861	897	957	992	1,019	1,081	1,092	1,034	1,117	1,227	10,277
n+1	829	868	877	1,000	1,026	1,109	1,089	1,012	1,103		
n+2	819	875	892	990	1,045	1,114	1,073	998			
n+3	843	887	898	994	1,046	1,118	1,063				
n+4	847	887	901	992	1,050	1,109					
n+5	847	885	900	997	1,038						
n+6	858	886	902	988							
n+7	859	887	893								
n+8	859	877									
n+9	849										
Current estimate of total claims expenditure											
	849	877	893	988	1,038	1,109	1,063	998	1,103	1,227	10,145
Accumulated claims paid											
	-822	-843	-858	-939	-984	-1,059	-993	-872	-944	-520	-8,833
Provision for unpaid claims for 2013-2022											
	28	34	35	49	53	50	70	126	159	707	1,312
Provision for unpaid claims for previous years											190

* = at the end of the occurrence year

Change in claims incurred based on loss events for prior financial years

Claims incurred for losses occurred in prior financial years increased by EUR 3 million while those for the previous financial year increased by EUR 3 million. Change in claims incurred based on loss events for prior financial years describes the adequacy of insurance liabilities, which on average is positive due to the security of insurance liabilities.

Changes in Life Insurance insurance liabilities

Liabilities, EUR million	1 Jan 2022	Growth in liability arising from insurance premiums	Dis-charged liabilities	Credited interest and changes in value	Other charges and credits	Other items	31 Dec 2022
Other than unit-linked contract liabilities							
Other insurance liability than unit-linked liability discounted with interest rate guarantee	2,594	134	-220	76	-96	50	2,538
Separated balance sheet 1	735	0	-38	27	-4	-147	574
Separated balance sheet 2	1,759	3	-164	53	9	-349	1,311
Other liability than unit-linked investment contracts discounted with interest rate guarantee	1	0	0	0	0	0	2
Reserve for decreased discount rate	211					-78	132
Effect of discounting with market interest rate	145					-278	-133
Other items	115					-114	1
Total	**5,560**	**137**	**-422**	**156**	**-91**	**-916**	**4,425**

Liabilities, EUR million	1 Jan 2021	Growth in liability arising from insurance premiums	Dis-charged liabilities	Credited interest and changes in value	Other charges and credits	Other items	31 Dec 2021
Other than unit-linked contract liabilities							
Other insurance liability than unit-linked liability discounted with interest rate guarantee	2,697	128	-218	79	-97	6	2,594
Separated balance sheet 1	804	0	-38	29	-4	-56	735
Separated balance sheet 2	2,025	4	-197	59	9	-140	1,759
Other liability than unit-linked investment contracts discounted with interest rate guarantee	2	0	0	0	0	0	1
Reserve for decreased discount rate	237					-26	211
Effect of discounting with market interest rate	253					-109	145
Other items	70					45	115
Total	**6,088**	**132**	**-453**	**166**	**-92**	**-280**	**5,560**

When determining the liabilities related to insurance and investment contracts other than unit-linked contracts and to unit-linked policies, OP Financial Group has complied with the Finnish Accounting Standards, with the exception that the Group started using the discount rate for insurance liabilities that is closer to the real-time interest rate. Insurance and capital redemption contract savings have been entered in the life insurance company's balance sheet at its own investment risk with their interest rate guarantees ranging between 1.5% and 4.5% and discounted to the amount of the interest guarantee in the national financial accounts' insurance liabilities. The effect of the reduced discount rate under FAS has been entered in the reserve for the decreased discount rate. Part of the interest rate risk between the market and discount rate has been hedged using fixed-income investments, the value of which has been entered as part of the liability from insurance and capital redemption contracts.

Life insurance liabilities act as term life insurance liabilities.

Amounts recovered from or due to reinsurers are measured consistently with the amounts associated with the reinsured insurance contracts and are recognised in the balance sheet separately.

Group pension insurance liabilities have been annually increased since 2011 owing to the higher life expectancy.

Refunded interest amounts includes guaranteed interest and, based on management judgement, distributed and paid customer bonuses.

Note 32. Liabilities from unit-linked insurance and investment contracts

EUR million	31 Dec 2022	31 Dec 2021
Unit-linked contract liabilities		
Liabilities for unit-linked insurance contracts	4,453	5,332
Liabilities for unit-linked investment contracts	7,210	7,878
Total	11,662	13,210

The breakdown of the status 31 December 2021 has been adjusted.

Changes in insurance liabilities

Liabilities, EUR million	1 Jan 2022	Growth in liability arising from insurance premiums	Discharged liabilities	Credited interest and changes in value	Other charges and credits	Other items	31 Dec 2022
Unit-linked contract liabilities							
Liabilities for unit-linked insurance contracts	5,332	135	-260	-711	-15	-29	4,453
Liabilities for unit-linked investment contracts	7,878	611	-444	-838	-24	27	7,210
Total	13,210	746	-704	-1,549	-39	-2	11,662

Liabilities, EUR million	1 Jan 2021	Growth in liability arising from insurance premiums	Discharged liabilities	Credited interest and changes in value	Other charges and credits	Other items	31 Dec 2021
Unit-linked contract liabilities							
Liabilities for unit-linked insurance contracts	4,796	176	-246	614	-17	8	5,332
Liabilities for unit-linked investment contracts	6,486	747	-357	966	-22	57	7,878
Total	11,282	924	-602	1,580	-39	65	13,210

The dependence of unit-linked contracts is the policyholder's choice. At company level, the value change cannot be compared with any benchmark index. Similarly, return from guaranteed-interest investment contracts cannot reliably be compared with any benchmark index. Return from guaranteed-interest investment contracts cannot reliably be compared with any benchmark index. The return is based on that on assets covering the liability. Company assets have no benchmark.

Unit-linked investment contracts are measured at fair value.

The liability of unit-linked policies is valued at the market values of assets associated with contracts on the balance sheet date.

The breakdown of the status 31 December 2021 has been adjusted.

Note 33. Debt securities issued to the public

EUR million	31 Dec 2022	31 Dec 2021
Bonds	10,563	10,838
Subordinated bonds (SNP)	4,306	3,926
Covered bonds	12,262	12,353
Other		
Certificates of deposit	1,083	297
Commercial paper	9,287	7,539
Included in own portfolio in trading (–)*	-63	-58
Total debt securities issued to the public	37,438	34,895

* Own bonds held by OP Group have been set off against liabilities.

Reconciliation of changes in liabilities in cash flows from financing activities against balance sheet items

EUR million	Debt securities issued to the public	Subordinated liabilities
Balance sheet value 1 January 2022	34,895	1,982
Changes in cash flows from financing activities		
Increases in bonds	5,310	
Increases in covered bonds	2,782	
Increases in certificates of deposit	1,194	
Increases in commercial papers	12,443	
Increases in debentures		6
Increases total	21,728	6
Decreases in bonds	-3,946	
Decreases in covered bonds	-1,545	
Decreases in certificates of deposit	-407	
Decreases in commercial papers	-10,695	
Decreases in subordinated loans		-522
Decreases in debentures		
Decreases total	-16,593	-522
Total changes in cash flows from financing activities	5,135	-517
Valuations	-2,591	-82
Balance sheet value 31 December 2022	37,438	1,384

EUR million	Debt securities issued to the public	Subordinated liabilities
Balance sheet value 1 January 2021	34,369	1,290
Changes in cash flows from financing activities		
Increases in bonds	9,719	
Increases in covered bonds	2,288	
Increases in certificates of deposit	350	
Increases in commercial papers	18,012	
Increases total	12,471	
Decreases in bonds	-8,570	
Decreases in covered bonds	-1,273	
Decreases in certificates of deposit	-77	
Decreases in commercial papers	-20,381	
Decreases in subordinated loans		-43
Decreases in debentures		-211
Decreases total	-11,825	-254
Total changes in cash flows from financing activities	646	-254
Valuations	-457	-24
Balance sheet value 31 December 2021	34,895	1,982

Most significant issues in 2022	Book value	Fair value	Interest rate
OP Corporate Bank plc			
OP Corporate Bank plc Issue of EUR 1,250,000,000 due 15 Dec 2025 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	1,250	1,223	Fixed 2,875%
OP Corporate Bank plc Issue of EUR 1,000,000,000 0.125 per cent. Unsubordinated Instruments due 1 July 2024 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	1,000	953	Fixed 0,125 %
OP Corporate Bank plc Issue of EUR 1,000,000,000 0.500 per cent. Unsubordinated Instruments due 12 August 2025 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	1,000	923	Fixed 0,500 %
OP Corporate Bank plc Issue of EUR 1,000,000,000 0.100 per cent. Instruments due 16 November 2027 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	1,000	840	Fixed 0,100 %
OP Corporate Bank plc Issue of EUR 800,000,000 Floating Rate Note due 17 May 2024 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	800	808	EUB3 + 1,000 %
OP Mortgage Bank			
OP Mortgage Bank issue of EUR 1.000.000.000 1,000 per cent. Covered Notes due 5 October 2027 under the EUR 20.000.000.000 Euro Medium Term Covered Note Programme	1,000		EUB3 + 1,000 %
OP Mortgage Bank issue of EUR 1.000.000.000 3 month Euribor + 1,00 per cent. Covered Notes due 13 September 2023 under the EUR 20.000.000.000 Euro Medium Term Covered Note Programme	1,000		EUB3 + 1,000 %
OP Mortgage Bank issue of EUR 1.250.000.000 2,750 per cent. Covered Notes due 22 June 2026 under the EUR 25.000.000.000 Euro Medium Term Covered Bond (Premium) Programme	1,250		Fixed 2,750 %

In January, OP Corporate Bank plc issued a 500-million-euro senior non-preferred green bond with a maturity of 5.5 years. The bond was targeted at international responsible institutional investors. Proceeds raised with the green bond are allocated to sustainable corporate finance. Eligible sectors to be funded include renewable energy, green buildings and environmentally sustainable management of living natural resources and land use.

In April, OP Mortgage Bank issued a 1 billion-euro green covered bond with a maturity of 5.5 years. This fixed-rate covered bond is targeted at international institutional investors, and proceeds raised with the bond will be allocated to OP Financial Group's home loans recognised as green ones according to the Green Covered Bond Framework of OP Mortgage Bank. The sector to be financed is energy-efficient residential buildings (green buildings).

Note 34. Provisions and other liabilities

EUR million	31 Dec 2022	31 Dec 2021
Provisions		
Loss allowance	32	22
Reorganisation provision	1	0
Other provisions	3	6
Other liabilities		
Payment transfer liabilities	1,122	1,057
Accrued expenses		
Interest payable	186	168
Interest payable on derivatives	34	19
Other accrued expenses	507	498
CSA liabilities from derivatives	1,290	807
Pension liabilities	30	49
Lease liabilities	231	242
Accounts payable on securities	6	4
Payables based on purchase invoices	14	34
Direct insurance liabilities	58	51
Reinsurance liabilities	42	26
Claims administration contracts	134	152
Total	3,656	3,106
Other	156	0
Total provisions and other liabilities	**3,849**	**3,134**

EUR million	Loss allowance	Reorgani-sation	Other provisions	Total
1 January 2022	22	0	6	28
Increase in provisions	11	0	2	13
Provisions used			-1	-1
Reversal of unused provisions			-4	-4
31 December 2022	33	1	3	37

EUR million	Loss allowance	Reorgani-sation	Other provisions	Total
1 January 2021	29	0	3	32
Increase in provisions			4	4
Provisions used	-7	0	-0	-7
31 December 2021	22	0	6	28

Claims administration contracts

Claims administration contracts are contracts which are not insurance contracts, but on the basis of which claims are paid on behalf of another party which has full risk for its own account. Among these contracts, the most important are captive arrangements in which the insured risk is reinsured with a captive company belonging to the same Group of companies with the customer; index increases in annuities of statutory workers' compensation, motor liability and patient insurance policies; certain other increases in benefits; and medical treatment indemnities payable over ten years after the occurrence of the accident; as well as public sector patient insurance.

Defined benefit pension plans

OP Financial Group has funded assets of its pension schemes through insurance companies and the OP-Eläkesäätiö pension foundation. Schemes related to supplementary pensions in OP-Eläkesäätiö and insurance companies are treated as defined benefit plans. Statutory pension cover managed by Ilmarinen Mutual Pension Insurance Company is treated as a defined contribution plan.

Supplementary pension at OP Bank Group Pension Foundation and insurance companies

OP Bank Group Pension Foundation manages supplementary pension cover for employees provided by the employers within OP Financial Group. The purpose of the Pension Foundation is to grant old-age and disability pension benefits and sickness benefits to employees covered by the Pension Foundation activities, and survivors' pension benefits to their beneficiaries, and burial grant. In addition, the Pension Foundation may grant said employees benefits related to rehabilitation. Arranging supplementary pension is voluntary. Supplementary pension cover provided by the Pension Foundation is fully funded.

The Pension Foundation covers every employee who has reached the age of 20 years and who has been employed, as specified by TyEL, for two consecutive years by the employer within the Pension Foundation and whose employment has begun before 1 July 1991. The employment term entitling to pension begins from the day the employee turned 23 years in the employment of the employer. The salary/wage serving as the basis for the calculation of pension refers to pensionable pay based on one and the same employment and calculated under the Finnish Employees' Pensions Act, TEL, in force until 31 December 2006. The retirement age of those covered by the Pension Foundation varies from 60 to 65 years, depending on the personnel group to which the employee belongs under the Pension Foundation rules.

The most significant associated risk relates to the possibility of the actual return on investment assets being lower than the target set for the minimum return. If such a risk materialises in several consecutive years, this would result in charging contributions.

The most significant actuarial risks of OP Bank Group Pension Foundation are associated with interest rate and market risks, systematically increasing life expectancy and inflation risk. A change in the discount rate for pension liabilities has a substantial effect on the amount of pension liabilities.

Responsible for investment, the Board of Trustees of the Pension Foundation approves the Foundation's investment plan related to its assets. A pension institution's chief actuary prepares annually a forecast for developments in insurance liabilities and pension costs. On this basis, investment asset allocation takes account of the requirements set by the nature of insurance liabilities for investment operations with respect to the level of security, productivity and liquidity, as well as the Pension Foundation's risk-bearing capacity.

Supplementary pension has also been arranged in life insurance companies. In general, the insured persons are entitled to retire on an old-age pension at the age of 63. In addition, the insured is entitled to disability pension and, after the insured person's death, beneficiaries are entitled to burial grant and survivors' pension. Insurance contributions are collected based on the retirement age of 65. The employer pays the uncovered portion of the pension on a lump-sum basis when the person retires at the promised retirement age of 63.

In some plans, the retirement age of the insured persons' supplementary pension vary from 62 and 65 years and insurance contributions are collected in such a way that the promised benefit will have been fully covered by the retirement age.

Payable benefits are tied to the TyEL index. The employer will annually be charged an additional payment if the insurance company's own index compensation is smaller than the index given to benefits.

When reporting promised benefits under IAS 19, the key risks are associated with inflationary expectation, wage inflation and interest rates on the balance sheet date. The most significant risk in these plans is inflation assumption that affects the pension obligation through assumption for an increase in benefits. The used interest rate affects not only the pension obligation but also the value of assets corresponding to the obligation, reducing the effect of any change on net benefit liability to be recognised.

Balance sheet value of defined benefit plans, EUR million	Defined benefit obligations 2022	2021	Fair value of pension assets 2022	2021	Net liabilities (assets) 2022	2021
Opening balance 1 Jan	617	595	-654	-589	-37	7
Defined benefit pension costs recognised in income statement						
Current service cost	6	7			6	7
Interest expense (income)	6	2	-6	-2	0	0
Effect of plan curtailment, change and fulfilment of obligation or previous service cost						
Administrative expenses			1	1	1	1
Total	12	9	-5	-1	7	8
Losses (gains) recognised in other comprehensive income arising from remeasurement						
Actuarial losses (gains) arising from changes in economic expectations	-160	27			-160	27
Actuarial losses (gains) arising from changes in demographic expectations		0				0
Return on TyEL interest rate difference and growth in old-age pension liabilities (net)						
Experience adjustments	3	11			3	11
Return on plan assets, excluding amount (–) of net defined benefit liability (asset)			36	-87	36	-87
Total	-156	38	36	-87	-120	-50
Other						
Employer contributions*			-3	-2	-3	-2
Benefits paid	-24	-25	24	25		
Total	-24	-25	21	23	-3	-2
Closing balance 31 Dec	449	617	-602	-654	-153	-37

Liabilities and assets recognised in the balance sheet, EUR million	31 Dec 2022	31 Dec 2021
Net liabilities/assets (Pension Foundation)	-183	-86
Net liabilities (Supplementary pension schemes of insurance companies)	30	49
Total net liabilities	30	49
Total net assets	-183	-86

Pension Foundation assets, 31 December 2022, EUR million	Total
Shares and participations	101
Notes and bonds	112
Real property	7
Mutual funds	289
Derivatives	1
Other assets	32
Total	543

Pension Foundation assets, 31 December 2021, EUR million	Total
Shares and participations	97
Notes and bonds	180
Real property	12
Mutual funds	257
Derivatives	0
Other assets	31
Total	577

Pension plan assets include, EUR million,	31 Dec 2022	31 Dec 2021
Other receivables from OP Financial Group companies	33	32
Total	**33**	**32**

Contributions payable under the defined benefit pension plan in 2023 are estimated at EUR 4 million.
The duration of the defined benefit pension obligation in the pension foundation on 31 December 2022 was 12.3 years and in other plans 17.0 years.

Key actuarial assumptions used, 31 December 2022, EUR million	Pension Foundation	Insurance companies
Discount rate, %	3.6	3.4
Future pay increase assumption, %	3.3	3.3
Future pension increases, %	2.7	2.7
Turnover rate, %	0.0	0.0
Inflation rate, %	2.5	2.5
Estimated remaining service life of employees in years	5.1	7.0
Life expectancy for 65-year old people		
Men	21.4	21.4
Women	25.4	25.4
Life expectancy for 45-year old people after 20 years		
Men	23.7	23.7
Women	28.1	28.1

Key actuarial assumptions used, 31 December 2021, EUR million	Pension Foundation	Insurance companies
Discount rate, %	0.9	1.0
Future pay increase assumption, %	2.9	3.0
Future pension increases, %	2.3	2.3
Turnover rate, %	0.0	0.0
Inflation rate, %	2.1	2.2
Estimated remaining service life of employees in years	5.2	7.2
Life expectancy for 65-year old people		
Men	21.4	21.4
Women	25.4	25.4
Life expectancy for 45-year old people after 20 years		
Men	23.7	23.7
Women	28.1	28.1

Sensitivity analysis of key actuarial assumptions, 31 December 2022	Pension Foundation Change in defined benefit pension obligation EUR million	%	Supplementary pension schemes of insurance companies change in defined benefit net pension liability EUR million	%
Discount rate				
0.5 pp increase	-20	-5.6	-2	-8.5
0.5 pp decrease	22	6.2	3	9.6
Pension increases				
0.5 pp increase	21	5.7	6	24.3
0.5 pp decrease	-19	-5.4	-6	-22.6
Mortality				
1-year increase in life expectancy	12	3.2	1	2.9
1-year decrease in life expectancy	-11	-3.1	-1	-2.8

Sensitivity analysis of key actuarial assumptions, 31 December 2021	Pension Foundation Change in defined benefit pension obligation EUR million	%	Supplementary pension schemes of insurance companies change in defined benefit net pension liability EUR million	%
Discount rate				
0.5 pp increase	-34	-6.9	-4	-10.0
0.5 pp decrease	38	7.8	5	11.6
Pension increases				
0.5 pp increase	34	7.0	11	23.8
0.5 pp decrease	-32	-6.5	-10	-21.9
Mortality				
1-year increase in life expectancy	19	3.9	2	3.9
1-year decrease in life expectancy	-18	-3.7	-2	-3.7

Note 35. Subordinated liabilities

EUR million	31 Dec 2022	31 Dec 2021
Other		
Debentures	1,384	1,982
Total subordinated liabilities	**1,384**	**1,982**

Debentures

Debenture loan of JPY 10 billion (euro equivalent 77 million), which is a ten-year bullet loan, will mature on 3 July 2025. Under the terms and conditions of the loan, the issuer will have the opportunity for early redemption in case the principal cannot be counted as part of the bank's Tier 2 capital. The loan carries a floating rate linked to the JPY Libor + 0.735%.

The debenture loan of EUR 100 million, which is a 10-year bullet loan, will mature on 25 September 2025. Under the terms and conditions of the loan, the issuer will have the opportunity for early redemption in case the principal cannot be counted as part of the bank's Tier 2 capital. The loan carries a fixed interest rate of 2.405% p.a.

Debenture loan of SEK 3,250 million (euro equivalent 317 million), which is a ten-year bullet loan, will mature on 3 June 2030. Under the terms and conditions of the loan, the issuer will have the opportunity for early redemption in case the principal cannot be counted as part of the bank's Tier 2 capital. The loan carries a floating rate linked to a 3-month Stibor + 2.300%.

Debenture loan of 1,000 million euros, which is a 10-year bullet loan, will mature on 9 June 2030. Under the terms and conditions of the loan, the issuer will have the opportunity for early redemption in case the principal cannot be counted as part of the bank's Tier 2 capital. The loan carries a fixed interest rate of 1.625% p.a.

Loans were issued in international capital markets.

OP Corporate Bank plc has no breaches of the terms and conditions of the loan contracts with respect to principal, interest and other conditions. The difference between the nominal value and carrying amount is due to the fair value hedge related to interest rate risk measurement.

Note 36. Equity capital

EUR million	31 Dec 2022	31 Dec 2021
Capital and reserves attributable to OP Financial Group owners		
Cooperative capital, cooperative shares	217	215
of which cancelled cooperative shares	8	7
Cooperative capital, profit shares	3,369	3,244
of which cancelled profit shares	377	330
Reserves		
Restricted reserves		
Reserve fund	795	795
Fair value reserve		
Cash flow hedge	-337	96
Measurement at fair value		
Notes and bonds	-377	56
Loss allowance regarding notes and bonds	8	7
Shares and participations	0	0
Shares and participations (overlay approach)	50	164
Other restricted reserves	1	13
Non-restricted reserves		
Other non-restricted reserves	1,375	1,375
Retained earnings		
Profit (loss) for previous financial years	8,101	7,191
Profit (loss) for the financial year	1,014	900
Equity capital attributable to OP Financial Group's owners	**14,217**	**14,057**
Non-controlling interests	**118**	**128**
Total equity capital	**14,335**	**14,184**

Cooperative capital, cooperative shares

The equity capital of OP Financial Group includes cooperative shares paid by Group member cooperative bank members, and the bank has an absolute right to refuse to pay interest on them and refund the capital. Cooperative contributions and the following customer ownership entitle the customer to take part in the bank's administration and decision-making.

Cooperative capital, profit shares

The equity capital of OP Financial Group also includes investments in Profit Shares made by OP cooperative bank members, and the bank has an absolute right to refuse to pay interest on them and refund the capital. The return target for 2021 was 3.25% and for 2022 4.45%. The interest payable is confirmed afterwards every year. The return target may change on an annual basis. No owner-customer rights are involved in Profit Shares and they do not confer any voting rights.

If a member cooperative bank has not refused a refund, the cooperative contribution and the profit share contribution may be refunded within 12 months after the end of the financial year when membership terminated or the profit share has been cancelled by its holder. If the refund cannot be made in full in any given year, the balance will be refunded from disposable equity capital based on subsequent financial statements. However, this entitlement to the refund for the balance will terminate after the fifth financial statements. No interest will be paid on the balance.

Number of Group cooperative shares

(1 000)	Cooperative capital, member shares	Cooperative capital, profit shares	Total number of cooperative shares
1 January 2021	2,122	29,617	31,739
Increase in cooperative capital	103	4,045	4,148
Refund of cooperative capital	-72	-1,222	-1,294
31 December 2021	**2,153**	**32,440**	**34,593**
Increase in cooperative capital	92	2,857	2,949
Refund of cooperative capital	-77	-1,611	-1,688
31 December 2022	**2,168**	**33,686**	**35,854**

Reserves

Reserve fund
The reserve fund consists of profits transferred to it during previous periods and of the portion transferred to it from member cooperative banks' revaluation reserves and loan loss provisions. The reserve fund may be used to cover losses for which non-restricted equity capital is not sufficient. The reserve fund may also be used to raise the share capital and it can be lowered in the same way as the share capital. In cooperative credit institutions, the reserve fund can only be used to cover losses. In a limited liability company, it has not been possible to increase the reserve fund since 1 September 2006.

Fair value reserve
The fair value reserve includes the change in the fair value of equity instruments as financial assets recognised through the statement of comprehensive income and within the scope of the overlay approach. Items included in this reserve will be derecognised and recorded in the income statement when an available-for-sale financial asset is disposed of or is subject to impairment. The expected loss on notes and bonds recognised through other comprehensive income is recognised to adjust the fair value reserve. The reserve also includes the net fair value change of interest rate derivatives as cash flow hedges verified as effective and adjusted for deferred tax. Fair value changes are included in the income statement in the period when hedged cash flows affect net income.

Fair value reserve after income tax

	Fair value through other comprehensive income			
EUR million	Notes and bonds	Shares and participations (overlay approach)	Cash flow hedging	Total
Opening balance 1 January 2021	109	70	203	382
Fair value changes	-43	167	-88	36
Capital gains transferred to income statement	-14	-56		-70
Impairment loss transferred to income statement		7		7
Transfers to net interest income			-47	-47
Deferred tax	11	-24	27	15
Closing balance 31 December 2021	63	164	96	323

	Fair value through other comprehensive income			
EUR million	Notes and bonds	Shares and participations (overlay approach)	Cash flow hedging	Total
Opening balance 1 January 2022	63	164	96	323
Fair value changes	-525	-171	-512	-1,208
Capital gains transferred to income statement	-16	-53		-69
Impairment loss transferred to income statement		81		81
Transfers to net interest income			-28	-28
Deferred tax	108	29	108	245
Closing balance 31 December 2022	-369	50	-337	-656

The fair value reserve before tax amounted to EUR -820 million (404) at the end of the reporting period and the related deferred tax asset/liability was EUR 164 million (-81). The loss allowance on notes and bonds recognised at fair value through other comprehensive income totalled EUR -1 million (2) in the fair value reserve during the reporting period.

The investment environment was challenging due to higher market interest rates and lower stock prices.

Other restricted reserves
The reserves consist of retained earnings for prior financial years based on the Articles of Association or other rules defining their purpose. The revaluation reserve includes the difference between the carrying amount and fair value of the investment property previously in own use at the time of reclassification.

Other non-restricted reserves
These reserves consist of retained earnings based on the Articles of Association or other rules, or decisions taken by the General Meeting, Representatives' Meeting, or Cooperative Meeting.

Retained earnings
Retained earnings also contain voluntary provisions and depreciation difference included in the separate financial statements of Group companies and insurance companies' equalisation provisions and profits/(losses) due to the redefinition of defined benefit pension plans less deferred tax.

Other notes to on-balance and off-balance sheet items

Note 37. Loss allowance regarding receivables and notes and bonds

Credit risk exposures and related loss allowance

A description of OP Financial Group's credit risk formation and management can be found in section 2.2 of Note 2. The measurement principles of expected credit losses are described in section 7.4 Impairment of Note 1.

Expected credit losses are calculated on receivables measured at amortised cost and notes and bonds recognised at fair value through other comprehensive income (investments in bonds). OP Financial Group receivables include loans, standby credit facilities (e.g. credit cards and accounts with credit facility and lease and factoring receivables). In addition, expected credit losses are calculated on off-balance-sheet items, such as loan commitments, credit facilities and bank guarantees. However, notes and bonds are investments in bonds. For expected credit losses, loss allowance is recognised in the balance sheet or in the case of notes and bonds in other comprehensive income.

The following factors, for example, affect the amount of expected credit losses: exposure amount, exposure validity, customer borrower grade and collateral value as well as forward-looking information.

The following table shows the receivables which are exposed to credit risk and on which expected credit loss is calculated. Here the on-balance-sheet and off-balance sheet exposures also describe the maximum exposure amount exposed to credit risk, excluding collateral securities or other arrangements that improve credit quality. The off-balance sheet exposure represents the exposure amount binding on the bank or the guarantee amount.

Exposures within the scope of accounting for expected credit losses by impairment stage 31 December 2022

Exposures	Stage 1	Stage 2			Stage 3*	
EUR million		Not more than 30 DPD	More than 30 DPD	Total		Total exposure
Receivables from customers (gross)						
Retail Banking	62,761	8,256	51	8,306	2,127	73,195
Corporate Banking	26,588	2,518	109	2,627	451	29,666
Total	**89,349**	**10,774**	**159**	**10,933**	**2,578**	**102,861**
Off-balance-sheet limits						
Retail Banking	6,705	371	0	372	39	7,115
Corporate Banking	8,351	493	29	521	71	8,944
Total	**15,056**	**864**	**29**	**893**	**110**	**16,059**
Other off-balance-sheet commitments						
Retail Banking	2,636	54		54	26	2,715
Corporate Banking	6,943	448		448	72	7,462
Total	**9,579**	**501**		**501**	**98**	**10,178**
Notes and bonds						
Group Functions	12,982	73		73		13,055
Insurance	4,999	52		52	10	5,062
Total	**17,982**	**125**		**125**	**10**	**18,117**
Total exposures within the scope of accounting for expected credit losses	**131,965**	**12,265**	**188**	**12,453**	**2,797**	**147,215**

* A total of 146 million euros of Stage 3 exposures are purchased or originated credit-impaired financial assets (POCI).

Loss allowance by stage 2022

On-balance-sheet exposures and related off-balance-sheet limits*	Stage 1	Stage 2			Stage 3****	
EUR million		Not more than 30 DPD	More than 30 DPD	Total		Total loss allowance
Receivables from customers						
Retail Banking	-18	-78	-1	-79	-363	-457
Corporate Banking	-30	-23	-5	-28	-182	-245
Total	**-48**	**-101**	**-6**	**-108**	**-546**	**-701**
Off-balance-sheet commitments**						
Retail Banking	-1	-1		-1	-2	-4
Corporate Banking	-3	-2		-2	-24	-29
Total	**-4**	**-3**		**-3**	**-26**	**-32**
Notes and bonds***						
Group Functions	-1	-1		-1		-2
Insurance	-8	-1		-1	-5	-14
Total notes and bonds	**-9**	**-2**		**-2**	**-5**	**-16**
Total	**-61**	**-106**	**-6**	**-112**	**-577**	**-750**

* Loss allowance for on- and related off-balance sheet limits is recognised as one component to deduct the balance sheet item.

** Loss allowance is recognised in provisions and other liabilities in the balance sheet.

*** Loss allowance is recognised in the fair value reserve in other comprehensive income.

****EUR 45 million of Stage 3 loss allowance relates to purchased or originated credit-impaired financial assets (POCI).

The table below shows a summary of loss allowance relative to the exposure amount by impairment stage. The coverage ratio describes the ratio of loss allowance to exposure amount.

Summary and key indicators 31 December 2022	Stage 1	Stage 2			Stage 3	
		Not more than 30 DPD	More than 30 DPD	Total		Total
Receivables from customers; on-balance-sheet and off-balance-sheet items						
Retail Banking	72,102	8,681	51	8,732	2,192	83,026
Corporate Banking	41,882	3,459	137	3,596	595	46,072
Loss allowance						
Retail Banking	-19	-79	-1	-80	-366	-460
Corporate Banking	-33	-25	-5	-30	-206	-274
Coverage ratio, %						
Retail Banking	-0.03%	-0.91%	-1.98%	-0.92%	-16.68%	-0.55%
Corporate Banking	-0.08%	-0.71%	-3.81%	-0.83%	-34.69%	-0.59%
Receivables from customers; total on-balance-sheet and off-balance-sheet items	113,983	12,139	188	12,328	2,787	129,098
Total loss allowance	-52	-104	-6	-110	-572	-734
Total coverage ratio, %	-0.05%	-0.86%	-3.31%	-0.89%	-20.53%	-0.57%
Carrying amount, notes and bonds						
Group Functions	12,982	73		73		13,055
Insurance	4,999	52		52	10	5,062
Loss allowance						
Group Functions	-1	-1		-1		-2
Insurance	-8	-1		-1	-5	-14
Coverage ratio, %						
Group Functions	-0.01%	-1.18%		-1.18%		-0.02%
Insurance	-0.15%	-1.85%		-1.85%	-49.16%	-0.27%
Total notes and bonds	17,982	125		125	10	18,117
Total loss allowance	-9	-2		-2	-5	-16
Total coverage ratio, %	-0.05%	-1.46%		-1.46%	-49.16%	-0.09%

Exposures within the scope of accounting for expected credit losses by impairment stage 31 December 2021*

Exposures	Stage 1	Stage 2			Stage 3*	
EUR million		Not more than 30 DPD	More than 30 DPD	Total		Total exposure
Receivables from customers (gross)						
Retail Banking	61,835	7,608	8	7,615	2,095	71,545
Corporate Banking	24,673	1,058	247	1,304	508	26,486
Total	86,508	8,665	254	8,919	2,603	98,031
Off-balance-sheet limits						
Retail Banking	6,445	277	10	286	36	6,767
Corporate Banking	4,279	190	88	278	75	4,631
Total	10,724	466	98	564	110	11,398
Other off-balance-sheet commitments						
Retail Banking	3,397	46		46	16	3,458
Corporate Banking	7,196	121		121	78	7,396
Total	10,593	166		166	94	10,854
Notes and bonds						
Group Functions	13,160	31		31		13,191
Insurance	4,180	36		36	7	4,223
Total	17,340	67		67	7	17,414
Total exposures within the scope of accounting for expected credit losses	125,165	9,365	352	9,717	2,815	137,697

* A total of 70 million euros of Stage 3 exposures are purchased or originated credit-impaired financial assets (POCI).

Loss allowance by stage 31 December

On-balance-sheet exposures and related off-balance-sheet limits*	Stage 1	Stage 2			Stage 3****	
EUR million		Not more than 30 DPD	More than 30 DPD	Total		Total loss allowance
Receivables from customers						
Retail Banking	-19	-59	-2	-61	-319	-398
Corporate Banking	-23	-23	-2	-25	-269	-317
Total	**-42**	**-82**	**-4**	**-86**	**-588**	**-715**
Other off-balance-sheet commitments**						
Retail Banking	-1	-1		-1	-1	-2
Corporate Banking	-3	-3		-3	-14	-20
Total	**-4**	**-3**		**-3**	**-15**	**-22**
Notes and bonds***						
Group Functions	-2	-1		-1		-2
Insurance	-7	-2		-2	-3	-12
Total notes and bonds	**-8**	**-2**		**-2**	**-3**	**-14**
Total	**-54**	**-87**	**-4**	**-91**	**-606**	**-751**

* Loss allowance for on- and related off-balance sheet limits is recognised as one component to deduct the balance sheet item.

** Loss allowance is recognised in provisions and other liabilities in the balance sheet.

*** Loss allowance is recognised in the fair value reserve in other comprehensive income.

****EUR 23 million of Stage 3 loss allowance relates to purchased or originated credit-impaired financial assets (POCI).

The table below shows a summary of loss allowance relative to the exposure amount by impairment stage. The coverage ratio describes the ratio of loss allowance to exposure amount.

Summary and key indicators 31 December 2021	Stage 1	Stage 2			Stage 3	
		Not more than 30 DPD	More than 30 DPD	Total		Total
Receivables from customers; on-balance-sheet and off-balance-sheet items						
Retail Banking	71,676	7,930	17	7,947	2,146	81,770
Corporate Banking	36,149	1,368	335	1,703	661	38,513
Loss allowance						
Retail Banking	-20	-59	-2	-61	-319	-400
Corporate Banking	-26	-25	-2	-27	-283	-337
Coverage ratio, %						
Retail Banking	-0.03%	-0.75%	-12.91%	-0.77%	-14.87%	-0.49%
Corporate Banking	-0.07%	-1.85%	-0.63%	-1.61%	-42.83%	-0.88%
Receivables from customers; total on-balance-sheet and off-balance-sheet	**107,825**	**9,298**	**352**	**9,650**	**2,808**	**120,283**
Total loss allowance	**-46**	**-85**	**-4**	**-89**	**-603**	**-737**
Total coverage ratio, %	**-0.04%**	**-0.91%**	**-1.23%**	**-0.92%**	**-21.46%**	**-0.61%**
Carrying amount, notes and bonds						
Group Functions	13,160	31		31		13,191
Insurance	4,180	36		36	7	4,223
Loss allowance						
Group Functions	-2	-1		-1		-2
Insurance	-7	-2		-2	-3	-12
Coverage ratio, %						
Group Functions	-0.01%	-2.00%		-2.00%		-0.02%
Insurance	-0.16%	-4.16%		-4.16%	-49.03%	-0.28%
Total notes and bonds	**17,340**	**67**		**67**	**7**	**17,414**
Total loss allowance	**-8**	**-2**		**-2**	**-3**	**-14**
Total coverage ratio, %	**-0.05%**	**-3.17%**		**-3.17%**	**-49.03%**	**-0.08%**

Collateral and other arrangements improving credit quality
OP Financial Group's credit risk management measures to reduce credit risk are described in Note 2, section 2.2. The most common measures to reduce credit risk is to use various collateral securities. Home loans and standby credit facilities are the largest credit groups among households. Home loans account for 77% (77%) of household exposures. Residential property is typically used as collateral for home loans.

The table below presents a breakdown of home loans on 31 December 2021 by LTV level with loss allowance. The LTV (loan-to-value) ratio describes the loan's balance sheet value relative to the fair value of the residential property collateral. The loan may also have other collateral securities but these have not been taken into account in the table. The lower the LTV ratio, the larger the collateral value in relation to the loan amount. Loss allowance is lower in relative terms, the lower the LTV ratio is.

31.12.2022	Total home loans	
LTV %, € million	Exopsure amount in balance sheet	Loss allowance
0–50%	10,985	0
51–70%	17,798	-19
Over 70%	13,754	-55
Total	**42,536**	**-74**

30.12.2021	Total home loans	
LTV %, € million	Exopsure amount in balance sheet	Loss allowance
0–50%	10,170	0
51–70%	18,086	-18
Over 70%	13,061	-59
Total	**41,317**	**-78**

Changes in loss allowance during financial year

The table below shows a change in exposures within the scope of the measurement of expected credit losses by impairment Stage for 2022 resulting from the effect of the following factors:

Note 1, section 7.4.1 describes impairment stages.

Receivables from customers and off-balance-sheet items, EUR million	Stage 1	Stage 2	Stage 3	Total
Receivables from customers; on-balance-sheet and off-balance-sheet items 1 January 2021	107,825	9,650	2,808	120,283
Transfers from Stage 1 to Stage 2, incl. repayments	-6,564	6,194		-370
Transfers from Stage 1 to Stage 3, incl. repayments	-432		378	-53
Transfers from Stage 2 to Stage 1, incl. repayments	2,937	-3,224		-288
Transfers from Stage 2 to Stage 3, incl. repayments		-582	532	-50
Transfers from Stage 3 to Stage 1, incl. repayments	65		-75	-10
Transfers from Stage 3 to Stage 2, incl. repayments		238	-272	-33
Unchanged Stage, incl repayments	23,512	1,160	162	24,834
Increases due to origination and acquisition	-14,270	-985	-434	-15,689
Decreases due to derecognition	910*	-122	-203	585
Recognised as final credit loss	0	0	-111	-111
Receivables from customers; on-balance-sheet and off-balance-sheet items 31 December 2021	113,983	12,328	2,787	129,098

* Stage 1 positive net change is related to increases in off-balance-sheet limits.

Receivables from customers and off-balance-sheet items, EUR million

The table below shows a change in exposures within the scope of the calculation of expected credit losses by impairment Stage for 2022 resulting from the effect of the following factors:

	Stage 1	Stage 2	Stage 3	
Loss allowance to receivables from customers, € million	12 months	Lifetime	Lifetime	Total
Loss allowance 1 January 2022	46	89	603	737
Transfers from Stage 1 to Stage 2	-5	38		33
Transfers from Stage 1 to Stage 3	-3		67	64
Transfers from Stage 2 to Stage 1	2	-18		-16
Transfers from Stage 2 to Stage 3		-12	57	45
Transfers from Stage 3 to Stage 1	1		-6	-6
Transfers from Stage 3 to Stage 2		4	-23	-19
Increases due to origination and acquisition	17	14	30	61
Decreases due to derecognition	-8	-14	-92	-114
Changes in risk parameters (net)	4	7	40	51
Changes due to update in the methodology for estimation (net)	0	2	5	7
Decrease in allowance account due to write-offs	0	0	-108	-108
Net change in expected credit losses	6	21	-31	-3
Loss allowance 31 December 2022	52	110	572	734

Transfers from Stage 1 to Stage 3 compare the current year-end Stage 3 of a financial asset to the Stage 3 at the beginning of the year. Of these, some 76% (see the default capture rate below) have been reported in Stage 2 during 2021, so the agreements have, as a rule, transferred to Stage 3 through Stage 2. The agreement may transfer directly to Stage 3 due to external payment default.

Transfers from Stage 3 to Stages 2 or 1 compare the year-start Stage 3 with the year-end Stage 2 or 1. As the main rule, the transfers, however, took place within 2022 with a delay of at least one month.

The majority of the loans have transferred to Stage 2 in all ratings based on OP's relative SICR model. Payments past due over 30 days causes a transfer to Stage 2 in most cases in the middle and lower level ratings. Forbearance measures cause a transfer to Stage 2 in corporate customers more often in middle and lower level ratings whereas they affect transfers to Stage 2 in all ratings in personal customers. The lowest ratings are classified into Stage 2 based on an absolute rating limit. In the lowest ratings, in particular, there are several reasons for transfers to Stage 2. Non-performing loans are identified on a real-time basis, immediately causing a transfer to Stage 3.

Non-performing exposures are classified into Stage 3, i.e. its definition is the same as credit impaired financial assets due to credit risk under IFRS 9.

In June 2022, OP Financial Group updated lifetime EAD models and the maturity model. Changes in the models increased OP Corporate Bank's expected credit losses by 7 million euros, which is reported in the table above on row "changes in model assumptions and methodology". Lifetime EAD models are used in the ECL measurement under IFRS 9 to estimate a contract's on-balance-sheet exposures at default for the contract's lifetime. The maturity model is used in the ECL measurement under IFRS 9 to estimate a contract's lifetime for standby credit facilities of personal and corporate customer exposures whose credit risk has increased significantly, meaning that their ECL is measured for the contract's lifetime (Stage 2). The maturity model is used for the standby credit facilities of personal and corporate customer exposures because they have no contractual maturity.

OP Financial Group has updated its assessments of the financial effects of Russia's war of aggression in Ukraine on the credit risk of its customers. The management overlay provision of EUR 34 million included in the Q1/2022 effects of the war in Ukraine, which concerned the riskiest sectors, that is to say agriculture, construction, energy and transport, has mainly been reversed because of the abovementioned reasons. The effects were expected to arise, for example, from the closedown of business and a rise in the costs of energy, raw materials and other production, but they have been more tepid than expected because higher production costs could have been passed on to prices and government support measures have been channelled to agriculture and the energy sector, in particular.

OP Financial Group has updated its assessment of the impact of a rise in the price of electricity and Euribor rates as well as a fall in the price of residential property collateral on the credit risk associated with home loans. The assessment made as a stress test measured the cash flow of households, on the basis of which potential customers were assessed whose repayment capacity is jeopardised. Based on the analysis, the management overlay ECL provision previously made in Q1 was increased by EUR 17.4 million to EUR 42.4 million. Several uncertain factors will affect the price development of electricity in Finland.

In Q4/2022, based on its analysis, OP Financial Group made a management overlay ECL provision of EUR 5.3 million in the construction industry. The analysis was based on the weakened outlook for the industry. It was conducted as a stress test with the assumptions that net sales will decrease by 10%, cost inflation will increase by 8% and interest rates by 3%.

In addition, OP Financial Group was prepared in Q4/2022 for the retrospective correction of the data stock on forborne exposures with a 5-million euro management overlay ECL provision to be performed in the first half of 2023.

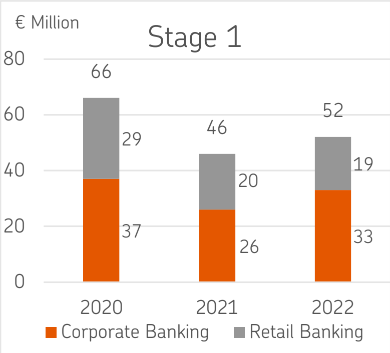
At the end of 2021, OP Financial Group made a 34-million euro additional ECL provision concerning CRE backed loans. The provision was aimed at anticipating growth in the ECL caused by the update of the collateral assessment of the riskiest collateral real estate holdings and probable default statutes. The provision was reversed during 2022 corresponding to the part of the agreements where the updates have been made to collateral values and default statuses. Provision not reversed totalled EUR 11 million at the end of the year.

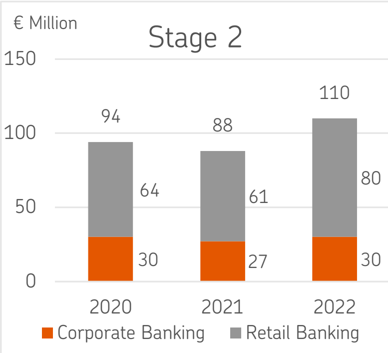
The table below shows the ECL before the discretionary provisions under management overlay, management overlay provisions described above and the total ECL.

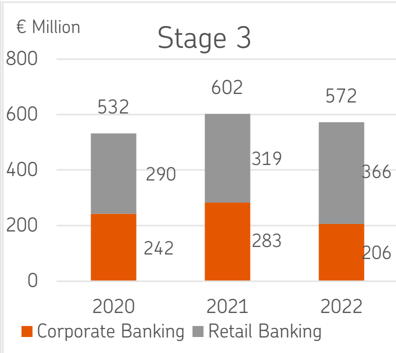
Loss allowance 31 December 2022	Retail Banking	Corporete Banking	Total
ECL before discretionary provisions	401	267	668
Discretionary provisions under management overlay			
Russia-Ukraine war	2	-	2
Price of electricity, interest rates & value of collateral	42		42
Construction industry	3	3	5
Future retrospective correction to forborne exposures	5		5
Collateral valuation of CRE backed loans	11		11
Total discretionary provisions under management overlay	63	3	66
Total reported ECL	465	269	734

Total loss allowance on 31 Dec 2021	Retail Banking	Corporete Banking	Total
ECL before discretionary provisions	374	331	706
Discretionary provisions under management overlay			
Defaults and collateral valuation of CRE backed loans	26	6	31
Total discretionary provisions under management overlay	26	6	31
Total reported ECL	400	337	737

The following graphs illustrate the trend in the expected credit losses of customer receivables by impairment stage during the last few years. The graphs show a reduction of stage 3 during 2022 due to the recognition of final credit losses, repayment of liabilities in stage 3 and the reversal of management overlay provisions.







In ECL measurement, macroeconomic factors are updated on a quarterly basis. The ECL is measured as the weighted average under three scenarios. Scenario weights have been at normal level, or downside 20%, baseline 60% and upside 20%. Macroeconomic forecast updates in 2022 have increased expected credit losses by EUR 4 million.

	Stage 1	Stage 2	Stage 3	
Notes and bonds, EUR million	12 months	Lifetime	Lifetime	Total
Loss allowance 1 January 2022	7	2	5	14
Transfers from Stage 1 to Stage 2	0	1		1
Transfers from Stage 1 to Stage 3	0		3	3
Transfers from Stage 2 to Stage 1	0	0		0
Transfers from Stage 2 to Stage 3		0	0	0
Increases due to origination and acquisition	3	0	0	3
Decreases due to derecognition	-1	-1	-1	-3
Changes in risk parameters (net)	0	0	0	-1
Net change in expected credit losses	1	0	2	3
Loss allowance 31 December 2022	8	2	6	16

The table below shows a change in exposures within the scope of the measurement of expected credit losses by impairment Stage for 2021 resulting from the effect of the following factors:

Receivables from customers and off-balance-sheet items, EUR million	Stage 1	Stage 2	Stage 3	Total
Receivables from customers; on-balance-sheet and off-balance-sheet items 1 January 2021	104,895	9,203	2,587	116,685
Transfers from Stage 1 to Stage 2, incl. repayments	-4,982	4,660		-322
Transfers from Stage 1 to Stage 3, incl. repayments	-370		320	-49
Transfers from Stage 2 to Stage 1, incl. repayments	2,370	-2,593		-223
Transfers from Stage 2 to Stage 3, incl. repayments		-758	696	-62
Transfers from Stage 3 to Stage 1, incl. repayments	54		-62	-8
Transfers from Stage 3 to Stage 2, incl. repayments		187	-207	-20
Unchanged Stage, incl repayments	-5,369	-279	-224	-5,872
Increases due to origination and acquisition	27,550	862	153	28,565
Decreases due to derecognition	-16,322	-1,626	-342	-18,291
Recognised as final credit loss		-6	-113	-119
Receivables from customers; on-balance-sheet and off-balance-sheet items 31 December 2021	107,825	9,650	2,808	120,283

The table below shows the change in loss allowance by impairment stage during 2021 in respect of the effect of the following factors:

	Stage 1	Stage 2	Stage 3	
Loss allowance to receivables from customers, € million	12 months	Lifetime	Lifetime	Total
Loss allowance 1 January 2021	65	93	533	692
Transfers from Stage 1 to Stage 2	-3	30		26
Transfers from Stage 1 to Stage 3	-1		34	33
Transfers from Stage 2 to Stage 1	2	-13		-10
Transfers from Stage 2 to Stage 3		-19	78	60
Transfers from Stage 3 to Stage 1	1		-6	-5
Transfers from Stage 3 to Stage 2		5	-16	-11
Increases due to origination and acquisition	15	11	27	53
Decreases due to derecognition	-21	-14	-55	-89
Changes in risk parameters (net)	-16	-6	86	65
Decrease in allowance account due to write-offs		0	-78	-78
Net change in expected credit losses	**-19**	**-6**	**70**	**45**
Loss allowance 31 December 2021	**46**	**89**	**603**	**737**

Transfers from Stage 1 to Stage 3 compare the current year-end Stage 3 of a financial asset to the Stage 3 at the beginning of the year. Of these, some 81% (see the default capture rate below) have been reported in Stage 2 during 2021, so the agreements have, as a rule, transferred to Stage 3 through Stage 2. The agreement may transfer directly to Stage 3 due to external payment default.

Transfers from Stage 3 to Stages 2 or 1 compare the year-start Stage 3 with the year-end Stage 2 or 1. As the main rule, the transfers, however, took place within 2021 with a delay of one month.

The majority of the loans have transferred to Stage 2 in all ratings based on OP's relative SICR model. Payments past due over 30 days causes a transfer to Stage 2 in most cases in the middle and lower level ratings. Forbearance measures cause a transfer to Stage 2 in corporate customers more often in middle and lower level ratings whereas they affect transfers to Stage 2 in all ratings in personal customers. The lowest ratings are classified into Stage 2 based on an absolute rating limit. In the lowest ratings, in particular, there are several reasons for transfers to Stage 2. Default is identified on a real-time basis, immediately causing a transfer to Stage 3.

Non-performing exposures are classified into Stage 3, i.e. its definition is the same as credit impaired financial assets due to credit risk under IFRS 9.

In Q1/2021, OP Financial Group calibrated its internal rating model for retail customers to correspond to the new 2020 definition of default. This had an effect in April on the PD model under IFRS 9 and on the quantitative SICR model that is used to decide on transferring the agreement from impairment Stage 1 to Stage 2. OP Financial Group calibrated the original PD curves used in the SICR model to be comparable, in which case the calibration had no significant effect on the amount of the ECL. As part of its normal model update, OP Financial Group updated the actual PD model for retail customers under IFRS 9 and the quantitative SICR model during Q4/2021.

The PD model for retail customers under IFRS 9 was updated based on data complying with the new definition of default, among other things. In addition, we further specified segmentation for the model and the 12-month Euribor, with the effect of inflation and change in GDP deducted, the real 3-month Euribor, with the effect of inflation deducted, and change in the unemployment rate deducted (previously GDP change, 12-month Euribor and change in the unemployment rate). ECL increased by EUR 2 million and it is presented as a change in model assumptions and methodology.

OP Financial Group has exercised management discretion and made an additional 31-million euro ECL provision, concerning mainly CRE-backed loans in stage 3. The provision is aimed at anticipating growth in the ECL caused by the update of the collateral assessment of riskier collateral real estate holdings and probable default statutes. The provision will be reversed after the collateral assessment probably ends during 2022.

Notes and bonds, EUR million	Stage 1	Stage 2	Stage 3	
	12 months	Lifetime	Lifetime	Total
Loss allowance 1 January 2021	7	3	6	16
Transfers from Stage 1 to Stage 2	0	0		0
Transfers from Stage 2 to Stage 1	0	0		0
Transfers from Stage 3 to Stage 2		0	0	0
Increases due to origination and acquisition	2		0	2
Decreases due to derecognition	-2	-1	-1	-4
Changes in risk parameters (net)	0	0	0	0
Net change in expected credit losses	0	-1	-1	-2
Loss allowance 31 December 2021	7	2	5	14

The table below presents exposures of receivables in the balance sheet by rating and off-balance-sheet exposures, exposure amount after deducting collateral as well as loss allowance. Ratings 1–12 are used in the credit rating of public-sector entities and Ratings A–F in the credit rating of households. The ratings have been combined into the table in such a way that the corporate customer rating 2 comprises ratings 2 and 2.5 etc. The private customer rating A comprises A+, A and A- etc. Note 2, section 2.2.1 describes OP Financial Group's ratings. Net exposure has been calculated for each contract and it excludes overcollateralisation.

31.12.2022

EUR millio	Balance sheet exposures			Off-balance-sheet exposure, gross			Net exposure after collateral			Loss allowance		
Rating	Stage 1	Stage 2	Stage 3	Stage 1	Stage 2	Stage 3	Stage 1	Stage 2	Stage 3	Stage 1	Stage 2	Stage 3
1	1,104			4269			3173			0		
2	2,237	6		1872	4		2536	6		0	0	
3	3,978	9		2216	2		3140	3		0	0	
4	6,573	195		3476	66		3824	204		-3	0	
5	10,459	461		2838	221		2872	455		-3	-1	
6	8,796	1,321		2238	240		2426	975		-8	-5	
7	6,340	564		1478	216		1556	123		-13	-5	
8	1,533	1,205		317	380		237	408		-12	-16	
9		400			60			50			-11	
10		160			19			18			-11	
11			859			172			317			-303
12			57			3			45			-44
A	23,845	249		3397	3		1903	10		0	0	
B	13,017	1,014		1870	37		1458	69		-2	-1	
C	7,784	1,472		500	46		937	123		-4	-4	
D	3,694	1,929		163	62		636	258		-7	-14	
E		1,950			39			333			-42	
F			1,663			33			245			-225
Total	89,360	10,933	2,578	24,634	1,394	208	24,698	3,034	608	-52	-110	-572

30.12.2021

EUR millio	Balance sheet exposures			Off-balance-sheet exposure, gross			Net exposure after collateral			Loss allowance		
Rating	Stage 1	Stage 2	Stage 3	Stage 1	Stage 2	Stage 3	Stage 1	Stage 2	Stage 3	Stage 1	Stage 2	Stage 3
1	116			162			151			0		
2	2,397	6		2,059	14		2,603	8		0	0	
3	5,672	113		2,518	36		4,507	113		0	0	
4	5,457	75		2,291	44		2,438	75		-2	0	
5	10,203	67		3,046	19		2,892	17		-3	0	
6	8,259	317		2,539	34		2,228	17		-6	0	
7	5,584	476		1,514	74		1,324	77		-12	-2	
8	1,714	943		469	275		309	197		-10	-18	
9	1	390		0	58		1	33			-6	
10	5	153		0	14		5	21			-7	
11			812			172			298			-324
12			83			3			66			-67
A	23,048	234		3,965	2		2,771	9		0	0	
B	12,490	843		1,996	33		1,816	57		-2	-1	
C	7,695	1,238		561	43		980	113		-3	-3	
D	3,863	2,043		196	46		699	216		-9	-11	
E		2,022	1		39	0		344	0		-40	0
F			1,708			29			234			-211
Total	86,506	8,919	2,603	21,317	731	205	22,726	1,295	598	-46	-89	-603

OP Financial Group may write off credit loss from financial assets in full or in part, but thereafter these will still be subject to collection measures. The amount of such financial assets were EUR 176 (179) million on 31 December 2022.

Significant increase in credit risk (SICR)

A significant increase in credit risk is discovered on a technical basis as presented in the accounting policies (Note 1 section 7.4.1).

The classification of contracts under SICR into similar groups in terms of credit risk is identical with lifetime PD (probability at default) models. Credit ratings are the most significant input data of the PD models. Both the current PDs and threshold PDs include forward-looking information (below).

The effectiveness of SICR is assessed on every reporting date using the following indicators:
The default capture rate measures how many contracts were in Stage 2 before it transferred to Stage 3. The rate was 81% on 31 December 2022 (66). The higher the rate is, the better the SICR model can capture a significant increase in credit risk. Contracts in Stage 2 accounted for 10% (9) of the entire non-default loan portfolio.

A specific model has been developed for the SICR criterion for a relative increase in PD, whose parameters are calculated from historical data. In addition to these parameters, the SICR model is affected, for example, by the contract rating grade, segment and macroeconomic variables which together determine the PD of the contract lifetime, In addition, the comparison of the relative increase is affected by the contract's passed and remaining lifetime. For these reasons, no general threshold has been determined for an increase in the PD. It can, however, be stated that, on average, a doubling or trebling of the PD causes the quantitative SICR criterion to trigger.

Forward-looking information included in the ECL measurement models

The assessment of SICR and the measurement of expected credit loss incorporate forward-looking information; OP Financial Group has analysed what macroeconomic variables have an explanatory significance to the credit risk amount.

The table below shows a summary of the values of the five most important macroeconomic variables for 2022–2051 used in the models (average, minimum and maximum) for three scenarios that have been used in the measurement of the expected credit loss. These values were used for all product groups on 31 December 2022.

Economic variable	Scenario	Average (%)	Minimum (%)	Maksimum (%)
GDP growth	Downside	-3.6	-3.6	-2.0
	Baseline	-0.5	-0.5	2.0
	Upside	2.7	2.0	3.2
Unemployment rate	Downside	8.1	6.8	8.6
	Baseline	7.0	6.7	7.4
	Upside	6.1	5.2	6.8
House price index	Downside	-0.9	-6.6	0.9
	Baseline	0.8	-5.1	3.0
	Upside	2.3	-3.5	4.5
12-month Euribor	Downside	-0.6	-4.1	0.6
	Baseline	0.3	-0.4	1.6
	Upside	1.2	-0.4	0.7
3-month real interest rate	Downside	-0.2	-0.6	
	Baseline	-0.1	-0.6	0.1
	Upside		-0.6	0.2

On 31 December 2022, the probability weights of the scenarios were Downside 20%, Baseline 60% and Upside 20%.

The rationality of the used macroeconomic variables is assessed when reviewing the functionality of the models for PD, LGD, EAD and prepayment.

The table below shows a summary of the values of the five most important macroeconomic variables for 2021–2050 used in the models (average, minimum and maximum) for three scenarios that have been used in the measurement of the expected credit loss. The macroeconomic forecasts extend to 30 years but the next 5 years are the most relevant ones in respect of ECL measurement. These values were used for all product groups on 31 December 2021.

Economic variable	Scenario	Average (%)	Minimum (%)	Maksimum (%)
GDP growth	Downside	0.3	-0.6	2.8
	Baseline	1.8	1.1	3.5
	Upside	3.3	2.1	5.1
Unemployment rate	Downside	7.9	7.5	8.4
	Baseline	6.8	6.5	7.8
	Upside	5.8	4.7	7.7
House price index	Downside	0.4	-0.8	2.9
	Baseline	2.5	2.0	4.0
	Upside	3.5	3.0	4.9
12-month Euribor	Downside	-1.5	-2.0	-1.3
	Baseline	-1.5	-2.1	-1.1
	Upside	-1.7	-2.5	-1.0
Real interest rate	Downside	-2.0	-2.6	-1.8
	Baseline	-2.1	-2.8	-1.7
	Upside	-2.3	-3.2	-1.8

On 31 December 2021, the probability weights of the scenarios were Downside 20%, Baseline 60% and Upside 20%.

The scenarios are based on the forecasts performed by OP Financial Group economists. The forecast process also takes account of comparable forecasts by external organisations, such as the OECD, International Monetary Fund, Bank of Finland, Ministry of Finance etc., as well as academic research.

The table below shows loss allowance regarding significant receivables under various scenarios by impairment stage on 31 December 2022.

Total private customer and corporate customer exposures	Weighted loss allowance	Loss allowance under downside scenario	Loss allowance under baseline scenario	Loss allowance under upside scenario
Stage 1	47	51	47	43
Stage 2	95	104	95	88
Stage 3	520	520	520	520
Total	**662**	**675**	**662**	**651**

The table below shows loss allowance regarding significant receivables under various scenarios by impairment stage on 31 December 2021.

Total private customer and corporate customer exposures	Weighted loss allowance	Loss allowance under downside scenario	Loss allowance under baseline scenario	Loss allowance under upside scenario
Stage 1	42	46	43	39
Stage 2	85	91	84	79
Stage 3	554	554	554	554
Total	**681**	**691**	**681**	**672**

All personal and corporate customer risk parameters affect in a parallel way in such a way that loss allowance is the largest under the downside scenario. The LGD model for Stage 3 is independent of macroeconomic factors, but a significant proportion of Stage 3 exposures is assessed by means of a cash flow based expert assessment that also takes account of forward-looking information.

Sensitivity analysis

The sensitivity analysis describes the sensitivity of loss allowance to changes in macroeconomic factors. The analysis below only describes somewhat potential economic deterioration and not an economic upswing at all. In addition, all different components of the sensitivity analysis do not necessarily develop together during a recession in the way presented in the sensitivity analysis.

The most significant macroeconomic variables in risk parameters and exposure classes include the 12-month Euribor rate, real 3-month Euribor where the effect of inflation and GDP growth has been deducted. Changes used in sensitivity analyses include a 1 percentage point increase in the 12-month Euribor rate, a 1 percentage point increase the 3-month Euribor rate, a 1 percentage point increase in the inflation rate and a 3.5 percentage point decrease in the GDP growth rate. So the figures reflect an economic situation that is poorer than now and all of them increase loss allowance and are based on the following facts. The levels used in the sensitivity analysis are based on the behaviour of variables in the historic period, and the changes roughly correspond to the change in standard deviation.

The sensitivity analysis covers only Stage 1 and 2 contracts. The sensitivity analysis takes account of transfers between Stage 1 and 2 taking place due to a significant increase in credit risk (SICR), which is shown as a decrease in Stage 1 and an increase in Stage 2.

The table below show the sensitivity of change in the loss allowance of the groups of household and corporate customers on 31 December 2021, when the economic situation weakens due to the combined effect of changes in interest rates, the real interest rate, inflation rate and GDP:

Group Stage	Loss allowance 31.12.2022	Loss allowance sensitivity analysis*	Proportional change
Households			
Stage 1	-5	-5	1.4 %
Stage 2	-17	-19	13.0 %
Corporate customers			
Stage 1	-8	-9	8.0 %
Stage 2	-24	-30	23.1 %
Total	**-55**	**-64**	**15.6 %**

* 1 percentage point increase in the 12-month Euribor rate, 1 percentage point increase in the real 3-month Euribor rate. 1 percentage point increase in the inflation rate and a 3.5 percentage point decrease in the GDP growth rate under all scenarios.

Loss allowances are largely determined based on the first couple of years when the first years of the simulated scenario years are essential in terms of the results.

growth has a negative relation to the amount of loss allowance through all model components. Slower GDP growth increases PD values for both private customers and corporate customers. It also affects through the LGD in such a way that a GDP decrease weakens developments in the fair value of residential property collateral, which has an effect on Stage 2 contracts.

The analysis shows that the most significant proportional and absolute changes apply to the corporate customers where the amounts of loss allowance regarding Stage 1 and 2 contracts increase significantly. Changes are considerably smaller in personal customers than in corporate customers because the estimates of their risk parameters are not so sensitive to economic conditions.

The table below show the sensitivity of change in the loss allowance of the groups household and corporate customers on 31 December 2021, when the economic situation weakens due to changes in the combined effects of interest rates, investment growth rate and GDP:

Group Stage	Loss allowance 31.12.2021	Loss allowance sensitivity analysis*	Proportional change
Households			
Stage 1	12	12	2.9 %
Stage 2	51	58	12.5 %
Corporate customers			
Stage 1	30	33	8.5 %
Stage 2	34	45	32.7 %
Total	**127**	**147**	**16.0 %**

* 1 percentage point increase in the 12-month Euribor rate, 6 percentage point decrease in the investment growth rate and a 3.5 percentage point decrease in the GDP rate under all scenarios

Loss allowances are largely determined based on the first couple of years when the first years of the simulated scenario years are essential in terms of the results.

A 1 percentage point increase in interest rates increases the amount of loss allowance in both private customers and corporate customers. GDP growth has a negative relation to the amount of loss allowance through all model components. Slower GDP growth increases PD values for both private customers and corporate customers. It also affects through the LGD in such a way that a GDP decrease weakens developments in the fair value of residential property collateral, which has an effect on Stage 2 contracts.

The analysis shows that the most significant proportional and absolute changes apply to the corporate customers where the amounts of loss allowance regarding Stage 1 and 2 contracts increase significantly. Changes are considerably smaller in personal customers than in corporate customers because the estimates of their risk parameters are not so sensitive to economic conditions.

Note 38. Collateral given

EUR million	31 Dec 2022	31 Dec 2021
Given on behalf of own liabilities and commitments		
Pledges	1	1
Loans (as collateral for covered bonds)	21,048	19,429
Others	14,128	18,526
Total collateral given*	**35,176**	**37,955**
Secured derivative liabilities	701	744
Other secured liabilities	12,000	16,004
Covered bonds	12,262	12,353
Total	**24,962**	**29,101**

* In addition, bonds with a book value of EUR 1.5 billion have been pledged in the central bank, of which EUR 1.0 billion in intraday settlement collateral. Given that the bonds are available for withdrawal without the central bank's advance permission, they are not presented in the table above.

Note 39. Financial collateral held

OP has received collateral, in accordance with the Financial Collateral Act, which it may resell or repledge.

EUR million	31 Dec 2022	31 Dec 2021
Fair value of collateral received		
Other	1,228	678
Total	**1,228**	**678**

The credit risk arising from derivatives is mitigated through collateral, which means the use of ISDA Credit Support Annex (CSA) contract associated with the ISDA general agreement. In the collateral system, the counterparty provides securities or cash in security for the receivable. The amount of CSA-related collateral received in cash totalled EUR 1,228 million on the balance sheet date (678). The Group had no securities received as collateral on the balance sheet date.

Note 40. Classification of financial assets and liabilities

Assets, EUR million	Amortised cost	Fair value through other comprehen-sive income	Fair value through profit or loss: Financial assets held for trading	Fair value through profit or loss: Financial assets designated as at fair value through profit or loss	Fair value through profit or loss: Must be measured at fair value through profit or loss	Hedging derivatives	Carrying amount total
Cash and cash equivalents	35,004						35,004
Receivables from credit institutions	798						798
Derivative contracts			2,867			1,251	4,117
Receivables from customers	98,546						98,546
Assets covering unit-linked contracts				11,597			11,597
Notes and bonds	1	16,259	295	1,420	283		18,257
Equity instruments		0	86	199	1,456		1,741
Other financial assets	2,865						2,865
Financial assets							172,927
Other than financial instruments							2,589
Total 31 December 2022	137,214	16,259	3,247	13,216	1,739	1,251	175,516

Assets, EUR million	Amortised cost	Fair value through other comprehen-sive income	Fair value through profit or loss: Financial assets held for trading	Fair value through profit or loss: Financial assets designated as at fair value through profit or loss	Fair value through profit or loss: Must be measured at fair value through profit or loss	Hedging derivatives	Carrying amount total
Cash and cash equivalents	32,846						32,846
Receivables from credit institutions	541						541
Derivative contracts			2,672			796	3,467
Receivables from customers	96,947						96,947
Assets covering unit-linked contracts				13,137			13,137
Notes and bonds	1	17,411	331	1,987	356		20,087
Equity instruments		0	78	218	1,624		1,921
Other financial assets	2,469						2,469
Financial assets							171,415
Other than financial instruments							2,695
Total 31 December 2021	132,805	17,412	3,080	15,342	1,981	796	174,110

Liabilities, EUR million	Financial liabilities at fair value through profit or loss	Other liabilities	Hedging derivatives	Carrying amount total
Liabilities to credit institutions		12,301		12,301
Derivative contracts	2,779		1,653	4,432
Liabilities to customers		81,468		81,468
Insurance liabilities		7,638		7,638
Liabilities from unit-linked insurance and investment contracts	11,662			11,662
Debt securities issued to the public		37,438		37,438
Subordinated loans		1,384		1,384
Other financial liabilities		3,152		3,152
Financial liabilities				159,476
Other than financial liabilities				1,705
Total 31 December 2022	14,441	143,382	1,653	161,181

Liabilities, EUR million	Financial liabilities at fair value through profit or loss	Other liabilities	Hedging derivatives	Carrying amount total
Liabilities to credit institutions		16,650		16,650
Derivative contracts	1,933		333	2,266
Liabilities to customers		77,898		77,898
Insurance liabilities		8,773		8,773
Liabilities from unit-linked insurance and investment contracts	13,210			13,210
Debt securities issued to the public		34,895		34,895
Subordinated loans		1,982		1,982
Other financial liabilities		2,581		2,581
Financial liabilities				158,256
Other than financial liabilities				1,670
Total 31 December 2021	15,143	142,780	333	159,926

Bonds included in debt securities issued to the public are carried at amortised cost. On 31 December 2022, the fair value of these debt instruments was approximately EUR 1,225 million (337) lower (higher) than their carrying amount, based on information available from markets and employing commonly used valuation techniques. Subordinated liabilities are carried at amortised cost. Their fair values are lower than their amortised costs, but determining reliable fair values involves uncertainty.

Note 41. Recurring fair value measurements by valuation technique

Fair value of assets on 31 December 2022, EUR million	Level 1	Level 2	Level 3	Total
Recognised at fair value through profit or loss				
Equity instruments	736	265	740	1,741
Debt instruments	1,226	701	70	1,998
Unit-linked contracts	7,431	4,167		11,597
Derivative financial instruments	5	4,035	77	4,117
Fair value through other comprehensive income				
Debt instruments	13,057	2,401	801	16,259
Total financial instruments	**22,456**	**11,569**	**1,688**	**35,712**
Investment property			561	561
Total	**22,456**	**11,569**	**2,249**	**36,274**

Fair value of assets on 31 December 2021, EUR million	Level 1	Level 2	Level 3	Total
Recognised at fair value through profit or loss				
Equity instruments	909	316	696	1,920
Debt instruments	1,814	640	221	2,675
Unit-linked contracts	8,517	4,619	0	13,137
Derivative financial instruments	1	3,360	106	3,467
Fair value through other comprehensive income				
Debt instruments	14,119	2,758	534	17,411
Total financial instruments	**25,360**	**11,694**	**1,557**	**38,610**
Investment property			724	724
Total	**25,360**	**11,694**	**2,281**	**39,335**

Fair value of liabilities on 31 December 2022, EUR million	Level 1	Level 2	Level 3	Total
Recognised at fair value through profit or loss				
Unit-linked contracts	7,472	4,190		11,662
Derivative financial instruments	7	4,332	94	4,432
Total	**7,479**	**8,522**	**94**	**16,094**

Fair value of liabilities on 31 December 2021, EUR million	Level 1	Level 2	Level 3	Total
Recognised at fair value through profit or loss				
Unit-linked contracts	8,565	4,645	0	13,210
Other		0		0
Derivative financial instruments	2	2,234	30	2,266
Total	**8,566**	**6,879**	**30**	**15,476**

Fair value measurement

Derivatives

OP Financial Group obtains the price of listed derivatives directly from markets. In the fair value measurement of OTC derivatives, OP Corporate Bank uses models and techniques commonly used in markets that best suits financial instrument measurement. These are needed, for instance, to create yield curves and currency conversion charts and volatility surfaces as well as for option valuation. The input data of these models can generally be derived from markets. However, in the fair value measurement of some contracts, OP Corporate Bank has to use models where input data cannot be observed in the market and therefore they must be assessed. Such contracts are included in Level 3.

Middle Office is responsible for the fair value measurement of Banking derivatives, incl. level 3 hierarchy, and the quality and reliability of market data, valuation curves and volatility surfaces used in them, as part of its daily fair value measurement process. Middle Office compares regularly at contract level valuation prices with valuations supplied by CSA counterparties and central counterparties and, whenever necessary, determines any possible significant valuation differences.

Risk Management Control is responsible for approval of new fair value measurement models and techniques and supervision of the fair value measurement process. Verifying fair values is based, for example, on valuation using alternative sources for market prices and other input data. In this verification process, valuation prices can be compared with prices supplied by CSA counterparties and central counterparties. In addition, it is possible to use valuation services provided by third parties.

The fair value measurement of OTC derivative contracts related to banking takes account of credit risk of the parties to the transaction and credit spreads exceeding the financing costs. Credit risk is adjusted with a Credit Valuation Adjustment (CVA) and with a Debt Valuation Adjustment (DVA). CVAs and DVAs are calculated for each counterparty. CVA and DVA adjustments are calculated for each counterparty by simulating the market values of derivatives and events of default based primarily on data obtained from markets. In assessing probabilities of default, OP Financial Group utilises counterparty rating information, liquid credit risk indices and the CDS sector curves of market data providers. OP Financial Group assesses the effect of the financing costs of OTC derivatives on fair value measurement by editing discount curves used in the measurement by means of the statistical differences of credit spreads between credit risk instruments with and without capital.

Fair value hierarchy

Level 1: Quoted prices in active markets
This level includes equities listed on major stock exchanges, quoted debt instruments issued by companies, governments and financial institutions as well as and exchange-traded derivatives. The fair value of these instruments is determined on the basis of the quotes in active markets.

Level 2: Valuation techniques using observable inputs
Valuation techniques based on observable input parameters. The fair value of the instruments included within this level means value derived from the market price of a financial instrument's components or similar financial instruments; or value which can be determined using commonly used valuation models and techniques if the inputs significant to the fair value measurement are based on observable market data. This hierarchy level includes the majority of OP Corporate Bank's OTC derivatives and quoted debt instruments issued by companies, governments and financial institutions which have not been included in Level 1.

Level 3: Valuation techniques using unobservable inputs
Valuation techniques whose input parameters involve uncertainty. The fair value determination of the instruments included within this level contains inputs not based on observable market data (unobservable inputs). Level 3 also includes bonds for which there is little, if any, market activity on the valuation date. This level includes the most complex OTC derivatives and derivatives with a long maturity for which the Group had to extrapolate the market data used in their value measurement, as well as certain private equity investments, and illiquid bonds, structured bonds, including securitised bonds and structured debt securities, and hedge funds.

Transfers between levels of the fair value hierarchy
Transfers between the levels of the fair value hierarchy are considered to take place on the date when an event causes such transfer or when circumstances change. Transfers between the levels are mainly due to the number of available market quotes.

Derivatives relevant to OP Financial Group's business are interest rate swaps and interest rate options. Interest rate swaps are measured by deriving valuation curves from the prices of interest rate swaps and other interest rate derivatives observed in the market. Valuation curves are used to forecast future cash flows and determine the present values of cash flows also through interest rate swaps whose price is not directly observable in the market. The same method applies to the fair value measurement of interest rate options. Volatilities describing the price of interest rate options observed in the market are also used in comparison with interest rate swaps.

In the fair value measurement of complex derivatives, such as structured equity product, OP Corporate Bank uses a model where the development of market prices is simulated and the actual value of the derivative is calculated in each simulation. The price of the derivate is derived from calculating the average of the simulations.

Level 2 input date include, for example: quoted prices of similar items in active markets and quoted prices of similar items in inactive markets, market interest rates, implied volatilities and credit spreads.

Level 3 input data are input data that are not observable for an item subject to valuation. Level 3 input data include, for example: use of historical volatility in the fair value measurement of an option, such long-term interest rate with no corresponding contracts are not observable in the market.

Real estate investments have no similar daily quoted prices or price sources as in liquid markets. The appraisal process of real estate is based on using external valuers (property value over 1 million euros) or on the business's own appraisal methods.

The main sources of the appraisal of direct real estate investments are appraisal documents given by authorised external valuers. The external valuer independently selects the method that best suits the appraisal of each property. The commonly used methods include the transactions value method, income capitalisation approach and replacement value method. The values of real estate funds are obtained from underlying investee funds on the date determined by the rules of each underlying fund and according to the standard laid down by the rules. The valuations are mainly based on the combined values of the underlying investee fund's real estate units plus the underlying investee fund's net asset. The values of individual property units are mainly based on appraisal reports drawn up by authorised independent valuers.

Reconciliation of Level 3 items

Specification of financial assets and liabilities

Financial assets, EUR million	Financial assets at fair value through profit or loss	Derivative contracts	Fair value through other comprehen-sive income	Total assets
Opening balance 1 January 2022	916	106	534	1,557
Total gains/losses in profit or loss	-174	-30	0	-204
Total gains/losses in other comprehensive income			-1	0
Purchases	113		0	113
Sales	-80			-80
Settlements	-9			-9
Transfers into Level 3	46		476	522
Transfers out of Level 3	-2		-208	-210
Closing balance 31 December 2022	810	77	801	1,688

Financial assets, EUR million	Financial assets at fair value through profit or loss	Derivative contracts	Fair value through other comprehen-sive income	Total assets
Opening balance 1 January 2021	916	61	301	1,278
Total gains/losses in profit or loss	-197	45	0	-152
Total gains/losses in other comprehensive income	0		0	0
Purchases	99		2	101
Sales	-88		-8	-96
Settlements	-5		-3	-8
Transfers into Level 3	193		378	571
Transfers out of Level 3	0		-137	-137
Closing balance 31 December 2021	916	106	534	1,557

Financial liabilities, EUR million	Derivative contracts	Total liabilities
Opening balance 1 January 2022	30	30
Total gains/losses in profit or loss	63	63
Closing balance 31 December 2022	94	94

Financial liabilities, EUR million	Derivative contracts	Total liabilities
Opening balance 1 January 2021	42	42
Total gains/losses in profit or loss	-11	-11
Closing balance 31 December 2021	30	30

Total gains/losses included in profit or loss by item for the financial year on 31 December 2022

EUR Million	Net interest income	Net investment income	Statement of comprehensive income/ Change in fair value reserve	Total gains/ losses for the financial year included in profit or loss for assets/ liabilities held at year-end
Realised net gains (losses)	-188	14	-0	-174
Unrealised net gains (losses)	-93		0	-94
Total net gains (losses)	-281	14	-1	-268

Total gains/losses included in profit or loss by item for the financial year on 31 December 2021

EUR Million	Net interest income	Net investment income	Statement of comprehensive income/ Change in fair value reserve	Total gains/ losses for the financial year included in profit or loss for assets/ liabilities held at year-end
Realised net gains (losses)	-233	36	0	-198
Unrealised net gains (losses)	57		0	56
Total net gains (losses)	-177	36	0	-141

Derivatives included in Level 3 comprise structured derivatives for customer needs, whose market risk is covered by a corresponding derivatives contract. The uncovered market risk does not have any effect on earnings. Level 3 derivatives relate to structured bonds issued by OP Corporate Bank, whose return is determined by the value performance of an embedded derivative instrument. The fair value change of these embedded derivatives is not presented in the above table. In addition, long-maturity derivatives have been included in Level 3 for which the Group had to extrapolate the market data used in their value measurement.

Changes in the levels of hierarchy

No major changes occurred in valuation techniques in 2022.

Sensitivity analysis of input parameters involving uncertainty on 31 December 2022

Type of instrument, EUR million	Receivables	Liabilities	Net balance	Sensitivity analysis	Reasonably possible change in fair value
Recognised at fair value through profit or loss:					
Bond investments	21		21	2.1	10 %
Illiquid investments	169		169	25.4	15 %
Private equity funds*	469		469	46.9	10 %
Real estate funds***	151		151	30.2	20 %
Derivatives:					
Index-linked bond hedges and structured derivatives, and derivatives with a long-term maturity**	77	-94	-17	-1.9	11 %
Fair value through profit or loss					
Bond investments	801		801	80.1	10 %
Investment property					
Investment property***	561		561	112.2	20 %

Sensitivity analysis of input parameters involving uncertainty on 31 December 2021

Type of instrument, EUR million	Receivables	Liabilities	Net balance	Sensitivity analysis	Reasonably possible change in fair value
Recognised at fair value through profit or loss:					
Bond investments	47		47	4.7	10 %
Illiquid investments	174		174	26.1	15 %
Private equity funds*	543		543	54.3	10 %
Real estate funds***	153		153	30.6	20 %
Derivatives:					
Index-linked bond hedges and structured derivatives, and derivatives with a long-term maturity**	106	-30	76	8.4	11 %
Fair value through profit or loss					
Bond investments	534		534	53.4	10 %
Investment property					
Investment property***	724		724	144.8	20 %

* The value of private equity funds depends mainly on the profit performance of portfolio companies and the PE ratios of similar listed companies. The Total Value to Paid-in (TVPI) multiple, which has changed an average of 10%, is used to monitor the progress of the fair value of private equity funds.

** Following stress scenarios: the combined value change of volatility of shares (30%), dividends of shares (30%), credit risk premiums (30%) and significant correlation changes.

*** In the valuation of real estate funds and investment property, OP mainly uses the income approach whose main components are yield requirement and net rent. A +/– 1 percentage point change in the yield requirement leads on average to around 20% change in the fair value.

Note 42. Off-balance-sheet commitments

EUR million	31 Dec 2022	31 Dec 2021
Guarantees	570	641
Other guarantee liabilities	2,668	2,727
Loan commitments	14,267	15,203
Commitments related to short-term trade transactions	736	679
Other*	1,420	1,378
Total off-balance-sheet commitments	**19,662**	**20,629**

* Of which Non-life Insurance commitments to private equity funds amount to EUR 200 million (174).

Note 43. Contingent liabilities and assets

Insurance companies belonging to OP Financial Group underwrite insurance policies through pools. Pool members are primarily responsible for their own proportionate share of the risk. Proportionate shares are based on contracts confirmed annually. In certain pools, pool members are responsible for an insolvent member's liabilities in proportion to their shares in the pool. Group insurance companies recognise liabilities and receivables based on joint liability if joint liability is likely to materialise.

Note 44. Financial assets and liabilities offset in the balance sheet or subject to enforceable master netting arrangements or similar agreements

Financial assets

31 December 2022, EUR million	Gross amount of financial assets	Gross amount of financial liabilities deducted from financial assets*	Net amount presented in the balance sheet**	Financial assets not set off in the balance sheet: Master agreements***	Collateral received	Net amount
Derivatives	6,154	-2,037	4,117	-3,278	-1,228	-388

31 December 2021, EUR million	Gross amount of financial assets	Gross amount of financial liabilities deducted from financial assets*	Net amount presented in the balance sheet**	Financial assets not set off in the balance sheet: Master agreements***	Collateral received	Net amount
Derivatives	3,829	-361	3,467	-1,958	-678	832

Financial liabilities

31 December 2022, EUR million	Gross amount of financial liabilities	Gross amount of financial assets deducted from financial liabilities*	Net amount presented in the balance sheet**	Financial liabilities not set off in the balance sheet: Master agreements***	Collateral given	Net amount
Derivatives	5,994	-1,562	4,432	-3,278	-263	891

31 December 2021, EUR million	Gross amount of financial liabilities	Gross amount of financial assets deducted from financial liabilities*	Net amount presented in the balance sheet**	Financial liabilities not set off in the balance sheet: Master agreements***	Collateral given	Net amount
Derivatives	2,611	-345	2,266	-1,958	-488	-180

* The cheque account includes EUR 471 (11) million in cash resulting from central counterparty clearing.

** Fair values without accrued interest.

*** It is OP Financial Group's practice to enter into master agreements for derivative transactions with all derivative counterparties.

Central counterparty clearing for OTC derivatives

Standardised OTC derivative transactions entered into with financial counterparties are cleared in London Clearing House, accordance with EMIR (EU 648/2012). Based on this model, the central counterparty will become the derivatives counterparty at the end of the daily clearing process, with whom daily payments for derivatives are netted. In addition, collateral is paid or received daily, which corresponds to the change in the fair value of open positions (variation margin), which is treated as collateral or final payment, depending on the clearing method. Interest rate derivatives cleared by the central counterparty are presented on a net basis in the balance sheet.

Other bilaterally cleared OTC derivatives

The ISDA Master Agreement or the Master Agreement of Finance Finland or the Group will apply to derivative transactions between the Group and other clients and to derivative transactions to which central counterparty clearing in accordance with the Regulation does not pertain. On the basis of these agreements, derivative payments may be netted per transaction on each payment date and in the event of counterparty default and bankruptcy. It is also possible to agree on collateral on a counterparty-specific basis in the terms and conditions of the agreement. Such derivatives are presented on a gross basis in the balance sheet.

Note 45. Notes to the cash flow statement

EUR million	2021	2020
Interest received	2,298	1,476
Interest paid	-747	-350
Adjustments to profit for the financial year		
Non-cash items and other adjustments		
Impairment losses on receivables	130	171
Changes in technical items	-1,377	-365
Changes in value of financial instruments	584	404
Changes in fair value of investment property	17	23
Defined benefit pension plans	7	8
Depreciation/amortisation	214	283
Share of associates' profits/losses	-25	-27
OP bonuses to owner-customers	0	0
Income tax paid	242	224
Other	-75	-99
Items presented outside cash flow from operating activities		
Capital gains, share of cash flow from investing activities	-33	-35
Total adjustments	-316	540
Cash and cash equivalents		
Liquid assets	35,004	32,846
Receivables from credit institutions payable on demand	652	283
Total	35,656	33,129

Notes to risk management

Note 2 describes OP Financial Group's Risk Appetite Framework.
Notes 46 presents the risk exposure by OP Financial Group, Notes 47–52 present the risk exposure by Retail and Corporate Banking and Notes 53–83 present the risk exposure by Insurance. OP Financial Group publishes information under Pillar III disclosures in the OP Capital Adequacy and Risk Management Report.

OP Financial Group's risk exposure

Note 46. OP Financial Group's exposure split by geographic region and exposure class

The majority of OP Financial Group's country exposure is in EU countries. The exposures cover all balance-sheet and off-balance-sheet items and are based on values used in capital adequacy.

Exposure split by geographic region 31 December 2022

EUR million	Exposures to central governments and central banks	Exposures to credit institutions	Exposures to corporates	Retail exposures	Equity investments*	Collateralised notes and bonds**	Other	Total exposures
Finland	39,499	368	54,370	64,423	315	634	1,203	160,811
Baltic countries	136		4,185	94			27	4,441
Other Nordic countries	72	379	2,290	139	18	1,434	0	4,332
Germany	2,481	356	179	64		1,302	17	4,398
France	260	348	104	228	0	941	0	1,880
UK	31	451	88	215	0	21	0	806
Italy	50	18	21	23			0	111
Spain		40	37	14			0	91
Other EU countries	2,149	453	561	225	32	696	0	4,116
Rest of Europe		81	68	41	19		0	209
USA	126	384	98	411	111	33	0	1,163
Russia		55	0	3			0	59
Asia		612	61	47		8	0	729
Other countries	29	120	141	49	1,621	1,479	2,596	6,035
Total	44,833	3,666	62,202	65,976	2,116	6,548	3,843	189,184

* Also includes EUR 41 million in bond funds.

** Comprises RMBS, ABS and Covered Bond investments.

Exposure split by geographic region 31 December 2021

EUR million	Exposures to central governments and central banks	Exposures to credit institutions	Exposures to corporates	Retail exposures	Equity investments*	Collateralised notes and bonds**	Other	Total exposures
Finland	38,286	379	53,071	64,472	398	573	815	157,994
Baltic countries	167		3,761	105			28	4,062
Other Nordic countries	68	402	1,860	144	11	1,648	0	4,133
Germany	2,362	279	108	89		1,451	55	4,343
France	219	350	84	262	0	993	0	1,908
UK	31	354	109	213	0	28		736
Italy	109	17	24	23				173
Spain		15	9	14			0	38
Other EU countries	2,764	445	637	212	31	830	0	4,919
Rest of Europe		89	92	36	20		0	236
USA	152	146	62	484	127	34	0	1,004
Russia		77	2	5				84
Asia		549	164	33		10		756
Other countries	31	71	170	47	1,739	1,577	2,522	6,156
Total	44,188	3,173	60,152	66,139	2,325	7,145	3,420	186,542

* Also includes EUR 35 million in bond funds.

** Comprises RMBS, ABS and Covered Bond investments.

Risk exposure of Retail and Corporate Banking

Note 47. Loan losses and impairment losses

EUR million	31 Dec 2018	31 Dec 2019	31 Dec 2020	31 Dec 2021	31 Dec 2022
Receivables written down as loan and guarantee losses	70	68	117	126	133
Payments on eliminated receivables	-15	-23	-10	-13	-15
Expected credit losses (ECL) on receivables from customers and off-balance-sheet items	-10	41	119	46	-3
Expected credit losses (ECL) on notes and bonds	1	0	-1	0	0
Total	**46**	**87**	**225**	**158**	**115**

Note 48. Structure of OP Financial Group funding

EUR million	31 Dec 2022	%	31 Dec 2021	%
Liabilities to credit institutions	12,301	8.8	16,650	12.1
Liabilities to customers				
Deposits	77,121	55.1	75,612	54.8
Other	4,347	3.1	2,287	1.7
Debt securities issued to the public				
Certificates of deposit, commercial papers and ECPs (Euro Commercial Paper)	10,370	7.4	7,835	5.7
Bonds	10,501	7.5	10,780	7.8
Subordinated bonds (SNP)	4,306	3.1	3,926	2.8
Covered bonds	12,262	8.8	12,353	9.0
Other liabilities	3,849	2.7	3,134	2.3
Subordinated liabilities	1,384	1.0	1,982	1.4
Membership capital contributions	217	0.2	215	0.2
Profit shares	3,369	2.4	3,244	2.4
Total	**140,026**	**100.0**	**138,019**	**100.0**

Note 49. Maturity of financial assets and liabilities by residual maturity

31 December 2022, EUR million	Less than 3 months	3–12 months	1–5 years	5–10 years	More than 10 years	Total
Financial assets						
Liquid assets	35,004					35,004
Receivables from credit institutions	755	32	11		0	798
Receivables from customers	5,574	8,991	39,408	19,987	24,587	98,546
Investment assets						
Financial assets held for trading	150	48	82	14	0	295
Financial assets that must measured at fair value through profit or loss		1	278	2	2	283
Financial assets designated as at fair value through profit or loss	8	54	827	395	136	1,420
Financial assets at fair value through other comprehensive income	840	1,116	9,029	5,203	70	16,259
Amortised cost	0	0	1			1
Total financial assets	**42,331**	**10,243**	**49,636**	**25,601**	**24,795**	**152,606**

Financial liabilities	Less than 3 months	3–12 months	1–5 years	5–10 years	More than 10 years	Total
Liabilities to credit institutions	12,301					12,301
Liabilities to customers	80,242	1,140	86	0		81,468
Debt securities issued to the public	5,637	6,950	18,125	6,499	228	37,438
Subordinated liabilities			1,384			1,384
Total financial liabilities	**98,180**	**8,090**	**19,595**	**6,499**	**228**	**132,592**
Guarantees	24	104	176	13	253	570
Other guarantee liabilities	297	738	848	526	258	2,668
Loan commitments	14,267					14,267
Commitments related to short-term trade transactions	120	496	119	0	1	736
Other	555	152	340	250	124	1,420
Total off-balance-sheet commitments	**15,263**	**1,490**	**1,484**	**788**	**637**	**19,662**

31 December 2021, EUR million	Less than 3 months	3–12 months	1–5 years	5–10 years	More than 10 years	Total
Financial assets						
Liquid assets	32,846					32,846
Receivables from credit institutions	395	28	12	3	103	541
Receivables from customers	6,495	8,723	38,314	20,358	23,057	96,947
Investment assets						
Financial assets held for trading	132	68	72	59	0	331
Financial assets that must measured at fair value through profit or loss	6	2	347	0	2	356
Financial assets designated as at fair value through profit or loss	30	31	1,091	633	203	1,987
Financial assets at fair value through other comprehensive income	394	1,061	9,619	6,145	192	17,411
Amortised cost		0	1			1
Total financial assets	**40,298**	**9,913**	**49,455**	**27,199**	**23,557**	**150,421**

Financial liabilities	Less than 3 months	3–12 months	1–5 years	5–10 years	More than 10 years	Total
Liabilities to credit institutions	645	2,000	14,000	6		16,650
Liabilities to customers	77,514	300	51	33		77,898
Debt securities issued to the public	4,883	7,677	12,896	9,077	362	34,895
Subordinated liabilities	495		1,487			1,982
Total financial liabilities	**83,537**	**9,977**	**28,435**	**9,115**	**362**	**131,426**
Guarantees	112	78	193	7	252	641
Other guarantee liabilities	328	741	825	579	253	2,727
Loan commitments	15,203					15,203
Commitments related to short-term trade transactions	118	396	155	0	9	679
Other	526	655	0	197		1,378
Total off-balance-sheet commitments	**16,288**	**1,870**	**1,173**	**783**	**514**	**20,629**

Note 50. Maturities of financial assets and liabilities by maturity or repricing

31 December 2022, EUR million	1 month or less	>1–3 months	>3–12 months	>1–2 years	>2–5 years	Over 5 years	Total
Financial assets							
Liquid assets	35,004						35,004
Receivables from credit institutions	735	20	32	11			798
Receivables from customers	12,064	22,483	58,163	586	2,980	2,269	98,546
Investment assets							
Financial assets held for trading	23	103	48	9	94	17	295
Financial assets that must measured at fair value through profit or loss			248	8	27	0	283
Financial assets designated as at fair value through profit or loss		8	56	182	702	472	1,420
Financial assets at fair value through other comprehensive income	678	774	1,062	1,643	6,977	5,125	16,259
Amortised cost	0		0	1			1
Total financial assets	**48,504**	**23,388**	**59,609**	**2,440**	**10,780**	**7,884**	**152,606**
Financial liabilities							
Liabilities to credit institutions	12,301						12,301
Liabilities to customers	78,055	2,255	1,140	8	11	0	81,468
Debt securities issued to the public	2,801	4,230	7,423	4,076	12,208	6,702	37,438
Subordinated liabilities	67	277			1,040		1,384
Total financial liabilities	**93,224**	**6,761**	**8,563**	**4,083**	**13,258**	**6,702**	**132,592**

31 December 2021, EUR million	1 month or less	>1–3 months	>3–12 months	>1–2 years	>2–5 years	Over 5 years	Total
Financial assets							
Liquid assets	32,846						32,846
Receivables from credit institutions	380	21	28	4	7	100	541
Receivables from customers	15,210	20,489	55,669	465	2,873	2,241	96,947
Investment assets							
Financial assets held for trading	22	78	85	10	67	69	331
Financial assets that must measured at fair value through profit or loss	0		326	18	6	6	356
Financial assets at fair value through other comprehensive income			61	222	909	796	1,987
Financial assets at fair value through other comprehensive income	612	200	1,145	2,036	7,216	6,204	17,411
Amortised cost	0			0	1		1
Total financial assets	**49,071**	**20,787**	**57,314**	**2,755**	**11,079**	**9,416**	**150,421**
Financial liabilities							
Liabilities to credit institutions	16,650	0	0		0	0	16,650
Liabilities to customers	76,108	1,487	294	8	1	0	77,898
Debt securities issued to the public	2,927	3,946	6,403	2,851	9,436	9,332	34,895
Subordinated liabilities	77	804	7		1,094		1,982
Total financial liabilities	**95,762**	**6,237**	**6,704**	**2,859**	**10,532**	**9,332**	**131,426**

Note 51. Sensitivity analysis of interest rate and market risk

Interest rate risk associated with balance sheet

	2022		2021	
Currency EUR million	-200bp	+200bp	-200bp	+200bp
EUR	-395	458	2,729	1,115

The risk is reported in euros for all currencies. The non-euro currency amounts are small and the associated currency and interest rate risks are mainly hedged.

Interest rate risk is calculated as the volatility of the present value of balance sheet cash flows to the parallel 2 percentage point change of the yield curve. The calculation performed every month covers all interest-bearing on-balance sheet and off-balance sheet items of the banking book of OP Financial Group credit institutions and OP Cooperative. In the calculation, the model "Markkinakoron muutosten välittyminen talletuskorkoihin" (Passing on changes in the market interest rate to deposit interest rates) is applied to calculate the interest rate sensitivity of non-maturity deposits and the early repayments model to loans.

Interest income risk associated with banking book of retail banking

	-100bp		+100bp	
Currency EUR million	2022	2021	2022	2021
EUR	-289	-90	286	380

Interest rate risk associated with Retail Banking is calculated using the interest income risk method where interest income risk is determined for a period of one year. The risk is obtained by dividing interest income risk by three calculated on a 1 pp parallel interest change from the date of calculation for the next three years. The calculation and reporting performed every month covers all interest-bearing on-balance-sheet and off-balance sheet items of the retail banking book. Negative interest rates are also taken into account in the calculation of interest income risk but a –2% minimum is applied to interest rates. The Group takes account of the 0% floor of reference interest rates applicable to loans on the basis of contractual terms. The Group keeps the balance sheet structure unchanged by replacing items falling due with corresponding interest rate bases or the fixed-rate maturities. In the calculation, the Group applies a maturity model based on modelling to perpetual deposits and the model for early repayments to loans. In this connection, retail banking includes OP cooperative banks' financing operations.

Sensitivity analysis of market risk

		Change	
EUR million		2022	2021
Interest rate volatility*	10bp	-0.1	-2
Currency volatility*	10 pps	0.1	0
Credit risk premium**	10bp	-52	-55

* Trading portfolio.

** Long-term investment assets.

Note 52. Liquidity buffer

The liquidity buffer is presented under the Group Functions segment.

Liquidity buffer by maturity and credit rating on 31 December 2022, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Pro-portion, %
Aaa*	34,979	526	388	108	170		36,171	96.1
Aa1–Aa3	119	391	214	0	35	0	759	2.0
A1–A3	6	0	2	3	0		12	0.0
Baa1–Baa3	37	42	33	3	0	0	114	0.3
Ba1 or lower	0	42	41	25	0		108	0.3
Internally rated	158	216	81	2	0		457	1.2
Total	35,300	1,217	759	140	205	0	37,621	100.0

* incl. deposits with the central bank

The liquidity buffer's (excl. deposits with the central bank) residual term to maturity averages 4.0 years.

Liquidity buffer by maturity and credit rating on 31 December 2021, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Pro-portion, %
Aaa*	32,837	603	604	226	254		34,524	91.7
Aa1–Aa3	106	346	439	391	329	0	1,609	4.3
A1–A3	2	2	0	8	2		15	0.0
Baa1–Baa3	1	112	101	41	11	0	267	0.7
Ba1 or lower	0	66	30	39	0		134	0.4
Internally rated	305	213	115	267	196		1,095	2.9
Total	33,250	1,342	1,289	971	792	0	37,645	100.0

* incl. deposits with the central bank

The liquidity buffer's (excl. deposits with the central bank) residual term to maturity averages 4.0 years.

Risk exposure by Insurance

Note 53. Sensitivity analysis of non-life insurance

The table below shows the effect of various risk parameters on profit and solvency capital.

Risk parameter	Total in 2022, EUR million	Change in risk parameter	Effect on profit/ solvency, EUR million	Effect on combined ratio
Insurance premium revenue*	1,598	Up by 1%	16	Up by 0.8 pp
Claims incurred*	868	Up by 1%	-9	Down by 0.6 pps
Large claim, over EUR 12.5 million		1 large claim	-13	Down by 0.5 pps
Personnel costs*	141	Up by 8%	-11	Down by 0.7 pps
Expenses by function*/**	434	Up by 4%	-17	Down by 1.1 pps
Inflation for collective liability	693	Up by 0.25 pps	-5	Down by 0.43pps
Life expectancy for discountedinsurance liabilities	1,621	Up 1 year	-38	Down by 2.9 pps
Discount rate for discountedinsurance liabilities	1,621	Down by 0.1 pp	-22	Down by 1.9 pps

Risk parameter	Total in 2021, EUR million	Change in risk parameter	Effect on profit/ solvency, EUR million	Effect on combined ratio
Insurance premium revenue*	1,555	Up by 1%	16	Up by 0.8 pp
Claims incurred*	983	Up by 1%	-10	Down by 0.6 pps
Large claim, over EUR 5 million		1 large claim	-8	Down by 0.5 pps
Personnel costs*	140	Up by 8%	-11	Down by 0.7 pps
Expenses by function*/**	431	Up by 4%	-17	Down by 1.1 pps
Inflation for collective liability	757	Up by 0.25 pps	-5	Down by 0.43pps
Life expectancy for discountedinsurance liabilities	1,931	Up 1 year	-45	Down by 2.9 pps
Discount rate for discountedinsurance liabilities	1,931	Down by 0.1 pp	-29	Down by 1.9 pps

* Moving 12-month.

** Expenses by function in Non-life Insurance excluding expenses for investment management and expenses for other services rendered.

Note 54. Non-life insurance premiums written and sums insured by class

Premiums written by EML* class in corporate property insurance

The degree of risk in property insurance can be evaluated by dividing risks into classes by their EML* amounts. The table below shows premiums written calculated for each risk class.

EUR million	5–20	20–50	50–100	100–500
2022	16	24	15	27
2021	16	23	14	22

* EML = Estimated Maximum Loss per object of insurance.

Division of premiums written by TSI* class in corporate liability insurance

The degree of risk in liability insurance can be evaluated by dividing risks into classes by their TSI* amounts. The table below shows premiums written calculated for each risk class.

EUR million	2–4	4–10	10–30	30–90
2022		8	13	4
2021		7	11	3

* TSI = Total Sum Insured

Sums insured in decennial insurance

The sum insured of insurance contracts depicts the volume of decennial insurance (construction defects insurance). The gross and net amounts of the sum insured are itemised in the table below. The liability period of decennial insurance is 10 years.

	Gross		Net*	
EUR million	2022	2021	2022	2021
Decennial insurance	2,019	1,812	2,019	1,812

* For insurance company's own account after reinsurers' share but before counter guarantee.

Note 55. Trend in non-life insurance large claims

Number of detected large claims by year of detection for 2018–2022

Non-life Insurance monitors carefully claims expenditure arising from large claims. The claims expenditure explains a significant part of the annual fluctuation in the underwriting result. In addition, monitoring the claims expenditure arising from large claims helps to detect any changes in risks or risk selection. In this analysis, large claims are those whose gross amount exceeds EUR 2 million. Most large claims occur in property and business interruption insurance. In statutory policies, the risk of large claim is small relative to the large volume of the line of business.

The volumes shown in the table may change in respect of the old years of occurrence, depending on how the final size of claims develops.

Gross amount

Number of losses exceeding EUR 2 million	Statutory lines	Other accidents and health	Hull and cargo	Property and business interruption	Liability and legal expenses	Long-term
2018				16	3	
2019	2			8	3	
2020	1			15	2	
2021	1			13	2	
2022	0			24	3	
			Total claims, EUR million		651	
Gross amount, total claims, EUR million 2018–2022	9			592	50	

Net amount

Number of losses exceeding EUR 2 million	Statutory lines	Other accidents and health	Hull and cargo	Property and business interruption	Liability and legal expenses	Long-term
2018				14	3	
2019	2			8	2	
2020	1			15	1	
2021	1			11	1	
2022	0			24	3	
			Total claims, EUR million		287	
Net amount, total claims, EUR million 2018–2022	9			348	32	

Note 56. Non-life insurance business profitability

Trends in insurance premium revenue (gross and net) and combined ratio (net)

Insurance premium revenue describes the volume of an insurance class, enabling the evaluation of the importance of the insurance class in relation to the whole portfolio. Similarly, the combined ratio (CR) is used to evaluate fluctuations in the results of the insurance class and the profitability of the class. The combined ratio is presented separately adjusted for one-off items relating to previous insurance periods.

2022, EUR million	Gross IP revenue	Net IP revenue	Net CR*	Net** CR*
Statutory lines	428	426	10 %	75 %
Other accident and health	339	336	90 %	91 %
Hull and cargo	343	341	96 %	96 %
Property and business interruption	460	394	103 %	103 %
Liability and legal expenses	112	98	84 %	84 %
Long-term	3	2	63 %	71 %
Total	**1,685**	**1,598**	**85 %**	**88 %**

2021, EUR million	Gross IP revenue	Net IP revenue	Net CR*	Net** CR*
Statutory lines	415	414	69 %	79 %
Other accident and health	319	318	82 %	82 %
Hull and cargo	333	332	89 %	89 %
Property and business interruption	435	396	93 %	93 %
Liability and legal expenses	106	94	85 %	85 %
Long-term	2	2	32 %	32 %
Total	**1,610**	**1,555**	**85 %**	**88 %**

* The combined ratio is calculated by dividing the sum of claims incurred (net) and operating expenses of insurance business by insurance premium revenue (net). Amortisation on intangible rights has not been taken into account.
** One-off changes affecting the balance on technical account have been eliminated.

Note 57. Information on the nature of non-life insurance insurance liabilities

Information on the nature of liabilities	31 Dec 2022	31 Dec 2021
Net insurance contract liabilities (EUR million)		
Latent occupational diseases	5	7
Other	2,929	3,161
Total (before transfers)	**2,935**	**3,168**
Duration of debt (years)		
Discounted insurance contract liabilities	13.7	15.4
Undiscounted insurance contract liabilities	2.3	2.3
Total	**8.5**	**10.2**
Discounted net debt (EUR million)		
Provision for known unpaid claims for annuities	1,354	1,598
Collective liability (IBNR)	235	298
Provision for unearned premiums	33	36
Total	**1,621**	**1,931**

Note 58. Non-life insurance insurance liabilities by estimated maturity

31 December 2022, EUR million	0–1 yr	1–5 yrs	5–10 yrs	10–15 yrs	Over 15 yrs	Total
Provision for unearned premiums*	444	126	24	7	12	614
Provision for unpaid claims						
Undiscounted	385	285	79	15	6	769
Discounted	88	365	311	241	548	1,552
Total insurance contract liabilities**	**916**	**776**	**413**	**264**	**566**	**2,935**

* Includes EUR 33 million in discounted liability.

** Excluding the value of derivatives hedging the interest rate risk associated with insurance liabilities.

31 December 2021, EUR million	0–1 yr	1–5 yrs	5–10 yrs	10–15yrs	Over 15 yrs	Total
Provision for unearned premiums*	433	123	24	7	12	600
Provision for unpaid claims						
Undiscounted	360	267	74	14	5	720
Discounted	89	373	345	283	758	1,848
Total insurance liabilities**	**882**	**763**	**443**	**304**	**775**	**3,168**

* Includes EUR 36 million in discounted liability.

** Excluding the value of derivatives hedging the interest rate risk associated with insurance liabilities.

Note 59. Non-life Insurance asset allocation

	31 Dec 2022		31 Dec 2021	
Investment asset portfolio allocation	Fair value*, EUR million	%	Fair value*, EUR million	%
Money market total	**622**	**15**	**596**	**14**
Money market instruments and deposits**	632	16	590	14
Derivatives***	-10	0	7	0
Total bonds and bond funds	**2,526**	**62**	**2,555**	**60**
Governments	303	7	432	10
Inflation-linked bonds		0		0
Investment Grade	1,834	45	1,750	41
Emerging markets and High Yield	206	5	187	4
Structured Investments****	181	4	187	4
Total equities	**557**	**14**	**629**	**15**
Finland	67	2	113	3
Developed markets	326	8	328	8
Emerging markets	88	2	114	3
Unlisted equities	6	0	6	0
Private equity investments	69	2	69	2
Total alternative investments	**31**	**1**	**33**	**1**
Hedge funds	31	1	33	1
Total property investment	**336**	**8**	**473**	**11**
Direct property investment	155	4	301	7
Indirect property investment	181	4	172	4
Total	4,071	100	4,287	100

* Includes accrued interest income.

** Includes settlement receivables and liabilities and market value of derivatives.

*** Effect of derivatives on the allocation of the asset class (delta-weighted equivalents).

**** Include covered bonds, bond funds and illiquid bonds.

Note 60. Sensitivity analysis of Non-life Insurance investment risks

The table below shows the sensitivity of investment risks by investment category. The discount rate sensitivity analysis related to the calculation of insurance liabilities is presented in Note 53 dealing with insurance liabilities Effects of changes in investment and insurance liabilities offset one another.

				Effect on solvency capital, EUR million	
Non-life Insurance	Portfolio at fair value, 31 Dec 2022, EUR million	Risk parameter	Change	31 Dec 2022	31 Dec 2021
Bonds and bond funds*	3,148	Interest rate	1 pp	122	100
Equities**	513	Market value	10 %	48	55
Venture capital funds and unlisted shares	75	Market value	10 %	7	7
Commodities		Market value	10 %		
Real property	336	Market value	10 %	34	47
Currency	80	Value of currency	10 %	15	22
Credit risk premium***	3,148	Credit spread	0.1 pp	12	12
Derivatives	-10	Volatility	10 pps	0	1

* Include money market investments, convertible bonds and interest-rate derivatives.

** Include hedge funds and equity derivatives.

*** Includes bonds and convertible bonds and money-market investments, excluding government bonds issued by developed countries.

The 2021 figures have been adjusted to be comparable with the 2022 figures.

Note 61. Risk exposure of Non-life Insurance investments in fixed-income securities

The market risk arising from changes in interest rates is monitored by classifying investments by instrument, in accordance with duration. The table below does not indicate the balancing effect which the insurance contract liabilities have on the interest-rate risk, because only some of the insurance contract liabilities have been discounted using an administrative interest rate (Note 31).

Fair value by duration or repricing date*, EUR million	31 Dec 2022	31 Dec 2021
0–1 year	782	712
>1–3 years	738	692
>3–5 years	827	672
>5–7 years	353	453
>7–10 years	173	230
>10 years	22	103
Total	2,895	2,862
Modified duration	2.8	3.3
Effective interest rate, %	1.4	0.9

* Includes money market investments and deposits, bonds, convertible bonds and bond funds.

Fixed-income portfolio by maturity and credit rating on 31 December 2022*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Proportion, %
Aaa	202	79	55	3	3	7	348	12.0
Aa1-Aa3	380	71	92	40	1	6	591	20.4
A1-A3	61	172	273	101	80	4	691	23.9
Baa1-Baa3	90	336	356	179	72	10	1,042	36.0
Ba1 or lower	41	45	26	7	6	4	128	4.4
Internally rated	9	35	25	24	11	-9	95	3.3
Total	782	738	827	353	173	22	2,895	100.0

Fixed-income portfolio by maturity and credit rating on 31 December 2021*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Proportion, %
Aaa	13	110	46	46	3	50	267	9.34
Aa1-Aa3	502	87	56	25	11	10	690	24.12
A1-A3	60	130	169	135	64	22	580	20.27
Baa1-Baa3	91	294	347	206	133	15	1,087	37.97
Ba1 or lower	30	39	28	11	8	6	121	4.22
Internally rated	15	33	26	30	11	1	116	4.07
Total	712	692	672	453	230	103	2,862	100.00

* Excludes credit derivatives.

The maturity is presented until the end of the term to maturity. If the paper includes a call option, the maturity is presented until the first possible Call date.

The average credit rating of the Non-life Insurance fixed-income portfolio is Moody's A2.

The term to maturity of the Non-life Insurance fixed-income portfolio averages 3.0 years (calculated on the basis of the Call date and the maturity date).

Note 62. Currency risk associated with Non-life Insurance investments

Foreign currency exposure, EUR million	2022	2021
USD	22	69
SEK	0	1
JPY		
GBP	7	9
Other	50	6
Total*	**80**	**85**

* The currency exposure was 2.0% (2.0%) of the investment portfolio. It is calculated as the sum total of individual currencies' intrinsic values.

Note 63. Counterparty risk associated with Non-life Insurance investments

	31 Dec 2022		31 Dec 2021	
Credit rating, consistent with Moody's, EUR million	Investment*	Insurance**	Investment*	Insurance**
Aaa	348		267	
Aa1–Aa3	591	63	690	24
A1–A3	691	183	580	70
Baa1–Baa3	1,042		1,087	0
Ba1 or lower	128		121	
Internal rating	95	40	116	42
Total	**2,895**	**287**	**2,862**	**137**

* Includes money market investments, deposits and bonds and bond funds.

** Includes the reinsurers' share of insurance contract liabilities, and receivables from reinsurers.

Note 64. Information on the nature of insurance liabilities and their sensitivity analysis

The key risks associated with Life Insurance are the market risks of Life Insurance's investment assets, the interest rate used for the valuation of insurance liabilities and a faster-than-expected life expectancy increase among those insured.

Portfolio of insurance and investment contracts in Life Insurance 31 December 2022

	Liability, 31 Dec 2022, EUR million	Number of insureds or contracts	Duration on yield curve, 31 Dec 2022
Unit-linked contracts	11,662	319,919	10.9
Unit-linked insurance contracts	4,453	193,165	10.8
Life Insurance/Savings	2,902	69,489	10.3
Individual pension insurance	1,421	108,320	10.2
Group pension insurance	130	6,171	12.7
Unit-linked investment contracts	7,210	126,754	11.0
Saving	4,463	75,634	12.7
Individual pension contracts	1,457	41,878	7.7
Group pension contracts	117	6,384	10.4
Capital redemption contracts	1,173	2,858	7.9
Other than unit-linked contracts	4,425	464,146	9.4
Insurance contracts discounted with technical interest rate	4,555	464,142	9.6
Life Insurance/Savings	997	38,483	7.9
Rate of guaranteed interest 4.5%	33	346	7.2
Rate of guaranteed interest 3.5%	293	4,749	10.4
Rate of guaranteed interest 2.5%	95	4,390	7.9
Rate of guaranteed interest 1.5%	1	82	12.8
Rate of guaranteed interest 4.5% (Separate balance sheet 1)	574	28,916	6.5
Individual pension insurance	2,156	57,632	7.3
Rate of guaranteed interest 4.5%	213	5,403	5.3
Rate of guaranteed interest 3.5%	398	15,366	6.9
Rate of guaranteed interest 2.5%	233	18,209	12.9
Rate of guaranteed interest 1.5%	1	83	11.6
Rate of guaranteed interest 4.5% (Separate balance sheet 2)	1,311	18,571	6.8
Group pension insurance	1,316	35,982	10.8
Defined benefit 3.5%	784	19,858	10.1
Defined benefit 2.5%	80	2,210	11.2
Defined benefit 0.5%	290	7,981	13.0
Defined benefit 1.5%	84	2,302	10.6
Defined contribution 3.5%	8	61	9.0
Defined contribution 2.5%	62	3,231	11.1
Defined contribution 1.5%	7	284	12.5
Defined contribution 0.5%	1	55	17.9
Individual term life policies	82	328,239	4.3
Group life insurance	4	3,806	1.3
Other than unit-linked investment contracts discounted with technica	2	4	6.1
Capital redemption contracts	2	4	5.2
Rate of guaranteed interest 2.5%	1	3	2.8
Rate of guaranteed interest 1.5%	1	1	7.8
Effect of discounting with market interest rate	-133		
Other insurance liability items	1		
Total	16,087	774,880	10.0

Portfolio of insurance and investment contracts in Life Insurance 31 December 2021

	Liability, 31 Dec 2021, EUR million	Number of insureds or contracts	Duration on yield curve, 31 Dec 2021
Unit-linked contracts	13,125	317,726	10.9
Unit-linked insurance contracts	5,290	193,165	10.8
Life Insurance/Savings	3,417	74,641	10.7
Individual pension insurance	1,725	112,297	10.5
Group pension insurance	147	6,227	14.1
Unit-linked investment contracts	7,836	124,561	11.0
Saving	4,855	73,040	12.8
Individual pension contracts	1,779	43,592	8.0
Group pension contracts	104	5,342	10.7
Capital redemption contracts	1,098	2,587	7.9
Other than unit-linked contracts	5,560	481,647	9.4
Insurance contracts discounted with technical interest rate	5,299	481,643	9.6
Life Insurance/Savings	1,194	43,354	9.1
Rate of guaranteed interest 4.5%	34	382	8.2
Rate of guaranteed interest 3.5%	317	5,414	11.8
Rate of guaranteed interest 2.5%	106	5,198	9.0
Rate of guaranteed interest 1.5%	1	87	13.2
Rate of guaranteed interest 4.5% (Separate balance sheet 1)	735	32,273	7.4
Individual pension insurance	2,663	60,010	8.4
Rate of guaranteed interest 4.5%	232	5,750	5.6
Rate of guaranteed interest 3.5%	427	15,872	7.8
Rate of guaranteed interest 2.5%	244	18,069	14.6
Rate of guaranteed interest 1.5%	1	83	13.3
Rate of guaranteed interest 4.5% (Separate balance sheet 2)	1,759	20,236	7.9
Group pension insurance	1,355	36,392	12.4
Defined benefit 3.5%	842	21,022	12.0
Defined benefit 2.5%	86	2,334	13.6
Defined benefit 0.5%	266	7,183	16.7
Defined benefit 1.5%	88	2,194	11.6
Defined contribution 3.5%	7	67	12.8
Defined contribution 2.5%	58	3,249	13.4
Defined contribution 1.5%	7	285	14.1
Defined contribution 0.5%	0	58	17.8
Individual term life policies	84	337,692	4.1
Group life insurance	3	4,195	1.5
Other than unit-linked investment contracts discounted with technica	1	4	6.1
Capital redemption contracts	1	4	6.1
Rate of guaranteed interest 2.5%	1	3	4.5
Rate of guaranteed interest 1.5%	1	1	8.7
Effect of discounting with market interest rate	145		
Other insurance liability items	115		
Total	18,686	799,373	10.5

Sensitivity of life insurance liabilities to changes in calculation principles

Since savings and single-premium savings policies have been sold in plenty as long-term contracts, policyholders may terminate their contracts by surrendering the policies according to their needs before the date of expiry under the contract. For this reason, the number of surrenders is large. The company takes account of the resulting loss of surpluses or deficits when calculating the life insurance solvency position.

The risk of surrender for individual pension plans is very small, since by law this can only be done in specific cases such as divorce and long-term unemployment. The accumulated surrender value of insurance is paid back to the policyholder upon surrender.

The beginning of pension disbursement under individual pension insurance is postponed.. Often, when taking out a pension, policyholders do not have a realistic view of when they will actually retire. Tax laws have also changed over the decades, allowing people to claim their individual pensions later.

Pension insurance companies' mortality data show that the life expectancy figures based on technical bases are too low. However, the mortality risk and longevity risk of individual pensions offset each other, to the point that there is no need for a mortality supplement despite the rise in life expectancy. On the other hand, in group pension insurance, the longevity risk is higher than the mortality risk, and the liabilities have therefore had to be supplemented. If the mortality assumption is modified, by increasing the life expectancy of policyholders by one year on average, the liabilities will grow by EUR 25 million (28).

Since in savings insurance and investment insurance, the mortality and longevity risks almost offset each other, no mortality supplement has been needed.

The company has complied with the FAS in establishing insurance contract liabilities, with the exception that the company has moved closer to a real-time interest rate in the discount rate. The company has insurance contract savings at its own risk with guaranteed interest rate ranging between 0.5% and 4.5%. The insurance liability of the contracts with a technical interest rate of 4.5% has been permanently supplemented in such a way that the discount rate of the insurance liability is 3.5% (excl. insurance assets transferred from Suomi Mutual Life Assurance Company that are included OP Life Assurance Ltd's balance sheets separated from the other balance sheet). In addition, insurance liabilities of contracts with guaranteed interest have been supplemented by allocating income recognised on the sale of fixed income investments hedging sold insurance liabilities to insurance liabilities as supplementary interest rate provisions for the residual term to maturity of fixed income investments. After the supplementary interest rate provisions, the average discount rate for the company's technical interest-based portfolio is 2.6%. The company has used fixed income investments to hedge against some of the interest rate risk that exists between the market and discount rate. Since the benefit deriving from fixed income investments are used for guaranteed benefits involved in insurance and capital redemption contracts, their liability is decreased to the amount of the fixed income investments under the national financial accounts by EUR 133 million (+145).

In financial statements based on national regulation, lowering the discount rate by 0.1 percentage point would increase the technical provisions by EUR 23 million (24).

On 31 December 2015, insurance liabilities transferred from Suomi Mutual to OP Life Assurance Company through a portfolio transfer. At that time, a balance sheet separated from the company's balance sheet was created out of the transferred endowment policies. The individual pension insurance portfolio of Suomi Mutual was consolidated into OP Life Assurance Company Ltd on 30 September 2016. A separated balance sheet was also created out of this portfolio. The separated balance sheets apply their own profit distribution policy specified in the portfolio transfer plans. The separate balance sheets also include liabilities of future supplementary benefits that buffer market and customer behaviour risk associated with the separated balance sheets.

The liability of unit-linked policies is measured at the market values of assets associated with the policies on the balance sheet date.

Investment contracts come in three types: OP Life Assurance investment contracts are capital redemption contracts and such unit-linked savings agreements where death cover equals insurance liability, and pension insurance contracts where death cover almost equals insurance liability in such a way that no significant underwriting risk arises. Some capital redemption contracts include entitlement to a discretionary participation feature and they are measured as specified in the Insurance Contracts standard. Some exclude this entitlement and they plus other investment contracts are measured and classified as contracts recognised at fair value through profit or loss, in accordance with IAS 39.

Note 65. Expected maturity of life insurance and investment contracts

	Duration						
31 December 2022, EUR million	2023–2024	2025–2026	2027–2031	2032–2036	2037–2041	2042–2046	2047–
Unit-linked contracts	-1,495	-1,701	-3,641	-2,708	-2,150	-1,682	-1,833
Insurance contracts	-499	-660	-1,338	-953	-688	-485	-653
Life Insurance/Savings	-404	-481	-889	-623	-474	-340	-490
Individual pension insurance	-86	-161	-398	-290	-186	-124	-117
Group pension insurance	-9	-19	-52	-40	-29	-20	-46
Investment contracts	-996	-1,041	-2,302	-1,755	-1,461	-1,197	-1,180
Saving	-489	-489	-1,252	-1,124	-984	-1,073	-1,040
Individual pension contracts	-249	-326	-574	-290	-169	-84	-94
Group pension contracts	-11	-15	-49	-43	-28	-15	-10
Capital redemption contracts	-247	-211	-427	-298	-280	-25	-36
Other than unit-linked contracts	-838	-866	-1,576	-818	-439	-354	-509
Insurance contracts	-788	-834	-1,543	-808	-437	-352	-505
Life Insurance/Savings	-166	-170	-366	-213	-85	-53	-69
Rate of guaranteed interest 4.5%	-6	-6	-15	-10	-2	-1	-1
Rate of guaranteed interest 3.5%	-42	-48	-100	-66	-53	-35	-53
Rate of guaranteed interest 2.5%	-23	-19	-26	-14	-9	-7	-11
Rate of guaranteed interest 1.5%	0	0	0	0	0	0	-1
Rate of guaranteed interest 4.5% (Separate balance sheet 1)	-95	-98	-224	-122	-20	-10	-3
Individual pension insurance	-411	-478	-794	-307	-137	-142	-164
Rate of guaranteed interest 4.5%	-37	-69	-115	-21	-4	-1	0
Rate of guaranteed interest 3.5%	-52	-110	-185	-66	-31	-15	-15
Rate of guaranteed interest 2.5%	-17	-33	-82	-36	-4	-69	-79
Rate of guaranteed interest 1.5%	0	0	0	0	0	0	0
Rate of guaranteed interest 4.5% (Separate balance sheet 2)	-304	-264	-411	-184	-97	-57	-70
Group pension insurance	-198	-179	-374	-285	-215	-157	-272
Defined benefit 3.5%	-132	-117	-242	-179	-132	-92	-127
Defined benefit 2.5%	-12	-10	-20	-15	-13	-10	-17
Defined benefit 1.5%	-35	-30	-61	-53	-47	-40	-93
Defined benefit 0.5%	-11	-10	-19	-15	-11	-8	-13
Defined contribution 3.5%	-1	-2	-4	-2	0	0	-2
Defined contribution 2.5%	-6	-10	-27	-19	-11	-5	-16
Defined contribution 1.5%	-1	-1	-2	-2	-1	-1	-3
Defined contribution 0.5%	0	0	0	0	0	0	0
Individual pure risk insurance	-10	-7	-10	-2	0	0	0
Group life insurance	-4	0	0				
Investment contracts	0	-1	-1				
Capital redemption contracts	0	-1	-1				
Rate of guaranteed interest 2.5%	0	0	0				
Rate of guaranteed interest 1.5%	0	0	-1				
Liability for bonus reserves	0	0	0				
Reserve for decreased discount rate	-49	-32	-32	-10	-2	-2	-4
Total	-2,333	-2,568	-5,217	-3,526	-2,589	-2,036	-2,342

				Duration			
31 December 2021, EUR million	2022–2023	2024–2025	2026–2030	2031–2035	2036–2040	2041–2045	2046–
Unit-linked contracts	-1,651	-1,688	-3,402	-2,228	-1,609	-1,073	-1,204
Insurance contracts	-578	-653	-1,348	-828	-538	-351	-467
Life Insurance/Savings	-471	-469	-915	-548	-366	-241	-349
Individual pension insurance	-97	-166	-387	-249	-150	-96	-85
Group pension insurance	-10	-18	-45	-31	-22	-14	-32
Investment contracts	-1,073	-1,035	-2,055	-1,400	-1,070	-722	-738
Saving	-548	-499	-1,127	-922	-695	-637	-659
Individual pension contracts	-288	-343	-565	-279	-143	-69	-62
Group pension contracts	-10	-13	-34	-26	-17	-9	-6
Capital redemption contracts	-226	-179	-329	-172	-215	-7	-11
Other than unit-linked contracts	-927	-870	-1,650	-865	-484	-303	-453
Insurance contracts	-823	-828	-1,608	-850	-481	-301	-449
Life Insurance/Savings	-181	-168	-384	-252	-93	-56	-68
Rate of guaranteed interest 4.5%	-7	-5	-15	-11	-3	-2	-1
Rate of guaranteed interest 3.5%	-54	-45	-108	-77	-51	-36	-53
Rate of guaranteed interest 2.5%	-27	-20	-31	-16	-10	-7	-10
Rate of guaranteed interest 1.5%	0	0	0	0	0	0	0
Rate of guaranteed interest 4.5% (Separate balance sheet 1)	-94	-98	-230	-149	-29	-12	-3
Individual pension insurance	-443	-486	-868	-337	-197	-111	-171
Rate of guaranteed interest 4.5%	-38	-69	-127	-22	-4	-1	0
Rate of guaranteed interest 3.5%	-50	-109	-197	-72	-33	-17	-14
Rate of guaranteed interest 2.5%	-20	-18	-87	-33	-52	-30	-77
Rate of guaranteed interest 1.5%	0	0	0	0	0	0	0
Rate of guaranteed interest 4.5% (Separate balance sheet 2)	-335	-289	-456	-209	-108	-63	-80
Group pension insurance	-179	-164	-344	-257	-191	-134	-210
Defined benefit 3.5%	-143	-128	-262	-196	-145	-101	-143
Defined benefit 2.5%	-12	-10	-21	-16	-14	-11	-19
Defined benefit 1.5%	-5	-5	-12	-11	-9	-8	-19
Defined benefit 0.5%	-11	-10	-19	-13	-9	-6	-10
Defined contribution 3.5%	-1	-2	-4	-1	-1	-1	-2
Defined contribution 2.5%	-5	-8	-25	-19	-11	-6	-14
Defined contribution 1.5%	-1	-1	-2	-2	-2	-1	-2
Defined contribution 0.5%	0	0	0	0	0	0	0
Individual pure risk insurance	-16	-11	-13	-3	0	0	0
Group life insurance	-3	0	0				
Investment contracts	0	0	-1	0			
Capital redemption contracts	0	0	-1	0			
Rate of guaranteed interest 2.5%	0	0	-1				
Rate of guaranteed interest 1.5%	0	0	0	0			
Reserve for decreased discount rate	-103	-42	-41	-15	-3	-2	-5
Total	-2,577	-2,558	-5,053	-3,094	-2,093	-1,376	-1,657

Note 66. Profitability of life insurance business

EUR million	31 Dec 2022 Risk income	Claims incurred	Claim ratio	31 Dec 2021 Risk income	Claims incurred	Claim ratio
Life insurance	**476**	**453**	**95 %**	**448**	**425**	**95 %**
Term life insurance	37	18	48 %	37	18	50 %
Insurance saving	439	435	99 %	411	407	99 %
Pension insurance	**50**	**46**	**92 %**	**55**	**52**	**95 %**
Defined benefit	26	22	82 %	26	21	80 %
Defined contribution	24	24	102 %	29	31	108 %
OP Life Assurance Company	**526**	**499**	**95 %**	**503**	**477**	**95 %**

Claims expenditure of defined benefit group pension includes the longevity provision of EUR 1.1 million in 2022 and EUR 0.9 million in 2021.

Note 67. Life Insurance asset allocation

Investment asset portfolio allocation	31 Dec 2022 Fair value*, EUR million	%	31 Dec 2021 Fair value*, EUR million	%
Total money market instruments	**614**	**19 %**	**748**	**21 %**
Money market investments and deposits**	601	19 %	743	20 %
Derivatives***	13	0 %	5	0 %
Total bonds and bond funds	**1,976**	**61 %**	**2,126**	**58 %**
Governments	182	6 %	256	7 %
Investment Grade	1,469	45 %	1,586	44 %
Emerging markets and High Yield	161	5 %	121	3 %
Structured investments****	163	5 %	163	4 %
Total equities	**419**	**13 %**	**546**	**15 %**
Finland	44	1 %	91	2 %
Developed markets	240	7 %	283	8 %
Emerging markets	65	2 %	98	3 %
Fixed assets and unquoted equities	3	0 %	3	0 %
Private equity investments	67	2 %	70	2 %
Total alternative investments	**38**	**1 %**	**40**	**1 %**
Hedge funds	38	1 %	40	1 %
Total real property investments	**189**	**6 %**	**186**	**5 %**
Direct property investments	24	1 %	23	1 %
Indirect property investments	165	5 %	163	4 %
Total	**3,235**	**100 %**	**3,646**	**100 %**

* Includes accrued interest income.

** Include settlement receivables and liabilities and market value of derivatives.

*** Effect of derivatives on the allocation of the asset class (delta equivalent).

**** Include covered bonds, bond funds and illiquid bonds.

Note 68. Asset allocation in separated balance sheet 1

In connection with the portfolios' transfer, a separated balance sheet (separated balance sheet 1) was created out of the individual life insurance portfolio (separated balance sheet 1) transferred from Suomi Mutual in 2015 and with a profit distribution policy differing from other life insurance operations.

Investment asset portfolio allocation	31 Dec 2022 Fair value*, EUR million	%	31 Dec 2021 Fair value*, EUR million	%
Total money market instruments	47	8 %	43	6 %
Money market investments and deposits**	47	8 %	43	6 %
Derivatives***	0	0 %	0	0 %
Total bonds and bond funds	503	86 %	641	87 %
Governments	122	21 %	200	27 %
Investment Grade	319	54 %	388	52 %
Emerging markets and High Yield	21	4 %	23	3 %
Structured investments****	42	7 %	30	4 %
Total equities	26	4 %	38	5 %
Developed markets	16	3 %	26	4 %
Emerging markets	2	0 %	1	0 %
Fixed assets and unquoted equities	0	0 %	0	0 %
Private equity investments	8	1 %	10	1 %
Total real property investments	10	2 %	18	2 %
Direct property investments	0	0 %	8	1 %
Indirect property investments	10	2 %	10	1 %
Total	586	100 %	740	100 %

* Includes accrued interest income.

** Include settlement receivables and liabilities and market value of derivatives.

*** Effect of derivatives on the allocation of the asset class (delta equivalent).

**** Include covered bonds, bond funds and illiquid bonds.

Net return on investments at fair value totalled EUR -10 million (18). Net return on investments at fair value is calculated by deducting the value change in market-consistent insurance liability from income from investment assets.

Note 69. Asset allocation in separated balance sheet 2

In connection with the portfolios' transfer, a separated balance sheet (separated balance sheet 2) was created out of the individual life insurance portfolio (separated balance sheet 1) transferred from Suomi Mutual in 2015 and with a profit distribution policy differing from other life insurance operations.

	31 Dec 2022		31 Dec 2021	
Investment asset portfolio allocation	Fair value*, EUR million	%	Fair value*, EUR million	%
Total money market instruments	**106**	**8 %**	**65**	**4 %**
Money market investments and deposits**	106	8 %	98	4 %
Derivatives***		0 %	2	0 %
Total bonds and bond funds	**1,168**	**86 %**	**1,585**	**89 %**
Governments	390	29 %	641	35 %
Investment Grade	636	47 %	930	47 %
Emerging markets and High Yield	1	0 %	5	0 %
Structured investments****	141	10 %	200	8 %
Total equities	**53**	**4 %**	**80**	**5 %**
Developed markets	26	2 %	47	3 %
Emerging markets	3	0 %	3	0 %
Fixed assets and unquoted equities	0	0 %	0	0 %
Private equity investments	24	2 %	31	2 %
Total real property investments	**38**	**3 %**	**42**	**2 %**
Direct property investments	16	1 %	19	1 %
Indirect property investments	22	2 %	23	1 %
Total	1,365	100 %	1,772	100 %

* Includes accrued interest income.

** Include settlement receivables and liabilities and market value of derivatives.

*** Effect of derivatives on the allocation of the asset class (delta equivalent).

**** Include covered bonds, bond funds and illiquid bonds.

Net return on investments at fair value totalled EUR -16 million (40). Net return on investments at fair value is calculated by deducting the value change in market-consistent insurance liability from income from investment assets.

Note 70. Sensitivity analysis of Life Insurance investment risks

Life insurance	Portfolio at fair value, EUR million 31 Dec 2022	Risk parameter		Effect on equity capital, EUR million 31 Dec 2022	31 Dec 2021
Bonds and bond funds*	2,590	Interest rate	1 pp	55	83
Equities**	387	Market value	10 %	34	47
Private equity investments and unquoted equities	70	Market value	10 %	7	7
Commodities		Market value	10 %		
Real property	189	Market value	10 %	19	19
Currency	61	Market value	10 %	11	17
Credit risk premium***	2,590	Credit spread	0.1 pp	10	10
Derivatives	13	Volatility	10 pps	0	1

* Include money-market investments, convertible bonds and interest-rate derivatives.

** Include hedge funds and equity derivatives.

*** Includes bonds, convertible bonds and money-market investments, including government bonds and interest-rate derivatives issued by developed count

The 2021 figures have been adjusted to be comparable with the 2022 figures.

Note 71. Sensitivity analysis of investment risks under separated balance sheet 1

Separated balance sheet of individual life insurance portfolio (separated balance sheet 2)	Portfolio at fair value, EUR million 31 Dec 2022	Risk parameter		Effect on equity capital, EUR million 31 Dec 2022	31 Dec 2021
Bonds and bond funds	550	Interest rate	1 pp	21	32
Equities **	18	Market value	10 %	2	3
Private equity investments and unquoted equities	8	Market value	10 %	1	1
Commodities		Market value	10 %		
Real property	10	Market value	10 %	1	2
Currency	16	Market value	10 %	2	3
Credit risk premium***	550	Credit spread	1 pp	3	3
Derivatives		Volatility	10 pps	0	0

Investment and customer behaviour risks associated with the portfolio in the separated balance sheet 1 have been buffered through future supplementary benefits. The buffers are sufficient to cover a significant negative return on the investment assets included in the separated portfolios, after which OP Financial Group will bear all the risks associated with the portfolio. Changes in investments income above the buffer will affect OP Financial Group's equity capital. The buffer of the separated balance sheet 1 is EUR 87 million (98).

* Include money-market investments, convertible bonds and interest-rate derivatives.

** Include hedge funds and equity derivatives.

*** Include bonds, convertible bonds and money-market investments, including government bonds and interest-rate derivatives issued by developed countries, including government bonds and interest-rate derivatives issued by developed countries.

The 2021 figures have been adjusted to be comparable with the 2022 figures.

Note 72. Sensitivity analysis of investment risks under separated balance sheet 2

Separated balance sheet of individual life insurance portfolio (separated balance sheet 1)	Portfolio at fair value, EUR million 31 Dec 2022	Risk parameter		Effect on equity capital, EUR million 31 Dec 2022	31 Dec 2021
Bonds and bond funds	1,274	Interest rate	1 pp	51	79
Equities **	29	Market value	10 %	3	5
Private equity investments and unquoted equities	24	Market value	10 %	2	3
Commodities		Market value	10 %		
Real property	38	Market value	10 %	4	4
Currency	43	Market value	10 %	4	5
Credit risk premium***	1,650	Credit spread	0.1 pp	7	8
Derivatives		Volatility	10 pps	0	0

Investment and customer behaviour risks associated with the portfolio in the separated balance sheet 2 have been buffered through future supplementary benefits. The buffers are sufficient to cover a significant negative return on the investment assets included in the separated portfolios, after which OP Financial Group will bear all the risks associated with the portfolio. Changes in investments income above the buffer will affect OP Financial Group's equity capital. The buffer of the separated balance sheet 2 is EUR 160 million (201).

* Include money-market investments, convertible bonds and interest-rate derivatives.

** Include hedge funds and equity derivatives.

*** Include bonds, convertible bonds and money-market investments, including government bonds and interest-rate derivatives issued by developed countries, including government bonds and interest-rate derivatives issued by developed countries.

The 2021 figures have been adjusted to be comparable with the 2022 figures

Note 73. Risk exposure of Life Insurance investments in fixed-income securities

Fair value by term to maturity or repricing date, € million *	31 Dec 2022	31 Dec 2021
0–1 year	570	988
>1–3 years	506	498
>3–5 years	674	547
>5–7 years	244	355
>7–10 years	153	236
>10 years	57	95
Total	**2,204**	**2,719**
Modified duration	2.8	3.0
Average interest rate, %	1.3	0.9

* Includes money market investments and deposits, bonds, convertible bonds and bond funds.

Fixed-income portfolio by maturity and credit rating on 31 December 2022*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Proportion
Aaa	250	16	43	4	44		357	16.2%
Aa1–Aa3	116	35	59	20	5	19	253	11.5%
A1–A3	45	126	189	72	50	10	493	22.3%
Baa1–Baa3	123	256	332	118	46	10	884	40.1%
Ba1 or lower	29	35	20	4	5	3	96	4.4%
Internally rated	8	38	31	25	4	15	121	5.5%
Total	**570**	**506**	**674**	**244**	**153**	**57**	**2,204**	**100.0%**

Fixed-income portfolio by maturity and credit rating on 31 December 2021*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Proportion
Aaa	10	13	3	40	62	32	159	5.9%
Aa1–Aa3	768	40	28	12	5	9	862	31.7%
A1–A3	97	97	149	71	68	23	505	18.6%
Baa1–Baa3	92	307	316	189	88	24	1,016	37.3%
Ba1 or lower	14	21	18	6	6	4	69	2.5%
Internally rated	8	21	33	37	6	2	108	4.0%
Total	**988**	**498**	**547**	**355**	**236**	**95**	**2,719**	**100.0%**

* Excludes credit derivatives.

The maturity is presented until the end of the term to maturity. If the paper includes a call option, the maturity is presented until the first possible Call date.

The average credit rating of a Life Insurance portfolio by Moody's is A1.

The average residual term to maturity of a Life Insurance fixed-income portfolio is 3.4 years (calculated on the basis of the Call date and maturity date).

Note 74. Risk exposure of fixed-income investments under separated balance sheet

Fair value by term to maturity or repricing date, € million *	31 Dec 2022	31 Dec 2021
0–1 year	62	75
>1–3 years	108	139
>3–5 years	176	190
>5–7 years	67	105
>7–10 years	56	95
>10 years	31	46
Total	500	650
Modified duration	4.3	5.0
Average interest rate, %	1.0	0.6

* Includes money market investments and deposits, bonds, convertible bonds and bond funds.

Fixed-income portfolio by maturity and credit rating on 31 December 2022*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Proportion
Aaa	2	12	40	12	27	11	105	20.9%
Aa1–Aa3	41	13	14	8	5	13	93	18.6%
A1–A3	3	23	45	13	7	5	96	19.3%
Baa1–Baa3	5	49	63	26	12	2	158	31.6%
Ba1 or lower	5	6	3	1	0	0	15	3.0%
Internally rated	6	5	10	7	5		33	6.6%
Total	**62**	**108**	**176**	**67**	**56**	**31**	**500**	**100.0%**

Fixed-income portfolio by maturity and credit rating on 31 December 2021*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Proportion
Aaa	0	36	52	27	38	18	170	26.2%
Aa1–Aa3	44	26	17	8	4	19	119	18.3%
A1–A3	9	17	36	16	17	5	101	15.5%
Baa1–Baa3	16	44	68	37	28	4	196	30.2%
Ba1 or lower	5	7	5	1	0	0	20	3.0%
Internally rated	1	8	11	16	7	0	43	6.7%
Total	**75**	**139**	**190**	**105**	**95**	**46**	**650**	**100.0%**

* Excludes credit derivatives.

The maturity is presented until the end of the term to maturity. If the paper includes a call option, the maturity is presented until the first possible Call date.

The average credit rating of the fixed-income portfolio in the separated balance sheet 1 is A2, according to Moody's rating.

The average residual term to maturity of the fixed-income portfolio in the separated balance sheet 1 (based on call dates and maturity dates) is 4.8 years

Note 75. Risk exposure of fixed-income investments under separated balance sheet 2

Fair value by term to maturity or repricing date, € million *	31 Dec 2022	31 Dec 2021
0–1 year	108	85
>1–3 years	238	412
>3–5 years	353	388
>5–7 years	144	251
>7–10 years	137	194
>10 years	106	159
Total	1,086	1,488
Modified duration	4.6	5.5
Average interest rate, %	1.0	0.5

* Includes money market investments and deposits, bonds, convertible bonds and bond funds.

Fixed-income portfolio by maturity and credit rating on 31 December 2022*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Proportion
Aaa	2	63	85	45	69	36	300	27.6%
Aa1-Aa3	63	22	35	25	18	62	226	20.8%
A1-A3	10	60	80	30	15	3	197	18.2%
Baa1-Baa3	25	87	134	32	23	6	308	28.3%
Ba1 or lower							0	0.0%
Internally rated	8	6	19	13	11		56	5.1%
Total	108	238	353	144	137	106	1,086	100.0%

Fixed-income portfolio by maturity and credit rating on 31 December 2021*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Proportion
Aaa	3	137	121	81	78	59	479	32.2%
Aa1-Aa3	47	65	40	19	39	86	297	20.0%
A1-A3	19	73	54	63	16	5	230	15.5%
Baa1-Baa3	16	123	156	60	51	8	414	27.8%
Ba1 or lower							0	0.0%
Internally rated		13	16	28	10	1	68	4.6%
Total	85	412	388	251	194	159	1,488	100.0%

* Excludes credit derivatives.

The maturity is presented until the end of the term to maturity. If the paper includes a call option, the maturity is presented until the first possible Call date.

The average credit rating of the fixed-income portfolio in the separated balance sheet 2 is A1, according to Moody's rating.

The average residual term to maturity of the fixed-income portfolio in the separated balance sheet 2 (based on call dates and maturity dates) is 5.4 years.

Note 76. Currency risk associated with Life Insurance investments

Foreign currency exposure, EUR million	31 Dec 2022	31 Dec 2021
USD	18	57
SEK	0	1
GBP	7	9
Other	37	6
Total*	61	72

* Total net currency exposure.

The currency exposure was 1.9% (2.0) of the investment portfolio.

Note 77. Currency risk associated with investments under separated balance sheet 1

Foreign currency exposure, EUR million	31 Dec 2022	31 Dec 2021
USD	9	18
SEK	0	0
GBP	1	0
Other	6	5
Total*	**16**	**23**

* Total net currency exposure.

The currency exposure was 2.8% (3.2) of the investment portfolio.

Note 78. Currency risk associated with investments under separated balance sheet 2

Foreign currency exposure, EUR million	31 Dec 2022	31 Dec 2021
USD	28	50
SEK	0	0
GBP	1	0
Other	15	15
Total*	**43**	**65**

* Total net currency exposure.

The currency exposure was 3.2% (3.7) of the investment portfolio.

Note 79. Counterparty risk associated with Life Insurance investments

Credit rating, € million	31 Dec 2022	31 Dec 2021
Moody's equivalent	Investment*	Investment*
Aaa	357	159
Aa1–Aa3	253	862
A1–A3	493	505
Baa1–Baa3	884	1,016
Ba1 or lower	96	69
Internally rated	121	108
Total	**2,204**	**2,719**

* Includes money-market investments and deposits, bonds, and bond funds.

Note 80. Counterparty risk associated with investments under separated balance sheet 1

Credit rating, € million	31 Dec 2022	31 Dec 2021
Moody's equivalent	Investment*	Investment*
Aaa	105	170
Aa1–Aa3	93	119
A1–A3	96	101
Baa1–Baa3	158	196
Ba1 or lower	15	20
Internally rated	33	43
Total	**500**	**650**

* Includes money-market investments and deposits, bonds, and bond funds.

Note 81. Counterparty risk associated with investments under separated balance sheet 2

Credit rating, € million	31 Dec 2022	31 Dec 2021
Moody's equivalent	Investment*	Investment*
Aaa	300	479
Aa1–Aa3	226	297
A1–A3	197	230
Baa1–Baa3	308	414
Ba1 or lower	0	0
Internally rated	56	68
Total	1,086	1,488

* Includes money-market investments and deposits, bonds, and bond funds.

Note 82. Credit risk associated with investments under separated balance sheet 1

	31 Dec 2022		31 Dec 2021		Change in fair value arising from change in credit risk	
Investments exposed to credit risk	Fair value*, € million	Credit derivative par value, € million	Fair value*, € million	Credit derivative par value, € million	Investments change ***** € million	Credit derivatives change ***** € million
Total money market instruments	47		43			
Money market investments and deposits**	47		43			
Derivatives***			0			
Total bonds and bond funds	503		641		-7	0
Governments	122		200		1	
Inflation-linked bonds						
Investment Grade	319		388		-7	0
Emerging markets and High Yield	21		23		-1	
Structured investments****	42		30			
Total	550		684		-7	0

Exclude money market investments and convertible bond investments.

* Includes accrued interest income.

** Include settlement receivables and liabilities.

*** Effect of derivatives on the allocation of the asset class (delta equivalent).

**** Include covered bonds, bond funds and illiquid bonds.

***** Running yield deducted from total return of liquid fixed income investments, excluding Money market and investment result relative to the EUR swap curve.

***** Total return in direct credit risk derivatives. The method is not suitable for structured investments.

Note 83. Credit risk associated with investments under separated balance sheet 2

	31 Dec 2022		31 Dec 2021		Change in fair value arising from change in credit risk	
Investments exposed to credit risk	Fair value*, € million	Credit derivative par value, € million	Fair value*, € million	Credit derivative par value, € million	Investments change ***** € million	Credit derivatives change ***** € million
Total money market instruments	106		65			
Money market investments and deposits**	106		65			
Derivatives***			0			
Total bonds and bond funds	1,168		1,585		-11	0
Governments	390		612		2	
Inflation-linked bonds						
Investment Grade	636		826		-13	0
Emerging markets and High Yield	1				0	
Structured investments****	141		147			
Total	1,274		1,650			

Exclude money market investments and convertible bond investments.

* Includes accrued interest income.

** Include settlement receivables and liabilities.

*** Effect of derivatives on the allocation of the asset class (delta equivalent).

**** Include covered bonds, bond funds and illiquid bonds.

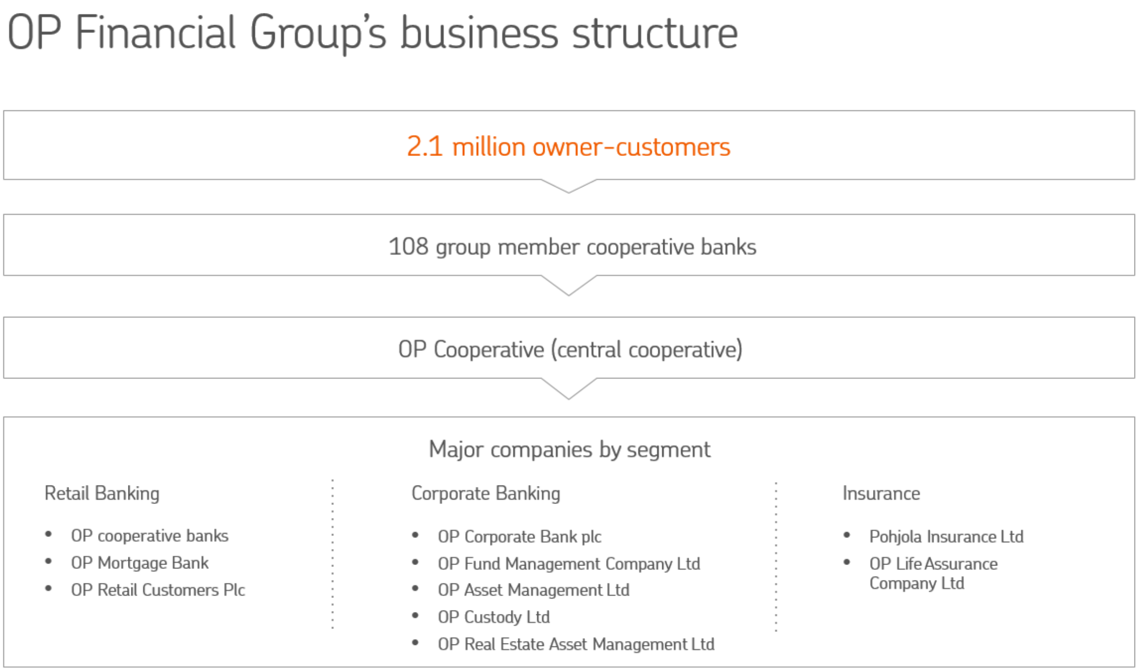
***** Running yield deducted from total return of liquid fixed income investments, excluding Money market and investment result relative to the EUR swap curve.

***** Total return in direct credit risk derivatives. The method is not suitable for structured investments.

Other notes

Note 84. Ownership interests in subsidiaries, structured entities and joint operations

OP Financial Group's structure
The following figure describes the structure of OP Financial Group. Group member cooperative banks constitute the Group's technical parent company. In addition to the member cooperative banks, the most important subsidiaries, OP Cooperative (central cooperative) and its subsidiaries, associates and various joint arrangements are consolidated into OP Financial Group.



Changes occurred in subsidiaries and structured entities during the financial year

Pohjola Insurance Ltd has sold all shares of Pohjola Hospital Ltd to Pihlajalinna Terveys Oy, part of Pihlajalinna Group. The corporate transaction was published on 2 July 2021. The net debt free transaction price was EUR 32 million. The Finnish Competition and Consumer Authority approved the corporate transaction on 14 January 2022. Pohjola Hospital became part of Pihlajalinna on 1 February 2022.

Major subsidiaries included in the financial statements of OP Financial Group in 2022

Major OP Financial Group subsidiaries include companies whose business is subject to licence and other major companies relevant to business operations. All major consolidated subsidiaries are wholly owned and accordingly they have no major non-controlling interests.

Company	Domicile/ home country	Interest, %	Votes, %
OP Cooperative	Helsinki	100.0	100.0
OP Mortgage Bank	Helsinki	100.0	100.0
OP Life Assurance Company Ltd	Helsinki	100.0	100.0
OP Retail Customers Plc	Helsinki	100.0	100.0
OP Fund Management Company Ltd	Helsinki	100.0	100.0
Pivo Wallet Oy	Helsinki	100.0	100.0
OP Corporate Bank plc	Helsinki	100.0	100.0
OP Property Management Ltd	Helsinki	100.0	100.0
OP Asset Management Limited	Helsinki	100.0	100.0
Pohjola Insurance Ltd	Helsinki	100.0	100.0
OP Custody Ltd	Helsinki	100.0	100.0

In addition to the subsidiaries, 34 (40) OP Koti real estate agencies are consolidated into the financial statements of OP Financial Group. These OP Koti real estate agencies, which are wholly owned subsidiaries, provide services for buying and selling real property and dwelling units and house management services. In addition to the real estate agencies, 26 (26) other subsidiaries have been consolidated.

Member cooperative banks forming the technical parent company of OP Financial Group in 2022

Name	Balance sheet 2022, EUR million	Capital adequacy, % 31 Dec 2022	Managing Director 31 Dec 2022
Alajärven Op	399	40.5	Markku Pelkonen
Ala-Satakunnan Op	337	47.4	Jari Katila
Alavieskan Op	99	29.0	Antero Alahautala
Sydänmaan Op	479	42.1	Juha Mäki
Andelsbanken för Åland	673	24.4	Johnny Nordqvist
Andelsbanken Raseborg	533	25.8	Mats Enberg
Etelä-Hämeen Op	2269	36.6	Mika Helin
Etelä-Karjalan Op	2377	37.9	Petri Krohns
Etelä-Pirkanmaan Op	885	33.3	Juha Luomala
Etelä-Pohjanmaan Op	1721	27.7	Olli Tarkkanen
Euran Op	317	49.4	Timo Viitanen
Haapamäen Seudun Op	81	47.3	Hannu Petjoi
Hailuodon Op	62	34.1	Jani Isomaa
Humppilan-Metsämaan Op	113	46.3	Jari Salokangas
Janakkalan Op	513	47.7	Mikko Suutari
Jokilaaksojen Op	491	31.5	Juha Pajumaa
Jokioisten Op	161	31.4	Ville Aarnio
Joki-Pohjanmaan Op	462	30.1	Markku Niskala
Jämsän Seudun Op	427	60.4	Kari Mäkelä
Järvi-Hämeen Op	602	43.1	Teemu Sarhemaa
Kainuun Op	1179	39.1	Teuvo Perätalo

Kangasalan Seudun Op	685	34.0	Jyrki Turtiainen
Kangasniemen Op	233	51.1	Seppo Laurila
Kemin Seudun Op	506	41.6	Heikki Palosaari
Kerimäen Op	109	46.5	Sakari Kangas
Keski-Pohjanmaan Op	1785	29.4	Jyrki Rantala
Keski-Suomen Op	4374	31.5	Pasi Sorri
Kiteen Seudun Op	420	59.6	Jani Pakarinen
Koitin-Pertunmaan Op	97	56.3	Jorma Somero
Korpilahden Op	123	37.8	Tuomas Uppsala
Korsnäs Andelsbank	167	44.5	Ann-Cathrine Koski
Kronoby Andelsbank	169	38.6	Kaj Nylund
Kuhmon Op	275	53.5	Martti Pulkkinen
Kuortaneen Op	91	32.8	Suvi-Katariina Kangastie
Kuusamon Op	346	30.9	Kari Kivelä
Kymenlaakson Op	2437	38.4	Juha Korhonen
Laihian Op	136	31.1	Markku Jaatinen
Lapin Op	127	38.5	Juha Teerialho
Lehtimäen Op	89	23.2	Veli-Jussi Haapala
Lemin Op	113	26.6	Petteri Mattila
Limingan Op	163	26.2	Petteri Juusola
Liperin Op	299	32.9	Jukka Asikainen
Lounaismaan Op	2196	35.1	Jouni Hautala
Lounaisrannikon Op	919	27.1	Sami Peura
Lounais-Suomen Op	838	46.1	Leena Nikula
Luumäen Op	132	56.5	Tiina Pesonen
Länsi-Kymen Op	702	28.7	Saila Rosas
Länsi-Suomen Op	3837	40.8	Matti Kiuru
Maaningan Op	204	34.7	Ari Väänänen
Mouhijärven Op	109	32.4	Kirsi Soltin
Multian Op	103	44.5	Arto Laitinen
Nagu Andelsbank	109	20.2	Alice Björklöf
Nakkila-Luvian Op	329	37.4	Jussi Kuvaja
Niinijokivarren Op	89	65.8	Kaisa Markula
Nilakan Seudun Op	231	35.3	Eeva Karppinen
Op Harjuseutu	167	49.4	Sanna Metsänranta
Op Vakka-Auranmaa	1113	41.7	Lasse Vehviläinen
Oulun Op	4853	25.0	Keijo Posio
Outokummun Op	206	55.0	Ari Karhapää
Paltamon Op	92	46.2	Maarit Korpinen
Pedersörenejdens Andelsbank	624	27.9	Agneta Ström-Hakala
Petäjäveden Op	121	43.9	Jaakko Ylitalo
Pohjois-Hämeen Op	641	34.7	Pertti Pyykkö
Pohjois-Karjalan Op	2236	31.7	Jaana Reimasto-Heiskanen
Pohjois-Savon Op	4230	34.5	Mikko Vepsäläinen
Pohjolan Op	2048	28.7	Mikko Kokkonen
Polvijärven Op	185	47.3	Ari Noponen
Posion Op	157	51.3	Vesa Jurmu
Pudasjärven Op	281	46.2	Pertti Purola
Pulkkilan Op	60	42.1	Marja Hyvärinen
Punkalaitumen Op	114	56.5	Petri Antila
Purmo Andelsbank	54	26.1	Tony Hellman
Päijät-Hämeen Op	2197	24.7	Mika Kivimäki
Raahentienoon Op	834	40.8	Kalle Arvio
Rantasalmen Op	172	36.7	Jaana Vänskä
Rautalammin Op	95	36.1	Esko-Pekka Markkanen

Riistaveden Op	162	22.4	Ismo Salmela
Rymättylän Op	96	31.8	Mikko Paijola
Rääkkylän Op	101	44.4	Heli Silvennoinen
Sallan Op	121	41.5	Jaakko Ovaskainen
Satapirkan Op	1548	42.2	Olli Näsi
Savitaipaleen Op	151	49.6	Samppa Oksanen
Siikajoen Op	76	27.0	Petri Mattila
Siikalatvan Op	110	33.1	Jarmo Pistemaa
Suomenselän Op	1176	35.7	Mika Korkia-Aho
Suur-Savon Op	3057	36.7	Jari Himanen
Taivalkosken Op	118	29.8	Piia Mourujärvi
Tampereen Seudun Op	5743	24.0	Jani Vilpponen
Tervolan Op	102	33.9	Jussi Kuittinen
Tervon Op	80	26.2	Jani Kääriäinen
Tornion Op	438	29.5	Terhi Kuivila
Turun Seudun Op	5068	22.1	Petteri Rinne
Tuusniemen Op	183	30.5	Esa Simanainen
Tyrnävän Op	140	22.8	Antto Joutsiniemi
Utajärven Op	256	37.6	Terttu Hagelin
Uudenmaan Op	22095	17.1	Olli Lehtilä
Vaara-Karjalan Op	564	43.7	Raili Hyvönen
Vasa Andelsbank	1333	22.7	Ulf Nylund
Vehmersalmen Op	132	30.8	Petri Tyllinen
Vesannon Op	105	37.3	Sami Vuorenmaa
Vimpelin Op	115	41.0	Matti Mäkinen
Ylitornion Op	133	46.8	Laura Harju-Autti
Ylä-Kainuun Op	356	35.5	Eija Sipola
Yläneen Op	86	48.7	Heikki Eskola
Ylä-Pirkanmaan Op	561	29.9	Leena Selkee
Ylä-Savon Op	604	43.6	Mikko Paananen
Ylä-Uudenmaan Op	378	38.3	Mikko Purmonen
Ypäjän Op	92	44.8	Kirsi-Marja Hiidensalo

Structured entities included in the consolidated financial statements
OP Financial Group both acts as investor and manages various mutual funds in order to gain investment income and various commissions. The financial statements of OP Financial Group include the accounts of 2 (2) real estate funds. These funds that have been classified as structured entities because OP Financial Group's control is not based on votes but the control of significant operations, exposure to variable returns from the fund, and organising the fund's management. These funds also involve non-controlling interests most relevant to the Group.

The table below structured entities with a significant number of non-controlling interests

Name	Place of business	Main line of business	Interest, % 2022	Interest, % 2021	Non-controlling interests, %
Real Estate Funds of Funds II Ky	Helsinki	Real Estate Fund	27.8	27.8	72.3

Summary of financial information on subsidiaries with a significant proportion of non-controlling interests

The table below presents a summary of financial information on subsidiaries with a significant proportion of non-controlling interests from OP Financial Group's perspective. The financial information corresponds to the figures presented in the financial statements of the subsidiaries to which, for example, fair value adjustments have been made to correspond to OP Financial Group's accounting policies. The figures below are before the elimination of internal transactions.

Balance sheet in summary	Real Estate Fund of Funds II Ky	
EUR million	2022	2021
Cash and cash equivalents	0	0
Investments	2	3
Other assets	1	1
Total assets	**3**	**4**
Other liabilities	-1	-1
Total liabilities	**-1**	**-1**
Net assets	**5**	**5**
Accrued share of non-controlling interests	3	4
Statement of comprehensive income in summary		
Net sales	-1	-1
Profit or loss of continuing operations after tax	0	0
Comprehensive income	**0**	**0**
Comprehensive income attributable to non-controlling interests	0	0
Share of profit paid to non-controlling interests	0	0
Cash flows in summary		
Net cash flow from operating activities	0	1
Net cash flow from investing activities		
Net cash flow from financing activities	0	-1
Net change in cash flows	**0**	**0**
Cash and cash equivalents at year start	0	0
Cash and cash equivalents at year end	0	0

Joint operations

Some 647 (712) property companies are incorporated into OP Financial Group's financial statements as joint operations by consolidating the proportionate share of OP Financial Group's holding of the property company's assets. Classification into joint operations has been made according to the nature of the business although OP Financial Group has control over some of the property companies. The shares of the property companies entitle to the occupancy of certain apartments some of which are in OP Financial Group's own use. Each shareholder of the mutual real estate company is responsible for their share of the company's loans. Some of these joint operations form OP Financial Group's branch network in Finland and they are included in Note 25 Property, plant and equipment on the balance sheet. The rest of the property companies are investment property holdings included in Notes 21.

Summary of the effect of consolidation of joint operations on the balance sheet

EUR million	2022	2021
Property in own use	111	88
Investment property	561	724
Total assets	672	812
Total liabilities	3	3

Most significant joint operations consolidated into OP Financial Group's financial statements in 2022

Name	Domicile	Sector	Holding, %
Asunto Oy Oulun Kalevankulma	Oulu	Property holding and management	100.0
Kiinteistö Oy Ansatie 5	Helsinki	Property holding and management	100.0
Kiinteistö Oy Hämeenkivi	Tampere	Property holding and management	100.0
Kiinteistö Oy Jyväskylän Kassatalo	Jyväskylä	Property holding and management	100.0
Kiinteistö Oy Koskikatu 9	Joensuu	Property holding and management	56.9
Kiinteistö Oy Tampereen Hämeenkatu 12	Tampere	Property holding and management	100.0
Kiinteistö Oy Vammalan Torikeskus	Vammala	Property holding and management	100.0
Mikkelin Forum Oy	Mikkeli	Property holding and management	87.1
As Oy Lappeenrannan Mariankulma	Lappeenranta	Property holding and management	100.0
Kiinteistö Oy Kanta-Sarvis II	Tampere	Property holding and management	100.0
Kiinteistö Oy STC Viinikkala	Vantaa	Property holding and management	100.0
Kiinteistö Oy Grand Cargo Terminal 1	Helsinki	Property holding and management	100.0
Kiinteistö Oy Grand Cargo Terminal 2	Vantaa	Property holding and management	100.0
Kiinteistö Oy Vantaan Kisällintie 13	Vantaa	Property holding and management	100.0
Tikkurilan Kauppatalo Oy	Vantaa	Property holding and management	53.7
Kiinteistö Oy Kouvolan Karhut	Helsinki	Property holding and management	100.0
Kiinteistö Oy Vuosaaren Pohjoinen Shopping centres	Helsinki	Property holding and management	100.0
Kiinteistö Oy Kanta-Sarvis I	Helsinki	Property holding and management	50.0
Kiinteistö Oy Koskitammi	Tampere	Property holding and management	100.0
Kiinteistö Oy Helsingin Frantseninkatu 13	Helsinki	Property holding and management	100.0
Kiinteistö Oy Topeliuksenkatu 41b	Helsinki	Property holding and management	50.0
Kiinteistö Oy Tuusulan Jatke	Tuusula	Property holding and management	100.0
Keskinäinen Kiinteistö Oy Marikko	Helsinki	Property holding and management	100.0
Kiinteistö Oy Koivuhaan Yrityskeskus	Vantaa	Property holding and management	100.0
Kiinteistö Oy Aleksis Kiven katu 21-23	Helsinki	Property holding and management	50.0

Most significant joint operations consolidated into OP Financial Group's financial statements in 2021

Name	Domicile	Sector	Holding, %
Asunto Oy Oulun Kalevankulma	Oulu	Property holding and management	100.0
Kiinteistö Oy Ansatie 5	Helsinki	Property holding and management	100.0
Kiinteistö Oy Hämeenkivi	Tampere	Property holding and management	100.0
Kiinteistö Oy Jyväskylän Kassatalo	Jyväskylä	Property holding and management	100.0
Kiinteistö Oy Koskikatu 9	Joensuu	Property holding and management	56.9
Kiinteistö Oy Tampereen Hämeenkatu 12	Tampere	Property holding and management	100.0
Kiinteistö Oy Vammalan Torikeskus	Vammala	Property holding and management	100.0
Mikkelin Forum Oy	Mikkeli	Property holding and management	87.1
As Oy Lappeenrannan Mariankulma	Lappeenranta	Property holding and management	100.0
Kiinteistö Oy Kanta-Sarvis II	Tampere	Property holding and management	100.0
Kiinteistö Oy Helsingin Puutarhurinkuja 2	Helsinki	Property holding and management	100.0
Kiinteistö Oy STC Viinikkala	Vantaa	Property holding and management	100.0
Kiinteistö Oy Grand Cargo Terminal 1	Helsinki	Property holding and management	100.0
Kiinteistö Oy Grand Cargo Terminal 2	Vantaa	Property holding and management	100.0
Kiinteistö Oy Vantaan Kisällintie 13	Vantaa	Property holding and management	100.0
Tikkurilan Kauppatalo Oy	Vantaa	Property holding and management	53.7
Kiinteistö Oy Kouvolan Karhut	Helsinki	Property holding and management	100.0
Kiinteistö Oy Vuosaaren Pohjoinen Shopping centres	Helsinki	Property holding and management	100.0
Kiinteistö Oy Kanta-Sarvis I	Helsinki	Property holding and management	50.0
Kiinteistö Oy Koskitammi	Tampere	Property holding and management	100.0
Kiinteistö Oy Kuopion Isabella	Kuopio	Property holding and management	100.0
Kiinteistö Oy Oulun Kiilakivi	Oulu	Property holding and management	100.0
Kiinteistö Oy Turun Joukahaisenkatu 9	Turku	Property holding and management	100.0
Kiinteistö Oy Helsingin Frantseninkatu 13	Helsinki	Property holding and management	100.0
Kiinteistö Oy Topeliuksenkatu 41b	Helsinki	Property holding and management	50.0
Kiinteistö Oy Tuusulan Jatke	Tuusula	Property holding and management	100.0
Keskinäinen Kiinteistö Oy Marikko	Helsinki	Property holding and management	100.0
Kiinteistö Oy Koivuhaan Yrityskeskus	Vantaa	Property holding and management	100.0
Kiinteistö Oy Aleksis Kiven katu 21-23	Helsinki	Property holding and management	50.0

The consolidated financial statements include the share of assets and related liabilities under joint control.

Interests in unconsolidated structured entities

OP Fund Management Company Ltd within OP Financial Group manages OP Mutual Funds OP Fund Management Company Ltd uses OP Asset Management Ltd as the portfolio manager for many of the mutual funds it manages In addition, OP Property Management Ltd within the Group manages several real estate funds. In many funds, the fund management company controls significant operations by making investment decisions in accordance with the fund rules. OP Financial Group companies have no interests in the funds managed by the abovementioned companies that would significantly expose the Group to the varying return on the investment and would thereby cause a consolidation obligation.

OP Financial Group receives management fee income from unconsolidated funds that is included in net commissions and fees in the income statement. In addition, OP Financial Group as investor receives from unconsolidated funds income which is recognised in net investment income, depending on in which balance sheet item the investments are recognised in the balance sheet.

OP Financial Group's investments in OP Mutual Funds and the funds of OP Property Management Ltd have been recognised in investment property in the balance sheet. The Group's risk of loss is limited to the investment's balance sheet value. Investments in mutual funds managed by OP Financial Group totalled 244 million (234) on 31 December 2022.

Note 85. Information by country

OP Financial Group operates mainly in Finland. OP Corporate Bank plc has, however, branches engaged in banking and asset and sales finance operations in Estonia, Latvia and Lithuania. On 10 February 2021, OP Corporate Bank plc's Board of Directors approved a merger plan whereby the Baltic subsidiaries OP Finance AS (Estonia), OP Finance SIA (Latvia) and AB OP Finance (Lithuania) will merge into their parent company OP Corporate Bank plc on 31 October 2021 through a cross-border merger.

2022

Name	Domicile	
OP Corporate Bank plc Estonian Branch	Branch	Estonia
OP Corporate Bank plc Latvian Branch	Branch	Latvia
OP Corporate Bank plc Lithuanian Branch	Branch	Lithuania

Financial information 31 December 2022, EUR million	Estonia	Latvia	Lithuania	Total
Total operating income	19	18	30	67
Total EBIT	6	5	14	25
Total current tax	1	0	3	4
Total personnel in man-years	39	37	44	120

2021

Name	Domicile	
OP Corporate Bank plc Estonian Branch	Branch	Estonia
OP Corporate Bank plc Latvian Branch	Branch	Latvia
OP Corporate Bank plc Lithuanian Branch	Branch	Lithuania

Financial information 31 December 2021, EUR million	Estonia	Latvia	Lithuania	Total
Total operating income	16	19	21	56
Total EBIT	4	10	9	23
Total current tax	2	1	2	5
Total personnel in man-years	38	35	43	115

Note 86. Related-party transactions

OP Financial Group's related parties comprise subsidiaries consolidated into OP Financial Group, associates, key management personnel and their close family members, and other related-party entities. OP Financial Group's key management personnel comprises OP Financial Group's President and Group Chief Executive Officer, members of OP Cooperative's Executive Management Team and directors directly reporting to the President and Group Chief Executive Officer, the Chair and members of OP Cooperative's Board of Directors as well as members of the Supervisory Council. Related parties of the management also include companies over which key management persons or their close family member exercises significant influence. Other entities regarded as related parties include OP Financial Group's Personnel Fund OP Bank Group Pension Foundation.

Standard terms and conditions for credit are applied to loans granted to the related parties. Loans are tied to generally used reference rates.

Transactions between OP and its subsidiaries belonging to its related parties have been eliminated in the consolidation of Group accounts and they are not included in the figures of this Note.

Related-party transactions 2022

EUR 1,000	Associates	Key management personnel	Others
Loans	110,233	16,285	
Deposits	3,936	10,720	32,856
Interest income	1,333	146	
Interest expenses	142	8	36
Insurance premium revenue		62	6,073
Commission income	1	30	
Salaries and other short-term benefits, and performance-based pay			
Salaries and other short-term benefits		5,209	
Related-party holdings			
Number of holdings		240	

Related-party transactions 2021

EUR 1,000	Associates	Key management personnel	Others
Loans	110,244	16,410	
Deposits	6,554	8,022	32,118
Interest income	1,454	88	0
Interest expenses		5	0
Insurance premium revenue		56	7,928
Commission income	1	7	0
Commission expenses		1	
Impairment losses on loans	6		
Salaries and other short-term benefits, and performance-based pay			
Salaries and other short-term benefits		5,763	
Related-party holdings			
Number of holdings		219	

Employee benefits of key management persons

The central cooperative, OP Cooperative, has a Board of Directors comprising the incumbent President and Group Chief Executive Officer and 9–13 other members appointed by the Supervisory Council. Every year, the Board of Directors appoints from among its members a Chair and Vice Chair. The President and Group Chief Executive Officer may not be appointed to these positions. The President and Group Chief Executive Officer also acts as OP Cooperative's CEO.

The Executive Management Team acts as the central cooperative's management team and supports the President and Group Chief Executive Officer in managing the central cooperative and its consolidation group, preparing strategic policies, preparing and implementing any operational issues of great significance or principal in nature and ensuring effective internal control. In addition to the President and Group Chief Executive Officer, the Executive Management Team has members who are subordinate to him. The Executive Management Team has seven other members, in addition to the President and Group Chief Executive Officer. Key persons in the management also include three directors who directly report to the President and Group Chief Executive Officer.

The period of notice observed by OP Financial Group's Executive Chairman, other OP Central Cooperative's Executive Board members and a deputy member and the employer is a maximum of 6 months. Upon termination of employment in cases specifically stipulated in the executive contract, the Executive Chairman and CEO is entitled to a severance pay and a sum equivalent to a maximum of 12 months' pay, while other Board members, deputy members and the Chief Audit Officer are entitled to a sum equivalent to a maximum of 6 months' pay.

The President and Group Chief Executive Officer's retirement age is 65. Pension benefits are determined in accordance with pension laws and OP Financial Group's own pension plans. The President and Group Chief Executive Officer is covered by OP Bank Group Pension Foundation's supplementary pension scheme. Pension accrued under the supplementary pension scheme may begin to be disbursed as a paid-up pension before the old-age pension if employment with OP Financial Group terminates. Pension costs under IAS 19 arising from the supplementary pension insurance of the President and Group Chief Executive Officer totalled EUR 324,000 (298,000). Compensation paid to members of the Board of Directors is within the scope of TyEL. No supplementary pension obligations apply to Board members.

The retirement age of other Executive Management Team members who became members before 2018 is 63 years. The retirement age of Executive Management Team members who became members in 2018 corresponds to the lowest pensionable age under TyEL. Pension benefits are determined in accordance with pension laws and OP Financial Group's own pension plans. Note 34 provides more detailed information on OP Financial Group's pension plans.

EUR 1,000	2022	2021
Pension costs of defined contribution plans under TyEL	1,678	1,519
IFRS expense of voluntary supplementary pension	481	577
Pension obligation of voluntary supplementary pension	8,643	13,124
Pension costs of supplementary defined contribution plans	411	336

Pension costs of defined contribution plans under TyEL include employee and employer shares.

Note 87. Events after the balance sheet date

OP Financial Group has applied IFRS 17 Insurance Contracts as of 1 January 2023. As a result of the IFRS 17 transition, OP Financial Group's equity capital on 1 January 2022 decreased by EUR 52 million on the date of transition. At the same time, the Group ceased to apply the overlay approach. Solvency II valuations are used in FiCo calculation, so the adoption of IFRS 17 did not affect the FiCo ratio. For more detailed information of the adoption of IFRS 17, see Note 3 to these Financial Statements.

Statement concerning the fin ncial statements

We have approved the Report by the Board of Directors and the consolidated Financial Statements for 1 January–31 December 2022 of OP Financial Group, a fin ncial entity as referred to in section 9 of the Act on the Amalgamation of Deposit Banks. The Report by the Board of Directors and the Financial Statements are presented to, and passed out at, the Annual Cooperative Meeting of OP Cooperative.

Helsinki, 1 March 2023

OP Cooperative's Board of Directors

Jaakko Pehkonen
Chair of the Board of Directors

Timo Ritakallio
OP Financial Group's President and Group Chief Executive Offi er

Jarna Heinonen

Jari Himanen

Kati Levoranta

Pekka Loikkanen

Tero Ojanperä

Riitta Palomäki

Petri Sahlström

Olli Tarkkanen

Mervi Väisänen

Auditors' note

We have today issued an auditor's report on the audit performed

Helsinki, 2 March 2023

KPMG Oy Ab
Audit fir

Juha-Pekka Mylén
Authorised Public Accountant

This document is an English translation of the Finnish auditor's report. Only the Finnish version of the report is legally binding.

Auditor's Report

To the members of OP Cooperative

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the amalgamation OP Financial Group pursuant to the Act on the Amalgamation of Deposit Banks for the year ended on 31 December 2022. The financial statements comprise the consolidated balance sheet, income statement, statement of comprehensive income, statement of changes in equity capital, cash flow statement and notes, including a summary of significant accounting policies.

In our opinion the consolidated financial statements give a true and fair view of OP Financial Group's financial position and financial performance and cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU.

Our opinion is consistent with the additional report submitted to the Board of Directors and the Audit Committee of OP Cooperative.

Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report.

We are independent of member institutions within OP Financial Group in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In our best knowledge and understanding, the non-audit services that we have provided to member institutions within OP Financial Group are in compliance with laws and regulations applicable in Finland regarding these services, and we have not provided any prohibited non-audit services referred to in Article 5(1) of regulation (EU) 537/2014. The non-audit services that we have provided have been disclosed in note 12 to the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Materiality

The scope of our audit was influenced by our application of materiality. The materiality is determined based on our professional judgement and is used to determine the nature, timing and extent of our audit procedures and to evaluate the effect of identified misstatements on the financial statements as a whole. The level of materiality we set is based on our assessment of the magnitude of misstatements that, individually or in aggregate, could reasonably be expected to have influence on the economic decisions of the users of the financial statements. We have also taken into account misstatements and/or possible misstatements that in our opinion are material for qualitative reasons for the users of the financial statements.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. The significant risks of material misstatement referred to in the EU Regulation No 537/2014 point (c) of Article 10(2) are included in the description of key audit matters below.

We have also addressed the risk of management override of internal controls. This includes consideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

THE KEY AUDIT MATTER	HOW THE MATTER WAS ADDRESSED IN THE AUDIT

Receivables from customers - measurement (notes 1, 13, 20 and 37 to the financial statements)

Receivables from customers, totalling €98.5 billion, are the most significant item on the OP Financial Group's consolidated balance sheet representing 56 percent of the total assets. Calculation of expected credit losses (ECL) in accordance with IFRS 9 Financial Instruments involves assumptions, estimates and management judgement, for example, in respect of determining the probability and amount of expected credit losses as well as the significant increases in credit risk. The indirect effects of the war in Ukraine, inflation, increase in interest rates as well as weakened economic outlook may increase credit risk, which can realize in higher impairment loss on receivables. The elements of accounting for expected credit losses are updated and defined, based on materialised credit risk developments, validation and improvement of the accounting process as well as on regulations and changes therein Due to the significance of the carrying amount involved, complexity of the accounting methods used for measurement purposes and management judgement involved, measurement of receivables is addressed as a key audit matter.	We evaluated compliance with the lending instructions and assessed credit risk management as well as principles and controls over recognition and monitoring of loan receivables in the entities of OP Cooperative Consolidated. We assessed the methods and the key assumptions for calculating expected credit losses as well as tested the controls related to the calculation process and credit risk models for the expected credit losses. The main focus areas in our audit of ECL were the most significant factors requiring management judgement in the calculation of ECL, cash flow based ECL calculation based on expert assessment, as well as recalculation of the most significant ECL models and sensitivity analysis. We have also assessed the basis for the temporary extra provisions formed based on management judgement (management overlay). Our IFRS and financial instruments specialists were involved in the audit. We also requested other auditors of OP Financial Group entities to issue an opinion that the entities within OP Financial Group have complied with the instructions provided by OP Cooperative for the financing process. Furthermore, we considered the appropriateness of the notes provided by OP Financial Group in respect of receivables and expected credit losses.

Measurement of investment assets and derivative contracts (notes 1, 8, 19, 21 and 37 to the financial statements)

The carrying value of investment assets totals €20.8 billion mainly consisting of investments measured at fair value. The aggregate derivative assets are €4.1 billion and derivative liabilities €4.4 billion comprising contracts held for trading and hedging purposes. Derivatives are measured at fair value in preparing the financial statements.

The fair value of financial instruments is determined using either prices quoted in an active market or OP Financial Group's own valuation techniques where no active market exists. Determining fair values for investments and derivatives involves management judgements, especially in respect of those instruments for which market-based data is not available. Fair values of private equity funds and properties may also involve time delay.

Due to the significant carrying values of investment assets and derivative positions involved, and management judgements related to measurement of illiquid investments, measurement of these assets is addressed as a key audit matter.

We evaluated the appropriateness of the accounting principles applied and the valuation techniques used by OP Financial Group, and tested accounting and valuation of investments and derivative contracts.

In respect of derivative contracts, we considered the accounting treatment and the valuation process applied in relation to the requirements set under IFRS.

As part of our year-end audit procedures, we compared the fair values used in measurement of investment assets and derivatives with market quotations and other external price references. We assessed the accuracy of the input data used in valuations as well as the reasonableness of the assumptions and estimates applied.

We also considered the impairment principles applied and techniques used by OP Financial Group in respect of investments.

KPMG IFRS and financial instruments specialists were involved in the audit.

Finally, we considered the appropriateness of the notes on investment assets and derivatives.

Insurance liabilities (notes 1, 6 and 31 to the financial statements)

Measurement of insurance liabilities, amounting to €7.6 billion on the OP Financial Group's balance sheet, is based on various actuarial assumptions and calculation methods.

Calculation of insurance liabilities relies on data processed in many IT systems and combination of that data. The databases are extensive and data volumes processed by the IT systems are substantial.

Interest rate risk associated with insurance liabilities is hedged with derivatives and interest

Our audit procedures included assessment of the principles related to calculation and recognition of insurance liabilities. Our actuary specialist evaluated the appropriateness of the assumptions and methods used in determining insurance liabilities.

We assessed internal control processes for insurance liability accounting and the accuracy of underlying source data, as well as interconnections between the insurance liability accounting and financial reporting.

rate instruments, which are measured at fair value in the financial statements.

Discount rate of the insurance liability for annuities was increased in the financial year. The change has decreased amount of the insurance liability.

Due to the significant carrying value of insurance liabilities involved, and the complexity associated with actuarial models used, insurance liabilities are addressed as a key audit matter.

We analysed the hedging principles of interest rate risk for insurance liabilities, market based valuation and the appropriateness of the accounting treatment of hedging derivative instruments.

We have also assessed the basis for the increase in the non-life company's discount rate and the value change of the related supplementary interest rate provision as well as their accounting treatment.

Furthermore, we considered the appropriateness of the notes on insurance liabilities.

Control environment relating to financial reporting process and IT systems

In respect of the accuracy of the financial statements of OP Financial Group, the key reporting processes are dependent on information systems. Therefore, information technology plays an essential role for business continuity, incident management and the accuracy of financial reporting. Consequently, the IT environment related to the financial reporting process and the application controls of individual IT systems have a significant effect on the selected audit approach.

As the consolidated financial statements of OP Financial Group are based on a large number of data flows from many systems, the financial reporting IT environment is addressed as a key audit matter.

We obtained an understanding of the IT systems related to financial reporting and the associated control environment and tested the effectiveness of the related internal controls.

Our audit procedures also concentrated on monitoring key data flows and transactions, access management, change management, interfaces and outsourcing management.

As part of our audit, we performed extensive substantive procedures and data analyses relating to various aspects in the financial reporting process.

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU in a manner explained in more detail in the notes to the financial statements and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing OP Financial Group's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate OP Financial Group, or there is no realistic alternative but to do so.

Auditor’s Responsibilities for the Audit of the Financial Statements

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

As part of an audit in accordance with good auditing practice, we exercise professional judgement and maintain professional skepticism throughout the audit. We also:

— Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

— Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of OP Financial Group’s internal control.

— Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

— Conclude on the appropriateness of the Board of Directors and the Managing Director’s use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on OP Financial Group’s ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor’s report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor’s report. However, future events or conditions may cause OP Financial Group to cease to continue as a going concern.

— Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.

— Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within OP Financial Group to express an opinion on the consolidated financial statements. We remain solely responsible for our audit opinion.

— Audit of the consolidated financial statements of amalgamation OP Financial Group is based on the financial statements of OP Cooperative Consolidated and member cooperative banks, as well as the auditor’s reports submitted for the audit of OP Financial Group’s consolidated financial statements.

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

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

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

Other Reporting Requirements

Information on our audit engagement

We were first appointed as auditors by the Cooperative Meeting of OP Cooperative in 2002 and our appointment represents a total period of uninterrupted engagement of 21 years.

Other Information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors. Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. Our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed, we conclude that there is a material misstatement of the report of the Board of Directors, we are required to report that fact. We have nothing to report in this regard.

Helsinki, 2 March 2023

KPMG OY AB

JUHA-PEKKA MYLÈN
Authorised Public Accountant, KHT