



OP Corporate Bank plc's
Report by the Board of Directors
and Financial Statements 2019

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Report by the Board of Directors for 2019

Earnings before tax Q1–4/2019	Net interest income Q1–4/2019	Net insurance income Q1–4/2019	CET1 ratio 31 Dec 2019
€412 million	+8%	-27%	14.9%

- **Consolidated** earnings before tax were EUR 412 million (439). Total income rose by 11% and total expenses by 4%. Investment income increased by 76% to EUR 384 million and net interest income by 8% to EUR 295 million. OP Financial Group transferred the management of the personnel's statutory earnings-related pension insurance and the related portfolio to Ilmarinen Mutual Pension Insurance Company at the end of 2018, which lowered expenses by EUR 34 million a year ago. In view of this, comparable expenses decreased by 2%. Earnings for the financial year were eroded by a EUR 146 million decrease in net insurance income, a EUR 38 million increase in impairment loss on receivables and a EUR 28 million increase in ICT costs.
- **Corporate Banking** earnings before tax decreased by 27% to EUR 262 million. The earnings were reduced by lower net investment income, higher expenses and higher impairment loss on receivables. The decrease in net investment income was affected by changes made in the valuation models of derivatives, value changes in credit and counterparty risks of derivatives, and lower capital gains than a year ago. Net interest income increased by 10% to EUR 383 million. The loan portfolio increased in the year to December by 6% to EUR 23.7 billion. The cost/income ratio was 41.1% (32.6).
- **Insurance** earnings before tax increased by 66% to EUR 200 million due to growth in investment income. Investment income was EUR 242 million (28). Net insurance income decreased to EUR 402 million (549). The reduction in the discount rate of insurance liability reduced net insurance income by EUR 136 million. The operating combined ratio was 92.7% (92.0).
- **Other Operations** earnings before tax were EUR -50 million (-42) as a result of a decrease in net interest income. Liquidity and access to funding remained good.
- The CET1 ratio was 14.9% (15.1) on 31 December 2019. The planned adoption of a new definition of default in March 2020 is expected to weaken the CET1 ratio by 0.7 percentage points.

Earnings before tax, € million	Q1–4/2019	Q1–4/2018	Change, %
Corporate Banking	262	361	-27.2
Insurance	200	120	66.1
Other Operations	-50	-42	-
Group total	412	439	-6.2
Return on equity (ROE), %	7.8	8.5	-0.7*
Return on assets (ROA), %	0.49	0.54	-0.05*

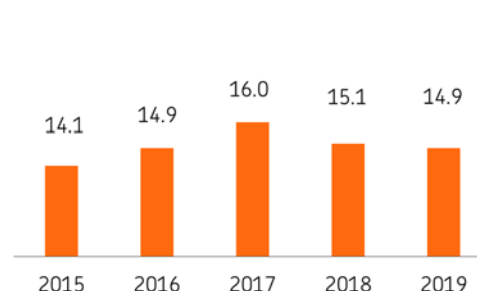
Comparatives deriving from the income statement are based on figures reported for the corresponding period a year ago. Unless otherwise specified, balance-sheet and other cross-sectional figures on 31 December 2018 are used as comparatives.

*Change in ratio

Earnings before Tax, € million



Common Equity Tier1 ratio (CET1), %



Business environment

World economic growth slowed down gradually during 2019 and remained on average the slowest since the beginning of the decade. Developments in global trade, in particular, were weak, partly due to the trade war. With lukewarm economic growth, inflation remained subdued.

In September, the ECB cut its deposit rate from -0.4 per cent to -0.5 per cent. At the beginning of November, the ECB also resumed buying assets worth EUR 20 billion a month.

Short-term market rates decreased slightly during 2019. Longer-term market rates decreased more markedly but recovered from the late summer's pessimistic mood towards the year end. Stock prices rose in the latter part of the year when larger risks were seen to be lessened. Stock markets strengthened markedly during the year.

According to preliminary information, Finnish economic growth slowed from the previous year. Economic growth was sustained by consumption and service exports. Goods exports suffered from faltering export markets. Growth in construction slowed down and fixed investments, by and large, were sluggish. The housing market picked up towards the year end. Demand focused on smaller flats and prices rose only slightly on average.

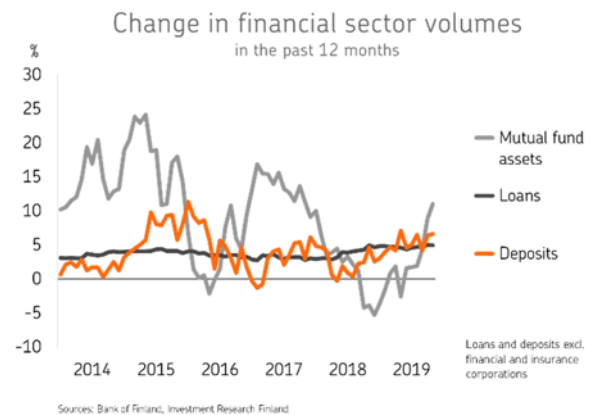
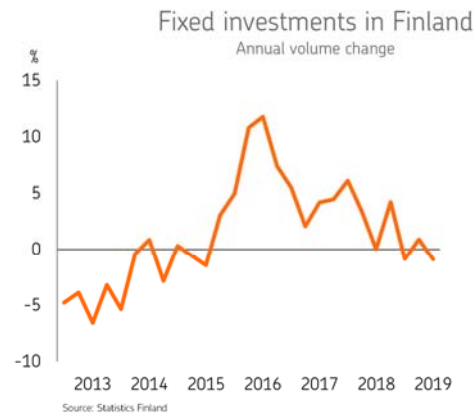
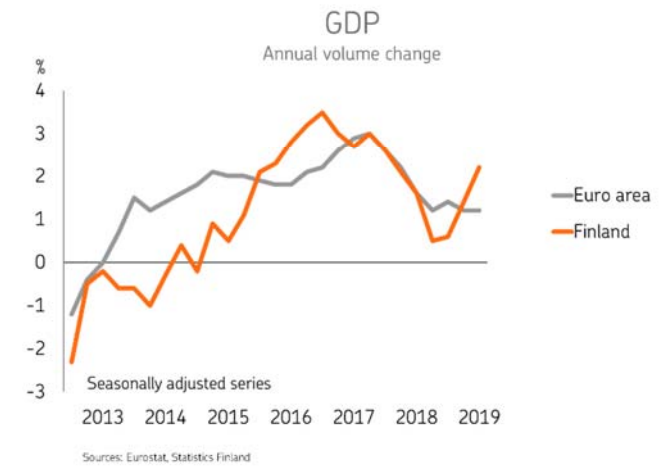
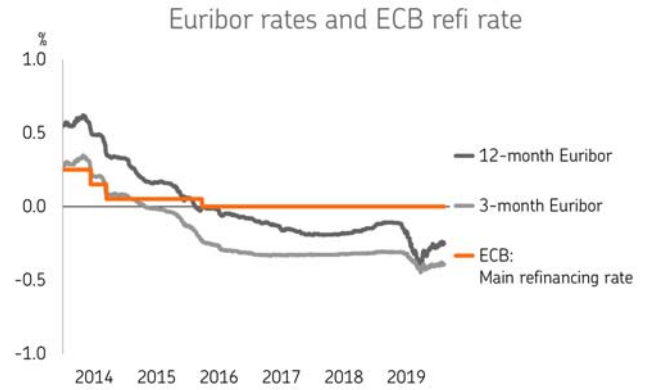
Economic growth is expected to remain subdued in Finland's main export markets. The European Central Bank has stated that the main refinancing rates will remain unchanged or lower until the inflation outlook is in line with the inflation target. Finnish economic growth is expected to be slow as exports are assumed to slacken and construction activity to fall. However, consumer demand should be supported by developments in real wages and the labour market that is assumed to remain relatively strong. The outlook for the housing market too is expected to remain steadily favourable.

In the fourth quarter of the year, growth in total consumer loans accelerated to 3.0%. Greater demand for home loans supported this positive development. Based on the statistics of the Bank of Finland, the growth rate of consumer loans slowed to 4.3%. This growth in consumer loans came solely from unsecured loans. Corporate and housing company loans increased by 7.3%. The banking barometer anticipates moderate growth in consumer loans whereas the growth outlook for corporate loans is expected to be weaker.

Total deposits increased by 4.3% over the previous year. The annual growth rate of household deposits decelerated to 6.6%. Corporate deposits increased by 5.0% over the previous year whereas the volume of deposits by public-sector entities decreased.

The value of mutual funds registered in Finland rose to EUR 124.7 billion at the end of 2019. Favourable developments in the investment environment increased the values of equity funds and bond funds.

Premiums written in the insurance sector increased by over 3% in 2019. The uncertain economic outlook, weak returns on fixed income investments and claims incurred on the rise will cast a shadow over the favourable development.



Consolidated earnings

€ million	Q1-4/ 2019	Q1-4/ 2018	Change, %
Net interest income	295	274	7.6
Net insurance income	402	548	-26.7
Net commissions and fees	-28	-23	-
Net investment income	450	200	125.6
Other operating income	47	47	-0.6
Total income	1,165	1,046	11.4
Personnel costs (excl. transfer of earnings-related pension liability)	184	193	-4.9
Transfer of statutory earnings-related pension liability		-34	
Depreciation/amortisation and impairment loss	63	83	-24.6
Other operating expenses	386	369	4.7
Total expenses	632	611	3.5
Impairment loss on receivables	-51	-13	-
OP bonuses to owner-customers	-4	-2	-
Temporary exemption (overlay approach)	-66	19	-447.7
Total earnings before tax	412	439	-6.2

The 2018 comparatives have been changed as described in the Notes, as a result of the change in presentation of trading interest income and expenses.

January–December

Consolidated earnings before tax were EUR 412 million (439). Total income increased by 11.4% to EUR 1,165 million and total expenses by 3.5% to EUR 632 million. Higher net investment income and net interest income added to total income. Net insurance income was lower than a year ago. This was due to a reduction in the discount rate applied to insurance liability calculation. In addition, higher impairment loss on receivables and ICT costs, as well as personnel costs that were higher than a year ago, reduced earnings. Transferring the management of the statutory earnings-related pension insurance and the related portfolio to Ilmarinen Mutual Pension Insurance Company reduced personnel costs a year ago.

Net interest income rose to EUR 295 million (274). Net interest income improved mainly due to growth in the loan portfolio of the Corporate Banking segment. Net insurance income fell to EUR 402 million (548). Insurance premium revenue increased by 0.9%. Excluding the Baltic business sold a year ago, it increased by 4.0%. The reduction in the discount rate for insurance liability increased Non-life Insurance claims incurred by EUR 136 million. Claims incurred, excluding the reduction in the discount rate and the Baltic business, increased by 5.6%. The operating combined ratio was 92.7% (92.0) in the Insurance segment.

Net commissions and fees totalled EUR -28 million (-23). Commission income increased by EUR 11 million to EUR 171 million and commission expenses by EUR 16 million to EUR 199 million. Commission income rose due to commissions and fees from securities brokerage, lending and health and wellbeing services, which were higher than a year earlier. The fees OP Corporate Bank Group pays to OP Financial Group's member

cooperative banks for non-life insurance and derivatives sales increase commission expenses and turn net commissions and fees negative. Commission expenses paid to member banks grew by EUR 15 million, year on year. Excluding these internal commission expenses, commission expenses were at the level recorded a year ago.

Net investment income totalled EUR 450 million (200). Net income from financial assets recognised at fair value through profit or loss rose by EUR 229 million to EUR 375 million. An item corresponding to the change in the discount rate of the Non-life Insurance insurance liability, EUR 136 million, is shown in a positive value change in net investment income. Changes in the fair value of investments recognised through profit or loss increased by EUR 92 million. Net income from financial assets recognised at fair value through other comprehensive income rose by EUR 26 million to EUR 91 million. Capital gains on notes and bonds mainly increased these items through other comprehensive income. The Insurance segment's net investment income increased to EUR 308 million (9). Net investment income for the Corporate Banking segment decreased to EUR 115 million (162) and that for Other Operations to EUR 26 million (27). A temporary exemption (overlay approach) is applied to non-life insurance equity instruments recognised at fair value through profit or loss, which eroded earnings for the financial year by EUR 66 million whereas it improved earnings by EUR 19 million a year ago. Changes in the fair value of investments within the scope of the overlay approach are presented under the fair value reserve under equity. Including the overlay approach, investment income for the financial year, EUR 384 million, increased by EUR 166 million. Investment income for the Insurance segment rose year on year by EUR 214 million to EUR

242 million. Return on investments by Non-life Insurance at fair value was 8.4% (0.1).

Other operating income amounted to EUR 47 million (47). Capital gain on the divestment of the occupational healthcare service business and growth in income received from member banks within OP Financial Group increased the income for the financial year. Capital gain on the sale of the Baltic non-life insurance business increased income by EUR 16 million a year ago.

Total expenses were EUR 632 million (611). The transfer a year ago of the earnings-related pension liability to Ilmarinen Mutual Pension Insurance Company reduced costs a year ago by EUR 34 million. Excluding the effect of this transfer, personnel costs year on year decreased by EUR 10 million totalling EUR 184 million. Depreciation/amortisation and impairment loss decreased to EUR 63 million (83). Depreciation on assets generated by business acquisitions increased depreciation and amortisation by EUR 18 million in the previous year. Impairment write-downs were EUR 6 million lower than the year before. Depreciation and amortisation was increased by EUR 3 million due to depreciation of the right-of-use assets under IFRS 16 adopted at the beginning of the financial year. Other operating expenses were increased by a 28-million euro rise in ICT costs. ICT costs in production increased by EUR 23 million to EUR 137 million and development costs by EUR 9 million to EUR 106 million. These include licence fees, purchased services, other external costs related to projects and in-house work. The capitalised development expenditure totalled EUR 38 million (34). Charges of financial authorities were EUR 2 million lower than a year ago.

Impairment loss on receivables increased by EUR 38 million to EUR 51 million. Changes in credit risk parameters, final loan losses, growth in the loan portfolio and the transfer of loans between impairment stages affected the increase in impairment loss on receivables. Expected credit losses on notes and bonds were not significant.

2019 highlights

New segments

At its meeting on 6 June 2018, the Supervisory Board of OP Financial Group's central cooperative decided on a new division of responsibilities of the Executive Board, which changed the segment structure in OP Financial Group and OP Corporate Bank Group as of the beginning of 2019. OP Corporate Bank Group's new segments are Corporate Banking, Insurance and Other Operations.

Decision by the Competition and Consumer Authority

On 11 February 2019, the Competition and Consumer Authority (FCCA) completed an extensive investigation related to OP Financial Group's customer benefits scheme, as well as operations in retail banking services and the non-life insurance market. The FCCA concluded that OP Financial Group operates in compliance with the Competition Act and OP's bonus scheme is not contrary to the Competition Act. The FCCA considers that OP's operations have no effect that would lead to market

foreclosure in the non-life insurance market. As a result of the investigation, the FCCA has closed the case.

Adopting the Pohjola brand in non-life insurance business

OP Financial Group adopted the Pohjola brand in its non-life insurance business from 1 June 2019 when the business name of OP Insurance Ltd was changed to Pohjola Insurance Ltd. At the same time, the business name of Pohjola Health Ltd was changed to Pohjola Hospital Ltd.

Pohjola Hospital's new strategy

Pohjola Hospital sharpened its strategy to focus on orthopaedics and sports clinic activities. As part of this change, Pohjola Hospital Ltd sold its occupational healthcare service business to Mehiläinen. The sale was finalised on 1 June 2019.

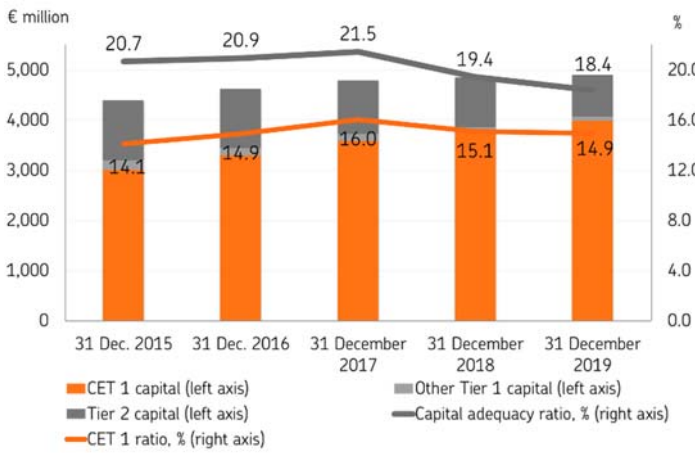
OP Corporate Bank to reform its operations

The Information and Consultation of Employees process regarding OP Financial Group's Corporate Banking and Insurance segments started on 26 August 2019 and ended on 8 October 2019. The segments' organisational structures will be amended to support the new self-directed practices. Approximately 3,000 employees work in the organisations covered by the process. As a result of the negotiations, 300 jobs ceased to exist, while 185 new roles were created. The organisations that follow the new practices took effect on 1 January 2020.

In October 2019, OP Corporate Bank's Board of Directors decided to close down its Shanghai representative office. Measures to close down the office have been taken and the final closedown date depends on the Chinese authorities and on the termination of the existing contracts.

Group's capital adequacy

Capital base and capital adequacy



Capital adequacy for credit institutions

The Group's CET1 ratio was 14.9% (15.1) on 31 December 2019.

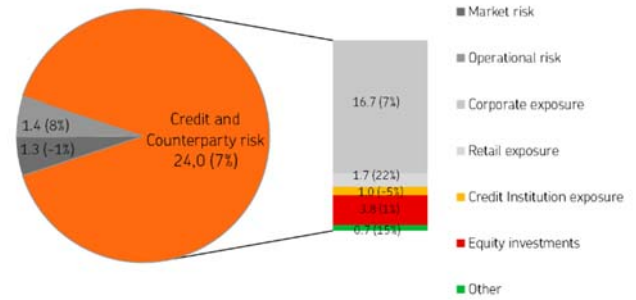
As a credit institution, the Group's consolidated capital adequacy is on a solid basis compared to the statutory requirements and those set by the authorities. The statutory minimum for the capital adequacy ratio is 8% and for the CET1 ratio 4.5%. The requirement for the capital conservation buffer of 2.5% under the Act on Credit Institutions increases in practice the minimum capital adequacy ratio to 10.5% and the minimum CET1 ratio to 7%.

The CET1 capital totalled EUR 4.0 billion (3.8) on 31 December 2019. Insurance business result is not included in CET1 capital.

On 31 December 2019, the risk exposure amount (REA) totalled EUR 26.7 billion (25.0), or 6.6% higher than on 31 December 2018. The average credit risk weights remained unchanged and, in particular, the corporate loan portfolio increased from its 2018-end level. OP Financial Group treats insurance holdings within the financial conglomerate as risk-weighted assets, based on permission from the European Central Bank (ECB). Equity investments include EUR 3.7 billion in risk-weighted assets of OP Corporate Bank Group's internal insurance holdings with a risk weight of around 280%. OP Corporate Bank Group is part of OP Financial Group, whose capital adequacy is supervised in accordance with the Act on the Supervision of Financial and Insurance Conglomerates. As part of OP Financial Group, OP Corporate Bank plc is supervised by the ECB.

The Finnish Financial Supervisory Authority (FIN-FSA) makes a macroprudential policy decision on a quarterly basis. In December 2019, the Financial Supervisory Authority reiterated its decision not to impose a countercyclical capital buffer requirement on banks.

Risk Exposure Amount 31 December 2019
Total €26.7 billion
(change from year end 7%)



In OP Financial Group's view, the most significant open changes in the regulatory and supervisory environment affecting capital adequacy for credit institutions include: obligations imposed by the supervisor due to ECB's targeted review of internal models (TRIM), and obligations imposed by the supervisor due to the new definition of default.

The process based on the new definition of default recognises defaulted customers earlier, for example, based on information in external credit registers or in retail customers by extending the default to cover all exposures of an individual obligor. This new definition is expected to mean a larger number of default observations and to weaken credit risk parameters. The supervisory obligation related to the planned adoption of the new definition of default in March 2020 is expected to weaken the CET1 ratio by 0.7 percentage points. Growth in the expected credit losses (ECL) caused by the change in the definition of default has been taken into account in the effect on capital adequacy. The growth is estimated to be less than 5%.

The effects of the ECB's targeted review of internal models (TRIM) on corporate exposures are still open. More detailed information on the effects are expected in the first half of 2020.

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 set OP Financial Group's Minimum Requirement for own funds and Eligible Liabilities (MREL) at EUR 13.4 billion, accounting for 27.3% of the total risk exposure amount at the end of 2017. OP Financial Group aims to meet the requirements under the MREL with its capital base and other subordinated debt. OP Financial Group's MREL ratio was an estimated 43% at the end of the financial year. The SRB has confirmed a resolution strategy for OP Financial Group whereby the resolution measures would apply to OP Corporate Bank acting as a Single Point of Entry.

Solvency of non-life insurance companies

The increased value of investments strengthened the capital base of non-life insurance. Similarly, the increased value of shares raised the solvency requirement. The solvency position strengthened during the year.

€ million	31 Dec 2019	31 Dec 2018
Capital base, € million*	1,008	818
Solvency capital requirement (SCR), € million*	699	621
Solvency ratio, %*	144	132
Solvency ratio, % (excluding transitional provision)	144	132

*including transitional provisions.

Credit ratings

OP Corporate Bank plc's credit ratings on 31 December 2019

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

Pohjola Insurance Ltd's financial strength ratings on 31 December 2019

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

OP Corporate Bank plc has credit ratings affirmed by Standard & Poor's Global Ratings Europe Limited and Moody's Investors Service (Nordics) AB. Pohjola Insurance Ltd has financial strength ratings affirmed by Standard & Poor's Credit Market Services Europe Limited and Moody's Deutschland GmbH. When assessing the companies' credit ratings, credit rating agencies take account of the entire OP Financial Group's financial standing.

The ratings of OP Corporate Bank plc did not change in 2019.

In January 2019, Moody's upgraded Pohjola Insurance Ltd's financial strength rating by one notch from A3 to A2. Moody's kept the rating outlook stable. The underlying reasons for the upgrade were insurance operations' close integration with OP's business and capital management, strong non-life insurance market share and good financial fundamentals.

Group risk exposure

The Group's funding and liquidity position is good. The availability of funding has remained good.

The Group's market risk decreased during the financial year. The Value-at-Risk (VaR) metric, a measure of market risks, was EUR 90 million (98) on 31 December 2019. VaR includes the non-life insurance company's total assets, trading operations, the liquidity buffer of Other Operations and the interest rate exposure of Group Treasury.



The Group expects its operational risks to be moderate as targeted. Costs for operational risks realised during the financial year were not significant.

Corporate Banking

Within Corporate Banking, key risks are associated with credit risk arising from customer business, and market risks.

Credit risk exposure remained stable and credit risk remained moderate.

	31 Dec 2019	31 Dec 2018
Exposures*, € billion	38.8	36.0
corporate customer exposures, € billion	32.0	30.4
in the highest borrower grades**, %	60.6	63.8
in other borrower grades (excluding default), %	38.6	35.7
classified as default, %	0.8	0.5
classified as default***, € billion	0.3	0.1
private customer exposures, € billion	2.2	1.9
in the highest borrower grades**, %	17.6	17.8
in other borrower grades (excluding default), %	81.6	81.6
classified as default, %	0.8	0.6
classified as default***, € billion	0.0	0.0
other exposures, € billion	4.6	3.7
Doubtful receivables****, € billion	0.2	0.1
Ratio of doubtful receivables to loan and guarantee portfolio, %	0.9	0.6
Ratio of non-performing receivables to loan and guarantee portfolio, %	0.5	0.4
Ratio of performing forbore exposures to loan and guarantee portfolio, %	0.4	0.2
Ratio of performing forbore exposures to doubtful receivables, %	42.8	36.6

*Exposures of the Corporate Banking segment. Derivatives and FX Trading, and bonds were transferred from the Other Operations segment to the Corporate Banking segment as of 1 January 2019. The comparative has been adjusted.

**Private customer contracts in borrower grades A+–B–, and corporate customer exposures in borrower grades 1–5.5 (IG)

***Private customer contracts in borrower grade F, and corporate customer exposures in borrower grades 11–12

****Doubtful receivables refer to receivables that are more than 90 days past due, other receivables classified as risky and forbore receivables due to the customer's financial difficulties. Forbearance measures consist of concessions agreed at the customers' initiative to contractual payment terms towards the customer to make it easier for them to manage through temporary payment difficulties. Performing forbore exposures include forbore 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.

Two customers' exposure exceeded ten per cent of the capital base after allowances and other recognition of credit risk mitigation. The amount of large corporate customer exposures totalled EUR 1.2 billion and OP Corporate Bank's capital base covering customer exposure amounted to EUR 4.9 billion (4.9).

The most significant sectors in corporate exposures	31 Dec 2019	31 Dec 2018
Services, %	12.3	11.1
Energy, %	11.6	12.9
Trade, %	11.5	10.6
Other sectors, %	64.6	65.4
Total	100	100

Exposures by the Baltic operations grew to EUR 3.9 billion (3.3), accounting for 9.9% (9.2) of total exposures of the Corporate Banking segment.

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.

A one-year increase in life expectancy would increase insurance liability for annuities by EUR 48 million (45). A 0.1 percentage point decrease in interest rates used in insurance liability valuation would increase insurance liabilities by EUR 26 million (23).

No significant changes took place in non-life insurance's underwriting risks. Non-life insurance's most significant market risk is associated with increasing insurance liability value and capital requirement resulting from lower market interest rates. The non-life insurance discount rate was decreased from 1.5% to 1.0% at the end of November. Derivatives were used to hedge against interest rate risk associated with non-life insurance liability. As a result of this, an item, which corresponds to the

change in the discount rate, is shown in a positive value change in net investment income.

The Group still uses bond investments and derivative contracts to dampen earnings volatility caused by changes in interest rates used in insurance liability valuation.

The risk exposure of investments was stable during the financial year. The VaR, a measure of market risk, was EUR 54 million (50) on 31 December 2019. No major changes took place in the investment portfolio's asset class allocation. Interest rate derivatives have been used to hedge against interest rate risk associated with insurance liability. The portfolio's interest rate and credit risk remained stable.

Other Operations

Major risks related to the Other Operations 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.

The market risk in proportion to the market value of notes and bonds in the liquidity buffer (VaR with 95% confidence) remained stable during the financial year. No major changes occurred in the asset class allocation.

OP Financial Group secures its liquidity through a liquidity buffer maintained by OP Corporate Bank and consisting 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 141% (143).

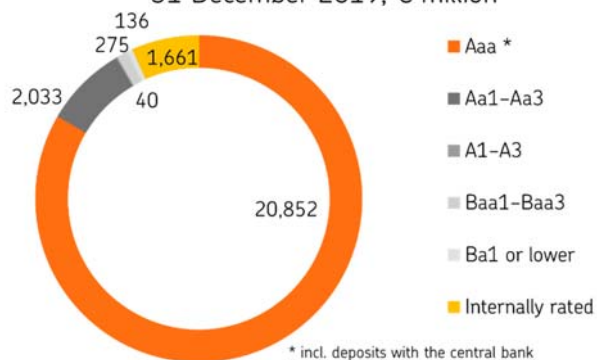
OP Financial Group monitors its long-term funding sufficiency, for example, by means of the Net Stable Funding Ratio, or NSFR, which measures structural funding risk. In regulation, no minimum requirement for the NSFR has been set as yet. Based on the present interpretations, OP Financial Group's NSFR was 112% (111).

Liquidity buffer

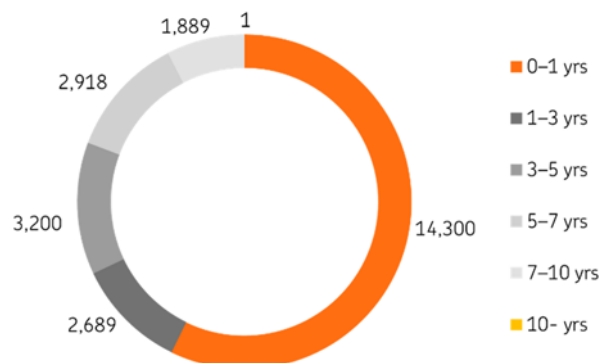
€ billion	31 Dec 2019	31 Dec 2018	Change, %
Deposits with central banks	11.9	12.2	-2.5
Notes and bonds eligible as collateral	11.1	9.2	20.9
Corporate loans eligible as collateral	0.0		
Total	23.0	21.4	7.6
Receivables ineligible as collateral	2.0	1.3	48.9
Liquidity buffer at market value	25.0	22.7	10.0
Collateral haircut	-0.8	-0.7	22.6
Liquidity buffer at collateral value	24.2	22.0	9.6

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

Financial assets included in the liquidity buffer by credit rating on 31 December 2019, € million



Financial assets included in the liquidity buffer by maturity on 31 December 2019, € million



For OP Corporate Bank plc acting as OP Financial Group's central financial institution, OP cooperative banks and OP Cooperative with its subsidiaries form a significant customer group. Of the aggregated exposures of the segments Other Operations and Corporate Banking, exposures of OP Financial Group represented 16.0%. These exposures increased during the financial year by EUR 131 million, or 1.1%. All exposures of OP cooperative banks and OP Cooperative are investment-grade exposures.

Other Operations exposures	31 Dec 2019	31 Dec 2018
Total Other Operations exposures*, EUR billion	36.7	48.2
Financial and insurance institutions' exposures, EUR billion	18.9	18.5
Public-sector entities' exposures, EUR billion	16.5	28.5
Corporate and housing company exposures, EUR billion	1.3	1.2
in the highest borrower grades, %	99.9	99.8
in other borrower grades, %	0.1	0.2

*Derivatives and FX Trading and bonds were transferred from the Other Operations segment to the Corporate Banking segment as of 1 January 2019. The comparative has been adjusted.

Financial performance by segment

OP Corporate Bank Group's business segments are Corporate Banking and Insurance. Non-business segment operations are presented in the Other Operations segment. Segment reporting is based on the accounting policies applied in OP Corporate Bank's consolidated financial statements.

Corporate Banking

- Earnings before tax decreased by 27.2% to EUR 262 million due to lower net investment income and higher impairment loss on receivables.
- Total income decreased by 3.0%. Net interest income increased by 9.7%. Net investment income fell by 28.9% as result of changes made in the valuation models of derivatives, changes in the valuation of credit and

counterparty risk (CVA) and lower capital gains than a year ago.

- Total expenses rose to EUR 220 million (180), of which ICT costs accounted for EUR 15 million. Excluding the transfer of the earnings-related pension liability a year ago, expenses increased by 3.9%.
- The loan portfolio increased in the year to December by 6.2% to EUR 23.7 billion.
- Impairment loss on receivables weakened earnings by EUR 51 million (12). Non-performing receivables accounted for 0.5% (0.4) of the loan and guarantee portfolio.
- The most significant development investments involved the development of finance and payment systems.

Key figures and ratios

€ million	Q1-4/2019	Q1-4/2018	Change, %
Net interest income	383	349	9.7
Net commissions and fees	11	21	-48.6
Net investment income	115	162	-28.9
Other operating income	26	19	33.9
Total income	536	552	-3.0
Personnel costs (excl. transfer of earnings-related pension liability)	58	62	-6.6
Transfer of statutory earnings-related pension liability		-32	
Depreciation/amortisation and impairment loss	14	16	-11.8
Other operating expenses	148	134	10.6
Total expenses	220	180	22.3
Impairment loss on receivables	-51	-12	
OP bonuses	-2		
Earnings before tax	262	361	-27.2
Cost/income ratio, %	41.1	32.6	8.5**
Ratio of non-performing receivables to loan and guarantee portfolio, %*	0.5	0.4	0.1**
Return on assets (ROA), %	0.91	1.30	-0.39**
Return on assets, excluding OP bonuses, %	0.92	1.30	-0.38**
	31 Dec 2019	30 Dec 2018	Change, %
Loan portfolio, € billion	23.7	22.3	6.2
Guarantee portfolio, € billion	3.1	2.6	20.4

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

**Change in ratio.

The Corporate Banking segment provides corporate and institutional customers with financing and cash management services and financing services for foreign trade. The services also range from the arrangement of debt issues, corporate finance, custody, equity, foreign exchange, money market and derivative products to investment research. OP Corporate Bank's branches and subsidiaries in Estonia, Latvia and Lithuania provide asset and sales finance solutions.

Corporate Banking's loan portfolio increased in the year to December by 6.2% to EUR 23.7 billion. The guarantee portfolio

totalled EUR 3.1 billion (2.6) and committed standby credit facilities amounted to EUR 4.2 billion (4.3). Demand for capital market products increased from the previous year.

During the financial year, OP extended the OP Car Finance service to also cover car sales between consumers. In car finance, OP launched OP Car Leasing for private individuals. OP Car Finance is granted by OP Corporate Bank plc.

In April, OP introduced incoming SEPA instant credit transfers to its customers that enable them to receive real-time SEPA instant

credit transfers from other financial institutions within the SEPA. In October, OP began to offer its customers both incoming and outgoing real-time SEPA instant credit transfers. The change will be carried out in stages in different channels.

In November, OP Corporate Bank plc was ranked the best bank in the Corporate Banking 2019 Finland survey conducted by Prospera among the mid-size companies category or those with net sales of EUR 0.5–1.5 billion.

Earnings

Earnings before tax decreased by 27.2% to EUR 262 million (361). Total income decreased by 3.0%. Total expenses increased by 22.3%, but when excluding the transfer of the earnings-related pension liability in the previous year, total expenses increased by 3.9%. The cost/income ratio weakened to 41.1% year on year (32.6).

Mainly as a result of an increase in the loan portfolio, net interest income grew by 9.7% to EUR 383 million (349). Net commissions and fees decreased to EUR 11 million (21). The decrease in net commissions and fees was affected by the increase in commissions paid to cooperative banks within OP Financial Group.

Net investment income totalled EUR 115 million, representing a decrease of 28.9% year on year. Net investment income a year ago was increased by EUR 15 million in a non-recurring capital gain. CVA valuation weakened the income by EUR 12 million whereas a year ago it improved the income by EUR 9 million. Changes made in the valuation models of derivatives reduced net investment income by EUR 25 million.

Other operating income was EUR 7 million higher than the year before. The increase in income was affected by income received from cooperative banks within OP Financial Group. Impairment loss on receivables was EUR 51 million (12). Non-performing receivables accounted for 0.5% (0.4) of the loan and guarantee portfolio.

Total expenses were EUR 220 million (180). Excluding the 32-million euro effect of the transfer of earnings-related pension liability a year ago, personnel costs decreased by EUR 4 million to EUR 58 million. Other operating expenses increased by EUR 14 million year on year. ICT costs were mainly increased by higher production costs.

Insurance

- Earnings before tax increased by 66.1% to EUR 200 million (120) due to higher capital gains on investments.
- Insurance premium revenue increased by 0.9% (excluding the Baltic business sold in 2018, it increased by 4.0%). The non-life insurance discount rate was decreased from 1.5% to 1.0%, which reduced net insurance income by EUR 136 million.
- Investment income totalled EUR 242 million (28), including the overlay approach. Net return on investments at fair value totalled EUR 96 million (14).
- The operating combined ratio was 92.7% (92.0) and operating risk ratio 65.1% (64.5). The operating cost ratio was 27.7% (27.4).
- Development investments focused on the development of electronic services and the core system upgrade initiated.

Key figures and ratios

€ million	Q1–4/2019	Q1–4/2018	Change, %
Insurance premium revenue	1,479	1,466	0.9
Claims incurred	1,077	917	17.4
Net insurance income	402	549	-26.7
Non-life insurance, net commissions and fees	-49	-53	-
Health and wellbeing, net commissions and fees	13	12	12.9
Net commissions and fees	-36	-41	-
Net investment income	308	9	-
Other net income	-4	6	-166.1
Total income	671	522	28.4
Personnel costs	125	124	0.9
Depreciation/amortisation and impairment loss	47	65	-27.8
Other operating expenses	230	230	0.4
Total expenses	403	419	-3.9
OP bonuses to owner-customers	-2	-2	-
Temporary exemption (overlay approach)	-66	19	-447.7
Earnings before tax	200	120	66.1
Return on assets (ROA), %	2.93	1.76	1.16*
Return on assets, excluding OP bonuses, %	2.96	1.79	1.16*
Operating combined ratio, %	92.7	92.0	
Operating risk ratio, %	65.1	64.5	
Operating cost ratio, %	27.7	27.4	

* Change in ratio.

The Insurance segment provides non-life insurance services through two companies operating in Finland. Pohjola Insurance Ltd is a general non-life insurance company and A-Insurance Ltd focuses on non-life insurance for commercial transport. Eurooppalainen Insurance Company Ltd, which specialises in travel insurance policies, merged with Pohjola Insurance Ltd on 31 October 2019. Non-life insurance products include non-life products sold to corporate and private customers. The Insurance segment also includes Pohjola Hospital Ltd which runs five hospitals.

OP Financial Group adopted the Pohjola brand in its non-life insurance business from 1 June 2019 when the business name of OP Insurance Ltd was changed to Pohjola Insurance Ltd. At the same time, the business name of Pohjola Health Ltd was changed to Pohjola Hospital Ltd.

Pohjola Hospital sharpened its strategy to focus on orthopaedics and sports clinic activities. As part of this change, Pohjola

Hospital sold its occupational healthcare service business to Mehiläinen on 1 June 2019.

Insurance premium revenue from both private and corporate customers increased during the financial year. Premium revenue increased by 4.0%, excluding premium revenue from the sold Baltic business included in the figure a year ago.

Customers have been satisfied with services provided by Pohjola Hospital. Among surgery customers, the NPS figure was 97 (96) in January–December.

Key development investments focused on the development of electronic transaction and purchase services and the core system upgrade initiated. A new 24/7 emergency service for managing

comprehensive motor vehicle insurance losses was launched for motor vehicle insurance policyholders.

Earnings

Earnings before tax amounted to EUR 200 million (120). Net insurance income decreased to EUR 402 million (549). The non-life insurance discount rate was decreased from 1.5% to 1.0%, which reduced net insurance income by EUR 136 million. The figure a year ago included EUR 16 million in net insurance income of the sold Baltic business.

The operating combined ratio was 92.7% (92.0). The operating ratios exclude amortisation on intangible assets arising from corporate acquisitions, and the changed discount rate.

Insurance premium revenue

€ million	Q1-4/2019	Q1-4/2018	Change, %
Private Customers	826	798	3.6
Corporate Customers	653	624	4.6
Baltics	-	44	
Total	1,479	1,466	0.9

Premium revenue increased by 4.0%, excluding premium revenue from the Baltic business included in the figure a year ago.

Claims incurred, excluding the reduction in the discount rate and the Baltic operations, increased by 5.6%. The reported number of new large claims under property and business liability insurance (in excess of EUR 0.3 million) amounted to 87 (96) in January–December, with their claims incurred retained for own account totalling EUR 80 million (107). Changes in the provision for outstanding claims under statutory pensions reduced earnings by EUR 4 million (1).

Changes in claims for previous years, excluding the effect of the discount rate change, improved the balance on technical account by EUR 24 million (42). The non-life insurance operating risk ratio excluding indirect loss adjustment expenses was 65.1% (64.5).

Expenses decreased by 3.9%, down EUR 16 million from a year ago. The figure a year ago included EUR 8.7 million in operating expenses of the sold Baltic business. The operating cost ratio (including indirect loss adjustment expenses) was 27.7% (27.4).

Investment

Investment income

€ million	Q1-4/2019	Q1-4/2018
At fair value through other comprehensive income	84	38
At fair value through profit or loss	249	-5
Amortised cost	1	2
Non-life insurance items	-27	-28
Associated companies	1	1
Net investment income	308	9
Overlay approach	-66	19
Total	242	28

Non-life insurance: key investment indicators

€ million	Q1-4/2019	Q1-4/2018
Net return on investments at fair value, € million*	96	14
Return on investments at fair value, %	8.4	0.1
Fixed-income investments' running yield, %	1.3	1.5
	31 Dec 2019	31 Dec 2018
Investment portfolio, € million	3,952	3,730
Investments within the investment grade category, %	92	94
A-rated receivables, minimum, %	61	62
Modified duration, %	4.0	4.3

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

Other Operations

- Earnings before tax were EUR –50 million (–42).
- Wholesale funding and liquidity costs decreased net interest income.
- Liquidity and access to funding remained good.

Key figures and ratios

€ million	Q1–4/2019	Q1–4/2018	Change, %
Net interest income	-64	-54	-
Net commissions and fees	-2	-1	-
Net investment income	26	27	-5.5
Other operating income	7	6	14.5
Total income	-33	-21	-
Personnel costs (excl. transfer of earnings-related pension liability)	1	7	-88.3
Transfer of statutory earnings-related pension liability		-2	-
Other expenses	17	14	18.2
Total expenses	18	20	-9.6
Impairment loss on receivables	0	-1	-
Earnings before tax	-50	-42	-
Receivables and liabilities from/to the amalgamation's central cooperative and member credit institutions, net position, € billion	-3.8	-1.2	-

Functions supporting OP Financial Group, such as Group Treasury and the liquidity buffer, are centralised within Other Operations. Other Operations is also responsible for the management of the funding and liquidity of member credit institutions and the central cooperative consolidated. It is also in charge of OP Financial Group's wholesale funding together with OP Mortgage Bank. Income generated by Other Operations derives mainly from net interest income and net investment income. The most significant risk categories are market risks and credit risk. In addition, income, expenses, investments and capital which have not been allocated to the business segments are reported under Other Operations.

Earnings

As of the beginning of the financial year, the OP Corporate Bank Group's internal operating model was changed by transferring fixed income and FX trading as well as bonds trading from the Other Operations segment to the Corporate Banking segment. In addition, two subsidiaries were transferred to the Insurance segment. Comparatives have been adjusted accordingly.

Earnings before tax amounted to EUR –50 million (–42). Earnings before tax at fair value were EUR –51 million (–146).

Wholesale funding and liquidity costs decreased net interest income over the previous year.

Net investment income totalled EUR 26 million (27). The earnings effect of EUR 16 million arising from early repayment between September and December of TLTRO II funding and the discontinuance of related fair value hedge accounting improved net investment income. Early repayment of funding totalled EUR 2.0 billion in September and EUR 2.0 billion in December. Net

investment income included EUR 7 million (20) in capital gains on notes and bonds and EUR –1 million (1) in dividend income.

OP Corporate Bank's access to funding remained good. OP Corporate Bank issued long-term senior bonds worth a total of EUR 1.2 billion between January and December. This included a senior unsecured green bond of EUR 500 million with a maturity of five years that OP Corporate Bank issued in the international capital market in February. The inaugural green bond was targeted at international responsible institutional investors. Proceeds raised with the green bond are allocated to sustainable corporate lending. Eligible sectors to be funded include renewable energy, green buildings and sustainable land use through sustainable forestry.

In June, OP Corporate Bank issued its first new senior non-preferred bond of EUR 500 million with a maturity of five years. In November, OP Corporate Bank issued a second senior non-preferred bond of EUR 500 million with a maturity of ten years. During the financial year, OP Corporate Bank issued new senior non-preferred bonds worth a total of EUR 1.2 billion. The senior non-preferred bonds meet the minimum requirement for own funds and eligible liabilities (MREL) of OP Financial Group set by the SRB.

In December, OP Corporate Bank participated in the third series of the ECB's targeted longer-term refinancing operations (TLTRO-III) with a total of EUR 2.0 billion.

In December 2019, the average margin of senior and senior non-preferred wholesale funding and TLTRO funding was 22 basis points (14). The new senior non-preferred bond issues increased the cost.

On 31 December 2019, investments by the amalgamation's central cooperative and the member credit institutions in OP Corporate Bank were EUR 3.8 billion higher than funding

borrowed by them from Group Treasury. The change in the net position was mainly due to OP Mortgage Bank's covered bond funding which results in higher volumes of OP cooperative banks' investments in Group Treasury than before.

Group restructuring

OP Corporate Bank plc has subsidiaries and branches offering banking services for corporate customers in Estonia, Latvia and Lithuania. OP Corporate Bank has assessed various strategic options in respect of Baltic banking. The assessment was completed during the first quarter, and OP Corporate Bank decided to continue its present banking operations in the Baltic countries.

Eurooppalainen Insurance Company Ltd merged into Pohjola Insurance Ltd. The execution of the merger was registered on 31 October 2019.

Pohjola Insurance Ltd and A-Insurance Ltd accepted a merger plan on 29 May 2019, according to which the latter will merge into the former. The Finnish Financial Supervisory Authority approved the merger on 10 December 2019. The planned date for registration of the merger is 31 March 2020.

OP Corporate Bank plc has transferred (business transfer) its securities custody, clearing and custodian business to its wholly owned OP Custody Ltd. The business transfer was executed on 1 November 2019.

The planned merger of OP Corporate Bank plc and Checkout Finland Ltd, a wholly owned subsidiary of OP Cooperative, was cancelled.

OP Corporate Bank Group is still making plans for restructuring under which the Non-life Insurance segment would be transferred from OP Corporate Bank to direct ownership of OP Cooperative. The specific manner or schedule to implement such restructuring has not yet been decided.

Corporate governance and management

OP Corporate Bank's management system is based on business segments. Management of OP Corporate Bank is part of OP Financial Group's management system.

On 19 March 2019, the Annual General Meeting (AGM) of OP Corporate Bank plc elected OP Financial Group's President and Group Executive Chair Timo Ritakallio as Chair of OP Corporate Bank's Board of Directors. As Board members, the AGM elected OP Financial Group's Chief Financial Officer Vesa Aho, OP Financial Group's Executive Vice President of Operations Tony Vepsäläinen, OP Financial Group's Chief Legal Officer and Group General Counsel Tiia Tuovinen and Helsinki Area Cooperative Bank's Managing Director Jarmo Viitanen.

The AGM re-elected KPMG Oy Ab, a firm of authorised public accountants, to act as OP Corporate Bank's auditor for the financial year 2019, with Juha-Pekka Mylén, APA, acting as the chief auditor, appointed by KPMG Oy Ab.

Tony Vepsäläinen and Tiia Tuovinen stepped down from the Board of Directors on 30 June 2019. Olli-Pekka Saario,

Managing Director of OP Turun Seutu, and Pasi Sorri, Managing Director of OP Keski-Suomi, were elected new members of the Board of Directors as of 1 July 2019.

OP Corporate Bank plc's Corporate Governance Statement is available at www.op.fi.

Personnel and remuneration

On 31 December 2019, the Group had 2,675 employees (2,507). During the financial year, personnel chiefly increased in Insurance, mainly as a result of OP Financial Group's internal reorganisation.

Personnel at year-end

	31 Dec 2019	31 Dec 2018
Corporate Banking	700	679
Insurance	1,947	1,791
Other Operations	28	36
Total	2,675	2,507

As a result of the Information and Consultation of Employees process regarding OP Financial Group's Corporate Banking and Insurance segments, which ended in October 2019, 300 jobs ceased to exist, while 185 new roles were created. The organisations that follow the new practices took effect on 1 January 2020.

The scheme for variable remuneration within OP Financial Group and OP Corporate Bank consists of short-term, company-specific remuneration and OP Financial Group-wide long-term remuneration. The long-term remuneration scheme for the entire OP Financial Group consists of a management incentive scheme and a personnel fund for other staff.

A long-term management remuneration scheme has been confirmed for 2017–2019. OP Financial Group's personnel fund remuneration scheme continues with one-year performance periods.

In drawing up the incentive schemes, OP has taken account of the regulation regarding the financial sector's remuneration schemes. As a rule, the remuneration scheme for 2017–2019 follows the principles observed during the previous three-year performance period.

OP Cooperative's Supervisory Board has set the following long-term target performance metrics: OP Financial Group's EBT, customer experience and growth in the use of mobile services (digital services). The Group-level targets are the same in the management incentive scheme and in OP Financial Group's Personnel Fund.

On 12 June 2019, the Supervisory Board of OP Financial Group's central cooperative decided that the remuneration scheme for all personnel be updated as of 2020. OP Financial Group's variable remuneration will comprise short-term remuneration and the personnel fund. Group-level strategic goal and targets are taken into account in the metrics of short-term remuneration and the personnel fund.

Corporate responsibility

OP Financial Group's core values and principles governing corporate responsibility also guide the operations of OP Corporate Bank.

OP Financial Group adheres to international economic, social and environmental responsibility principles. The Group is committed to promoting the principles of the United Nations Global Compact initiative. In 2019, OP Financial Group became a Founding Signatory of the Principles for Responsible Banking under the United Nations Environment Programme Finance Initiative (UNEP FI).

To promote diversity, OP Financial Group's objective is that the proportion of both genders in defined managerial positions is at least 40%. Women accounted for 26% (24) at the end of 2019.

The ESG (Environment, Social, Governance) analysis for corporate financing, developed in 2019, takes account of a wide range of environmental aspects based on the table of material aspects determined by OP Corporate Bank. The ESG analysis examines climate change as an overarching theme. Each analysis assesses a company's impact on climate change, the relevance of measures to mitigate climate change and the impacts of climate change on the company. If the company itself hasn't performed a systematic analysis of climate risks, or if the analysis should be complemented, OP Corporate Bank's ESG analysts will suggest improvements to the analysis as part of their work with the customer.

In February 2019, OP Corporate Bank issued an inaugural senior green bond of 500 million euros, which was targeted at international responsible institutional investors. Proceeds raised with the green bond are allocated to sustainable corporate lending. Eligible sectors to be funded include renewable energy, green buildings and sustainable land use through sustainable forestry.

OP Cooperative's Supervisory Board confirmed the new Group-level CR programme on 11 December 2019. The new programme is based on four key themes and commitments, which help us to pursue its goals:

- We improve financial literacy in Finland: We promote the management of personal finances and prosperity in all age groups.
- We foster a sustainable economy: We support sustainable development, and mitigating climate change and adapting to it.
- We support local vitality and communities: We provide jobs, promote physical activity, provide security, and create wellbeing in Finland. We promote local economic vitality.
- We use our information capital responsibly: We use customer data and artificial intelligence transparently, in the best interest of our customers. Accessibility and having the best customer experience are at the core of developing our services across all channels.

OP Financial Group's corporate responsibility reporting is based on GRI standards and it is available as part of OP's Annual Review at op-year2019.fi.

Joint and several liability

OP Corporate Bank plc is a member of the central institution (OP Cooperative) of an amalgamation, as referred to in the Act on the Amalgamation of Deposit Banks, and belongs to said amalgamation.

The amalgamation is formed by OP Corporate Bank, OP Cooperative as the central institution of the amalgamation, other companies belonging to the central institution's consolidation group, the central institution's member credit institutions and companies belonging to their consolidation groups, and credit institutions, financial institutions and service companies in which the abovementioned institutions jointly hold more than half of the voting rights. OP Corporate Bank Group's insurance companies are not members of the aforementioned amalgamation.

The member credit institutions within the amalgamation (147 OP cooperative banks, OP Corporate Bank plc, OP Mortgage Bank and OP Card Company Plc) and the central institution are jointly and severally liable for each other's debts. A creditor who has not received payment of an overdue amount (principal debt) may demand payment from the central institution when the principal debt falls due. In such a case, the central institution must produce a statement referred to in said Act, showing the amount of liability apportioned to each member credit institution. This liability between the credit institutions is determined in proportion to the total assets shown in their most recently adopted balance sheets.

The member credit institutions, including OP Corporate Bank plc, are obliged to participate in any necessary support measures aimed at preventing another member credit institution from going into liquidation, and to pay a debt for another member credit institution as referred to in section 5 of the Act on the Amalgamation of Deposit Banks.

Furthermore, upon default of the central institution, a member credit institution shall have unlimited refinancing liability for the central institution's debts as laid down in the Co-operatives Act.

The central institution supervises its member credit institutions as specified in the Act on the Amalgamation of Deposit Banks, confirms the operating principles referred to in section 5 of said Act with which it must comply, and issues instructions to the member credit institutions on capital adequacy and risk management, good corporate governance and internal control to secure liquidity and capital adequacy, as well as instructions on compliance with uniform accounting policies in the preparation of the amalgamation's consolidated financial statements.

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

OP Corporate Bank plc belongs to the Deposit Guarantee Fund and to the Investors' Compensation Fund.

Under the law governing the Deposit Guarantee Fund, deposit banks as members of the amalgamation of cooperative banks (including OP Corporate Bank plc) are regarded as a single bank

with respect to deposit guarantee. The Deposit Guarantee Fund reimburses a maximum total of 100,000 euros to an individual account holder who has receivables from deposit banks belonging to the amalgamation of cooperative banks.

Under the law governing the Investors' Compensation Fund, the amalgamation of the cooperative banks is considered to constitute a single credit institution in respect of investors' compensation. An investor's receivables are compensated up to a total maximum of 20,000 euros. The Fund does not cover losses incurred due to changes in the prices of securities or to wrong investment decisions. The Fund safeguards only retail investors' claims.

Deposit guarantee is the responsibility of the Financial Stability Authority operating under the Ministry of Finance.

Proposal by the Board of Directors for profit distribution

As shown in the financial statements of 31 December 2019, the company's distributable earnings, which include EUR 144,039,687.27 in profit for the financial year, totalled EUR 1,145,929,653.65. The company's distributable funds totalled EUR 1,477,310,490.71.

The Board of Directors proposes that no dividend be distributed and that the profit for the financial year 2019 is entered in the account of retained earnings/loss.

The company's financial position has not undergone any material changes since the end of the financial year 2019. The company has good liquidity.

Outlook for 2020

Risks in financial markets were seen to have been eased during the latter half of the year. Interest rates rose from the August bottom but remained lower than in early 2019. Stock prices continued their rise in the fourth quarter. Stock markets strengthened markedly during the year. The European Central Bank (ECB) cut the deposit rate from -0.4% to -0.5% in September and began in early November its asset purchases worth EUR 20 billion a month. The ECB announced that it would keep the main refinancing rate unchanged or lower until the inflation outlook is in line with the inflation target. Prolonged exceptionally low interest rates are a strain on financial institutions.

In 2020, the quality of the loan portfolio and demand for loans are expected to remain good and Non-life Insurance premium revenue is expected to remain at a healthy level. The most significant uncertainties affecting earnings relate to changes in the interest rate and investment environment, market growth rate, changes in the competitive situation, impairment loss on receivables and the effect of large claims on claims expenditure.

In 2020, full-year earnings estimates will only be provided at the OP Financial Group level, in its financial statements bulletin and interim reports.

All forward-looking statements in this Financial Statements Bulletin expressing the management's expectations, beliefs, estimates, forecasts, projections and assumptions are based on the current view of the future development in the operating environment and the future financial performance of OP Corporate Bank Group and its various functions, and actual results may differ materially from those expressed in the forward-looking statements.

Key income statement and balance sheet items

Key income statement items, € million	2017	2018	2019
Net interest income	259	274	295
Net insurance income	459	548	402
Net commissions and fees	-17	-23	-28
Net investment income	390	200	450
Other income	26	47	47
Personnel costs	164	159	184
Other expenses	404	452	448
Impairment loss on receivables	-12	-13	-51
OP bonuses to owner-customers	-2	-2	-4
Temporary exemption (overlay approach)		19	-66
Earnings before tax	535	439	412
Key balance sheet items – assets, € million			
Cash and cash equivalents	12,825	12,239	11,914
Receivables from credit institutions	9,294	9,726	9,126
Derivative contracts	3,426	3,663	4,874
Receivables from customers	20,120	22,351	23,829
Investment assets	15,506	16,353	17,174
Property, plant and equipment, and intangible assets	892	838	823
Other items	2,382	1,554	1,385
Total assets	64,445	66,725	69,126
Key balance sheet items – liabilities and equity, € million			
Liabilities to credit institutions	14,035	15,575	15,334
Derivative contracts	3,216	3,287	3,882
Liabilities to customers	18,837	16,422	15,503
Insurance liabilities	3,143	3,157	3,234
Debt securities issued to the public	16,791	20,338	22,726
Other liabilities	4,273	3,800	4,074
Shareholders' equity	4,149	4,147	4,374
Total liabilities and equity capital	64,445	66,725	69,126

Consolidated earnings by quarter

€ million	Q1/ 2019	Q2/ 2019	Q3/ 2019	Q4/ 2019	Q1-4/ 2019	Q1-4/ 2018
Net interest income	67	69	74	84	295	274
Net insurance income	109	158	131	3	402	548
Net commissions and fees	-5	-10	-2	-12	-28	-23
Net investment income	86	64	73	227	450	200
Other operating income	10	20	8	9	47	47
Total income	267	302	286	311	1,165	1,046
Personnel costs	46	51	41	46	184	159
Depreciation/amortisation and impairment loss	13	13	12	25	63	83
Other operating expenses	101	97	88	99	386	369
Total expenses	160	161	141	171	632	611
Impairment loss on receivables	-4	-9	3	-40	-51	-13
OP bonuses to owner-customers	-1	-1	-1	-1	-4	-2
Temporary exemption (overlay approach)	-38	-6	-3	-19	-66	19
Earnings before tax	64	124	143	81	412	439
Income tax	13	21	30	15	79	87
Profit for the period	51	103	113	65	332	352

Financial indicators

	2017	2018	2019
Return on equity (ROE), %	10.6	8.5	7.8
Return on equity at fair value (ROE), %	9.5	5.3	9.6
Return on assets (ROA), %	0.7	0.5	0.5
Equity ratio, %	6.4	6.2	6.3
Cost/income ratio, %	51.1	58.4	54.3
Average personnel	2,458	2,638	2,695
Share-related figures and ratios			
Equity per share, EUR	12.80	12.73	13.45
Dividend per share, EUR*	0.67	0.54	-
Dividend payout ratio, %*	49.7	49.9	-
Number of shares, year end	319,551,415	319,551,415	319,551,415

* Board proposal 2019

OP Cooperative holds all OP Corporate Bank plc shares. The number of shares did not change during the financial year.

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.

Alternative performance measures

Return on equity (ROE), %	$\frac{\text{Profit for the financial year}}{\text{Shareholders' equity (average of the beginning and end of the period)}} \times 100$
Return on equity (ROE), excluding OP bonuses, %	$\frac{\text{Profit for the financial year} + \text{OP bonuses after tax}}{\text{Shareholders' equity (average of the beginning and end of the period)}} \times 100$
Return on assets (ROA), %	$\frac{\text{Profit for the financial year}}{\text{Average balance sheet total (average of the beginning and end of the period)}} \times 100$
Return on assets (ROA), excluding OP bonuses, %	$\frac{\text{Profit for the financial year} + \text{OP bonuses after tax}}{\text{Average balance sheet total (average of the beginning and end of the period)}} \times 100$
Dividend payout ratio, %	$\frac{\text{Dividend per share}}{\text{Earnings per share}} \times 100$
Dividend per share	$\frac{\text{Dividends paid for the financial year}}{\text{Share-issue adjusted number of shares on the balance sheet date}}$
Equity per share	$\frac{\text{Shareholders' equity}}{\text{Share-issue adjusted number of shares on the balance sheet date}}$
Cost/income ratio, %	$\frac{\text{Total expenses}}{\text{Total income}} \times 100$
Investment income	Net investment income + Overlay approach
Ratio of non-performing receivables to loan and guarantee portfolio, %	$\frac{\text{Non-performing receivables (net)}}{\text{Loan and guarantee portfolio at end of financial year}} \times 100$
Coverage ratio, %	$\frac{\text{Loss allowance}}{\text{Receivables from customers (on-balance-sheet and off-balance-sheet items)}} \times 100$
Default capture rate, %	$\frac{\text{New defaulted contracts in stage 2 a year ago}}{\text{New defaulted contracts in financial year}} \times 100$

Non-life Insurance key ratios:

Operating loss ratio, %	$\frac{\text{Claims incurred excl. changes in reserving bases and amortisation on intangible assets arising from company acquisitions}}{\text{Insurance premium revenue, excl. net changes in reserving bases}} \times 100$
Operating expense ratio, %	$\frac{\text{Operating expenses}}{\text{Insurance premium revenue, excl. net changes in reserving bases}} \times 100$
Operating combined ratio, %	Operating loss ratio + operating expense ratio Operating risk ratio + operating cost ratio
Operational risk ratio (excl. unwinding of discount), %	$\frac{\text{Claims excl. loss adjustment expenses and changes in reserving bases}}{\text{Net insurance premium revenue, excl. net changes in reserving bases}} \times 100$

Operating cost ratio, % $\frac{\text{Operating expenses and loss adjustment expenses}}{\text{Net insurance premium revenue, excl. net changes in reserving bases}} \times 100$

Key indicators based on a separate calculation

Capital adequacy ratio, % $\frac{\text{Total capital}}{\text{Total risk exposure amount}} \times 100$

Tier 1 capital ratio, % $\frac{\text{Total Tier 1 capital}}{\text{Total risk exposure amount}} \times 100$

CET1 ratio, % $\frac{\text{CET1 capital}}{\text{Total risk exposure amount}} \times 100$

Solvency ratio, % $\frac{\text{Capital base}}{\text{Solvency capital requirement (SCR)}} \times 100$

Leverage ratio, % $\frac{\text{Tier 1 capital (T1)}}{\text{Exposure amount}} \times 100$

Liquidity coverage requirement (LCR), % $\frac{\text{Liquid assets}}{\text{Liquidity outflows – liquidity inflows under stressed conditions}} \times 100$

Net Stable Funding Ratio (NSFR), % $\frac{\text{Available stable funding}}{\text{Required stable funding}} \times 100$

Capital adequacy ratio under the Act on the Supervision of Financial and Insurance Conglomerates $\frac{\text{Conglomerate's total capital base}}{\text{Conglomerate's total minimum capital base}} \times 100$

Non-life insurance operating result

€ million	Q1–4/2019	Q1–4/2018	Change, %
Insurance premium revenue	1,478	1,465	0.9
Claims incurred	1,060	1,039	2.0
Operating expenses	311	308	0.9
Amortisation adjustment of intangible assets		18	
Balance on technical account	107	136	-20.8
Reduction in the discount rate	-136		
Net investment income	307	2	-
Other income and expenses	-23	-31	-
Earnings before tax	255	106	139.4
Temporary exemption (overlay approach)	-65	23	
Earnings before tax	190	130	46.6

The non-life insurance financial indicators are calculated using expenses by function applied by non-life insurance companies, which are not presented on the same principle as in the Consolidated Income Statement.

Consolidated financial statements, IFRS

Financial statements

Consolidated income statement

EUR million	Note	2019	2018
Net interest income	4	295	274
Net insurance income	5	402	548
Net commissions and fees	6	-28	-23
Net investment income	7	450	200
Other operating income	8	47	47
Total income		1,165	1,046
Personnel costs*	9	184	159
Depreciation/amortisation	10	63	83
Other expenses	11	386	369
Total expenses		632	611
Impairment of receivables	12	-51	-13
OP bonuses to owner-customers		-4	-2
Temporary exemption (overlay approach)	13	-66	19
Earnings before tax		412	439
Income tax expense	14	79	87
Profit for the period		332	352
Attributable to:			
Attributable to owners of the Parent		328	346
Attributable to non-controlling interest		5	7
Profit for the period		332	352

* OP Financial Group transferred the management of and the majority of the personnel's statutory earnings-related pension insurance and the related portfolio to Ilmarinen Mutual Pension Insurance Company at the end of 2018. The transfer reduced OP Corporate Bank Group's pension costs for 2018 and improved earnings before tax by EUR 34 million.

Consolidated statement of comprehensive income

EUR million	Note	2019	2018
Profit for the period		332	352
Items that will not be reclassified to profit or loss			
plans	31	-6	23
Items that may be reclassified to profit or loss			
Change in fair value reserve			
Measurement at fair value	33	35	-141
Cash flow hedge	33	0	-2
Temporary exemption (overlay approach)	33	66	-19
Translation differences		0	0
Income tax on other comprehensive income			
Items that will not be reclassified to profit or loss			
Gains/(losses) arising from remeasurement of defined benefit plans	25	1	-5
Items that may be reclassified to profit or loss			
Measurement at fair value	33	-7	28
Cash flow hedge	33	0	0
Temporary exemption (overlay approach)	33	-13	4
Total comprehensive income for the period		409	241
Attributable to:			
Total comprehensive income attributable to owners of the Parent		404	234
Total comprehensive income attributable to non-controlling interest		5	7
Total comprehensive income for the period		409	241

Consolidated balance sheet

EUR million	Note	31 Dec 2019	31 Dec 2018
Cash and cash equivalents	15	11,914	12,239
Receivables from credit institutions	16	9,126	9,726
Derivative contracts	17	4,874	3,663
Receivables from customers	18	23,829	22,351
Investment assets	19	17,174	16,353
Intangible assets	21	709	722
Property, plant and equipment (PPE)	22	114	117
Other assets	24	1,334	1,489
Tax assets	25	51	65
Total assets		69,126	66,725
Liabilities to credit institutions	26	15,334	15,575
Derivative contracts	27	3,882	3,287
Liabilities to customers	28	15,503	16,422
Insurance liabilities	29	3,234	3,157
Debt securities issued to the public	30	22,726	20,338
Provisions and other liabilities	31	2,148	1,897
Tax liabilities	25	452	421
Subordinated liabilities	32	1,474	1,482
Total liabilities		64,752	62,577
Equity capital	33		
Capital and reserves attributable to owners of the parent			
Share capital		428	428
Fair value reserve		70	-12
Other reserves		1,093	1,093
Retained earnings		2,710	2,559
Non-controlling interest	42	74	80
Total equity capital		4,374	4,147
Total liabilities and equity capital		69,126	66,725



Consolidated statement of changes in equity

EUR million	Attributable to owners					Non-controlling interests	Total equity
	Share capital	Fair value reserve*	Other reserves	Retained earnings	Total		
Balance at 31 December 2017	428	164	1,093	2,404	4,089	60	4,149
Effect of IFRS 9 transition at 1 January 2018		-46		2	-45		-45
Equity at 1 January 2018	428	118	1,093	2,406	4,044	60	4,104
Total comprehensive income for the period		-129		364	234	7	241
Profit for the period				346	346	7	352
Other comprehensive income		-129		18	-111		-111
Profit distribution				-211	-211	-13	-224
Other			0	0	0	26	26
Balance at 31 December 2018	428	-12	1,093	2,559	4,067	80	4,147

EUR million	Attributable to owners					Non-controlling interests	Total equity
	Share capital	Fair value reserve*	Other reserves	Retained earnings	Total		
Equity at 1 January 2019	428	-12	1,093	2,559	4,067	80	4,147
Total comprehensive income for the period		81		323	404	5	409
Profit for the period				328	328	5	332
Other comprehensive income		81		-5	77		77
Profit distribution				-173	-173	-11	-184
Other			0	0	0	1	1
Balance at 31 December 2019	428	70	1,093	2,710	4,299	74	4,374

* Note 33

Consolidated cash flow statement

EUR million	Note	2019	2018
Cash flow from operating activities			
Profit for the period		332	352
Adjustments to profit for the period		249	-124
Increase (-) or decrease (+) in operating assets		-1,482	-2,656
Receivables from credit institutions	16	471	-66
Derivative contracts	17	-53	-89
Receivables from customers	18	-1,503	-2,264
Investment assets	19	-433	-381
Other assets	24	36	144
Increase (+) or decrease (-) in operating liabilities		-1,110	-1,027
Liabilities to credit institutions	26	-414	1,470
Derivative contracts	27	5	-7
Liabilities to customers	28	-918	-2,415
Insurance liabilities	29	-14	58
Provisions and other liabilities	31	231	-133
Income tax paid		-53	-85
Dividends received		32	39
A. Net cash from operating activities		-2,032	-3,500
Cash flow from investing activities			
Disposal of subsidiaries, net of cash disposed		0	67
Purchase of PPE and intangible assets	21.22	-42	-45
Proceeds from sale of PPE and intangible assets	21.22	4	1
B. Net cash used in investing activities		-39	23
Cash flow from financing activities			
Decreases in subordinated liabilities	32		-50
Increases in debt securities issued to the public	30	27,587	27,007
Decreases in debt securities issued to the public	30	-25,795	-23,489
Dividends paid		-173	-211
Lease liabilities	23	-3	
C. Net cash provided by (used in) financing activities		1,617	3,258
Net increase/decrease in cash and cash equivalents (A+B+C)		-453	-219
Cash and cash equivalents at year-start		13,355	13,575
Cash and cash equivalents at year-end		12,902	13,355
Interest received		1,097	1,189
Interest paid		763	-914

EUR million	2019	2018
Adjustments to profit for the financial year		
Non-cash items and other adjustments		
Impairment losses on receivables	51	13
Unrealised net earnings in insurance operations	124	28
Change in fair value for trading	165	-139
Unrealised net gains on foreign exchange operations	-31	-34
Change in fair value of other investments	-166	-84
Defined benefit pension plans		-34
Depreciation/amortisation	63	83
Share of associates' profits	-1	-1
Income tax paid	53	85
Dividends received	-32	-39
Other	23	13
Items presented outside cash flow from operating activities		
Capital gains, share of cash flow from investing activities		-17
Total adjustments	249	-124
Cash and cash equivalents		
Liquid assets	15	11,914
Receivables from financial institutions payable on demand		988
Total	12,902	13,355

Segment reporting

At its meeting on 6 June 2018, the Supervisory Board of OP Financial Group's central cooperative decided on a new division of responsibilities of the central cooperative's Executive Management Team, which changed the segment structure as of the beginning of 2019. In its interim reports and financial statements, OP Corporate Bank began financial reporting based on its new segments as of the first interim report of 2019. The 2018 segment information has been restated to correspond to the new segments.

OP Corporate Bank Group's business segments are Corporate Banking and Insurance. Non-business segment operations are presented under the Other Operations segment. Segment reporting conforms to the Group's accounting policies applied to the consolidated financial statements. Defining segments and presentation are based on management reporting. The segments' earnings and profitability are assessed in terms of EBT.

Corporate Banking

Corporate Banking provides corporate and institutional customers with financing and cash management services and financing services for foreign trade. The services also range from the arrangement of debt issues, corporate finance services, custody, equity, foreign exchange, money market and derivative products to investment research. OP Corporate Bank's branches and subsidiaries in Estonia, Latvia and Lithuania provide asset and sales finance solutions. Net income derives mainly from net interest income, commissions and fees, and net investment income. 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.

Insurance

The Insurance segment provides non-life insurance services through two companies operating in Finland. Pohjola Insurance Ltd is a general non-life insurance company and A-Insurance Ltd focuses on non-life insurance for commercial transport. Non-life insurance products include non-life products sold to corporate and private customers. Net income generated by Insurance derives mainly from net insurance income and net investment income. The most significant risks in non-life insurance pertain to underwriting risks and investment risks.

The Insurance segment also includes Pohjola Hospital Ltd which runs five hospitals. The hospitals focus on orthopaedics and sports clinic services. Pohjola Hospital's earnings come from doctor's fees and billing for treatment and diagnostics.

Risks related to statutory defined benefit pension plans for the Group's personnel only affect the Insurance segment. However, the related risk level is moderate.

Other Operations

Functions supporting OP Financial Group and its business, such as Group Treasury and the liquidity buffer, have been centralised within Other Operations. Other Operations is also responsible for the management of the funding and liquidity of member credit institutions and the central cooperative consolidated. It is also in charge of OP Financial Group's wholesale funding together with OP Mortgage Bank. Net income generated by Other Operations derives mainly from net interest income and net investment income. The most significant risk categories are market risks and credit risk. In addition, income, expenses, investments and capital which have not been allocated to the business segments are reported under Other Operations.

Segment accounting policies

Segment reporting conforms to the Group's accounting policies applied to the consolidated 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'.

Segment capitalisation is based on OP Financial Group's capital adequacy measurement in accordance with the Act on Credit Institutions. Capital requirements according to capital adequacy measurement are allocated among the business segments. Capital has been allocated to the Corporate Banking segment in such a way that the CET1 ratio is 22% (21). Capital has been allocated to the Insurance segment in such a way that the segment's solvency ratio (SII) is 120% (120). Capital allocation has an effect on the Group's internal interest amounts paid by the segment concerned. The allocation of equity capital to the business segments is carried out through OP Financial Group's Treasury under other operations, which means that any earnings effect of equity capital differing from the target level is shown under Other Operations.

Earnings 2019, EUR million	Corporate Banking	Insurance	Other operations	Group eliminations	Group total
Net interest income	383	-19	-64	-5	295
- of which internal net income before tax	-3	-14	17		
Net insurance income		402		-1	402
Net commissions and fees	11	-36	-2	-1	-28
Net investment income	115	308	26	1	450
Other operating income	26	16	7	-2	47
Total income	536	671	-33	-8	1,165
Personnel costs	58	125	1	0	184
Depreciation/amortisation and impairment losses	14	47	1	0	63
Other operating expenses	148	230	16	-8	386
Total expenses	220	403	18	-8	632
Impairments loss on receivables	-51	0	0		-51
OP bonuses to owner-customers	-2	-2			-4
Temporary exemption (overlay approach)		-66			-66
Earnings before tax	262	200	-50		412

Net income from the Baltic countries came to EUR 11 million.

Earnings 2018, EUR million	Corporate Banking	Insurance	Other operations	Group eliminations	Group total
Net interest income	349	-17	-54	-4	274
- of which internal net income before tax	-1	-12	13		
Net insurance income		549		-1	548
Net commissions and fees	21	-41	-1	-1	-23
Net investment income	162	9	27	1	200
Other operating income	19	23	6	-2	47
Total income	552	522	-21	-7	1,046
Personnel costs	30	124	5	0	159
Depreciation/amortisation and impairment losses	16	65	2	0	83
Other operating expenses	134	230	12	-7	369
Total expenses	180	419	20	-7	611
Impairments loss on receivables	-12	0	-1		-13
OP bonuses to owner-customers		-2			-2
Temporary exemption (overlay approach)		19			19
Earnings before tax	361	120	-42		439

Net income from the Baltic countries came to EUR 10 million.

Balance sheet 31 December 2019, EUR million	Corporate Banking	Insurance	Other operations	Group eliminations	Group total
Cash and cash equivalents	19	617	11,891	-613	11,914
Receivables from credit institutions	124	12	9,023	-33	9,126
Derivative contracts	4,384	23	468	0	4,874
Receivables from customers	24,502	0	111	-784	23,829
Investment assets	1,005	3,503	12,699	-34	17,174
Intangible assets	45	645	19		709
Property, plant and equipment (PPE)	1	111	2		114
Other assets	339	684	321	-10	1,334
Tax assets	0	11	40		51
Total assets	30,418	5,606	34,576	-1,474	69,126
Liabilities to credit institutions	757		15,361	-784	15,334
Derivative contracts	3,657	38	195	-8	3,882
Liabilities to customers	11,349	136	4,664	-646	15,503
Insurance liabilities		3,234			3,234
Debt securities issued to the public	1,441		21,318	-34	22,726
Provisions and other liabilities	764	388	998	-2	2,148
Tax liabilities	2	95	355	0	452
Subordinated liabilities	9	135	1,329		1,474
Total liabilities	17,979	4,026	44,221	-1,474	64,752
Equity					4,374

Net assets from the Baltic countries came to EUR 44 million.

Balance sheet 31 December 2018, EUR million	Corporate Banking	Insurance	Other operations	Group eliminations	Group total
Cash and cash equivalents	19	249	12,199	-227	12,239
Receivables from credit institutions	116	15	9,614	-18	9,726
Derivative contracts	3,448	32	185	-3	3,663
Receivables from customers	23,009	0	21	-679	22,351
Investment assets	878	3,633	11,878	-35	16,353
Intangible assets	52	646	23		722
Property, plant and equipment (PPE)	0	114	2	0	117
Other assets	-180	749	1,116	-197	1,489
Tax assets	0	12	53		65
Total assets	27,341	5,451	35,092	-1,159	66,725
Liabilities to credit institutions	606		15,647	-679	15,575
Derivative contracts	3,025	11	259	-9	3,287
Liabilities to customers	11,442	136	5,089	-246	16,422
Insurance liabilities		3,157			3,157
Debt securities issued to the public	1,011		19,362	-34	20,338
Provisions and other liabilities	609	561	919	-192	1,897
Tax liabilities	1	67	353	0	421
Subordinated liabilities	-24	135	1,371		1,482
Total liabilities	16,670	4,067	43,000	-1,159	62,577
Equity					4,147

Net assets from the Baltic countries came to EUR 34 million.

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Note 1. OP Corporate Bank Group's Accounting Policies

General information

OP Corporate Bank Group (OP Corporate Bank) is the leading non-life insurer and ranks among the leading corporate banks in Finland. OP Corporate Bank has a well-established and broad customer base consisting of companies and institutions to which it provides an extensive range of banking and non-life insurance services. In addition, it provides private customers with non-life insurance services. OP Corporate Bank also acts as the central bank for OP Financial Group's cooperative banks.

OP Corporate Bank plc belongs to OP Financial Group, which consists of 147 cooperative banks and their central cooperative, OP Cooperative, with its subsidiaries. OP Financial Group's member credit institutions comprise OP Corporate Bank plc, Helsinki Area Cooperative Bank, OP Card Company Plc and OP Cooperative's member cooperative banks.

In accordance with the Act on the Amalgamation of Deposit Banks, the member credit institutions, OP Corporate Bank included, and OP Cooperative are ultimately jointly and severally liable for each other's debts and commitments. If a member credit institution's own capital is depleted to such a low level owing to losses that the criteria, specified in the Act, for being placed in liquidation are fulfilled, OP Cooperative has the right to collect from its member credit institutions extra contributions on the basis of the combined balance sheets previously adopted.

OP Corporate Bank is domiciled in Helsinki and the address of its registered office is Gebhardinaukio 1, FI-00510 Helsinki. The postal address of its registered office is P.O. Box 308, FI-00013 OP. A copy of OP Corporate Bank's consolidated financial statements is available at www.op.fi or the Company's registered office.

OP Corporate Bank plc's parent company is OP Cooperative and OP Corporate Bank's consolidated accounts are included in its consolidated financial statements.

Copies of the financial statements of OP Cooperative are available at the following address: Gebhardinaukio 1, FI-00510 Helsinki. OP Financial Group's financial statements are available at www.op.fi or the company's registered office at Gebhardinaukio 1, FI-00510 Helsinki.

The Board of Directors of OP Corporate Bank approved the consolidated financial statements bulletin for issue on 4 February 2020 and the Board of Directors approved the financial statements on 4 February 2020.

1 Basis of preparation

These consolidated 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 2019. 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 Corporate Bank's notes also conform to the requirements of Finnish accounting and company legislation that complement IFRS regulations.

In 2019, OP Corporate Bank adopted the following standards and interpretations:

- IFRS 16 Leases as of 1 January 2019. OP Financial Group applied a retrospective approach in the transition to a limited extent, in which case comparatives were not restated and any accrued transition effect were recognised in adjustments to retained earnings in equity on 1 January 2019. The effects of the transition to IFRS 16 are presented in Note 3. Changes in accounting policies and presentation.
- In September 2019, the IASB published a document entitled Interest Rate Benchmark Reform that amended IFRS9, IAS 39 and IFRS 7. The European Union adopted the amendments on 15 January 2020 and they are effective for accounting periods beginning on or after 1 January 2020. Earlier application is allowed. OP Corporate Bank Group already applied amendments to IAS 39 during the financial year 2019. The effects of the transition are presented in Note 3. Changes in accounting policies and presentation.
- Annual improvements to IFRS for cycles 2015–2017 (applicable mainly to accounting periods beginning on or after 1 January 2019). Minor amendments are annually made to standards through the Annual Improvements process. The effects of the amendments vary by standard but they are not significant.
- Amendment to IFRS 9 Financial Instruments as of 1 January 2019: "Prepayment features with negative compensation". This amendment enables entities to measure at amortised cost some prepayable financial assets with so-called negative compensation. The amendment did not have any major effect on OP Corporate Bank's financial statements.
- A new IFRIC interpretation 23 that became effective on 1 January 2019. The amendment did not have any major effect on OP Corporate Bank's financial statements.

OP Corporate Bank 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.

The financial statements are presented in millions of euro. 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.

OP Corporate Bank Group presents Pillar III disclosures in compliance with EU Regulation No. 575/2013 of the European Parliament and of the Council in a separate OP Amalgamation Capital Adequacy Report. A summary of capital adequacy is presented in OP Corporate Bank Group's financial statements.

2 Use of estimates

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. Section 18 "Critical accounting estimates and judgements" provides more detailed information on applying accounting policies requiring management assessment and judgement.

3 Consolidation principles

The Consolidated Financial Statements contain the parent company OP Corporate Bank plc and any subsidiaries that the parent company controls. OP Corporate Bank Group has control over a company if it is exposed, or has rights, to variable returns from its involvement with the company and has the ability to affect those returns through its power over the company (including structured entities). Most of the subsidiaries are wholly owned by the Group, which means that control is based on votes.

OP Corporate Bank both 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 consolidated financial statements when the Group's control is not based on votes but the control of significant operations, exposure to varying income from the fund, and organising the fund's management. Changes in control concerning various fund investments consolidated into the 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 the Group ceases to have control, any retained interest in the company 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 fund are accounted for as if the 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 shareholding has 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, in which OP Corporate Bank holds 20–50% of voting shares and over which OP Corporate Bank exercises significant influence but not control, are accounted for using the equity method. 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. If the 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 the 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.

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 the Group has rights to the arrangement's net assets, while in a joint operation the Group has both rights to assets and obligations for the liabilities relating to the arrangement. Property companies are incorporated into OP Corporate Bank Group's financial statements as joint operations by consolidating the proportionate share of the 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 the 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 consolidated financial statements.

3.1 Non-controlling interests

Profit for the financial year attributable to the owners of the parent 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 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

The consolidated 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.

5 Financial instruments

5.1 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.

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. Markets are 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, 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 or a shorter period taking account of the product's structure and counterparty. 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 Corporate Bank's balance sheet.

5.2 Financial assets and liabilities

5.2.1. 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, the central cooperative consolidated shall estimate 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 office 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 Corporate Bank 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 Corporate Bank 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, OP Financial Group 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).

5.2.2. Initial recognition and measurement

At initial recognition, OP Corporate Bank 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.

5.3 Classification and subsequent measurement of financial assets

OP Corporate Bank classifies financial assets into the following categories:

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

5.3.1 Loans and notes and bonds

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

- a) OP Corporate Bank's business model for managing the financial assets
- b) The contractual cash flow characteristics of the financial asset.

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

- 1) Financial assets measured at amortised cost shall be 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.

Business model

A business model refers to how OP Corporate Bank manages its financial assets in order to generate cash flows. OP Corporate Bank'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 Corporate Bank 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 Corporate Bank holds corporate loans it has granted to collect contractual cash flows. For example, the objective of the business model of OP Corporate Bank'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 Corporate Bank's operations. OP Cooperative's Board of Directors decides on changes in the business model. The business model changes in case OP Corporate Bank 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.

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.
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Cash flow characteristics

When OP Corporate Bank's business model is other than trading, OP Corporate Bank 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 Corporate Bank's financial assets are basic lending arrangements.

All loans to private customers and some corporate loans granted by OP Corporate Bank 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 par amount and accrued (but unpaid) contractual interest, which may include reasonable additional compensation for the early termination of the contract.

OP Corporate Bank Group uses Bloomberg's 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 the Group reviews the cash flow characteristics using OP's 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 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 Corporate Bank 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.

5.3.2 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 equity investments.

Equity instruments are subsequently measured at fair value through profit or loss.

5.3.3 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. In such a case, a concession resulting from weaker repayment capacity has to be given to the loan terms – such as a repayment holiday – for a limited period. 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. Modifications in payment terms are subject to regular monitoring and reporting to the management as an indicator anticipating customers' solvency.

If modifications to the loan terms are significant or the loan is renegotiated, OP Corporate Bank 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 Corporate Bank 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 Corporate Bank 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.

5.3.4 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 Corporate Bank may designate 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.

5.3.5 Overlay approach

Equity instruments and mutual fund investments related to OP Financial Group's non-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 equity. The Group will stop applying the overlay approach at the latest when IFRS 17 Insurance Contracts becomes effective. 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 can not yet be measured at fair value through profit or loss in accordance with IFRS 17.

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.

5.4 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. Expected credit losses are recognised at each reporting date, reflecting:

- a) an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes
- b) the time value of money and
- c) 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.

5.4.1 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: defaulted contracts for which a lifetime ECL is also calculated.

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

Definition of default

In the IFRS 9 based calculation, OP Corporate Bank applies the same definition of default as in internal credit risk models (IRB). OP Corporate Bank assesses default using its internal rating system based on payment behaviour. Default as definition for private customers is applied on a contract-by-contract basis whereas corporate customers are reviewed in terms of a group of connected clients. A customer is classified as a default customer when it is probable that the customer will not pay their loan obligations in full without OP Corporate Bank resorting to measures (e.g. realisation of collateral) or no later than when payment related to financial assets is more than 90 days past due.

The definition of default is based on Article 178 of Regulation No. 575/2013 (CRR) of the European Parliament and of the Council.

The customer's default ends when it no longer meets the criteria for the definition of default. After that, the payment behavioural category will be restored with a delay of 6 months.

Significant increase in credit risk

The expected credit losses are 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 whether the credit risk has increased significantly. Forbearance is regarded as a qualitative criterion. Other qualitative factors consist of various credit risk indicators (e.g. breach of covenants) to be taken into account in credit rating models or in the assessment of the payment behavioural category.

OP Corporate Bank has included relative and absolute thresholds for the determination of significant quantitative increases in credit risk considering all reasonable 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 private customers 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 borrower 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 borrower grades.

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 or forbearance has been granted on the loan.

In the assessment of a significant increase in credit risk, OP Corporate Bank 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 Corporate Bank 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.

5.4.2 Measurement methods

Expected credit losses are mainly measured on a system basis using the PD/LGD method on a contract-specific basis for all private 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.

5.4.2.1 PD/LGD method

Expected credit losses are calculated 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. 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 measurement.

The lifetime probability of default (lifetime PD) models for a contract have been prepared separately for private customers and corporate customers. The PD models are substantially

affected by the contract's credit rating, loan age (private customers) as well as the model's sub-segment, which is determined for corporate customers on the basis the rating model and for private customers on the basis of the product type. In addition, PD estimates are dependent on macroeconomic factors and their forecasts in each scenario.

The lifetime LGD consists of the following three components: 1) cure rate, 2) collateral return and 3) non-collateral return. The values of the different components depend substantially on the product type, industry (companies) and the type of collateral. 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 borrower grade, averaging some 15 years.

Forward-looking information

The calculation model includes forward-looking information and macroeconomic scenarios. OP Corporate Bank's economists update macroeconomic scenarios on a quarterly basis and the scenarios are the same that OP Corporate Bank uses otherwise in its financial annual planning. Macroeconomic forecasts span five years and have been extrapolated for up to 30 years ahead using a production function. The macroeconomic factors used are: GDP growth, unemployment rate, investment growth rate, inflation rate, change in income level and 12-month Euribor rate. In addition, the house price index is used in LGD models. Three scenarios are used: baseline, upside and downside. Scenarios also include probability weights.

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 Corporate Bank 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 Corporate Bank's best view of potential scenarios and outcomes.

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

For the largest corporate exposures in stage 3 within the R rating model, the ECL is calculated as an expert assessment using the cash flow based customer-specific ECL method. Such expert assessment 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 assessment 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.

5.4.3 Impairment of notes and bonds

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

OP Corporate Bank avails itself of two separate models in the calculation of the expected credit loss on notes and bonds, with the primary model being the Bloomberg tool. For the bonds that the Bloomberg tool does not support on each ECL measurement date, the Group uses OP's own tool based on credit rating information.

5.4.3.1 Bloomberg tool

Expected credit losses are calculated using the formula $PD \times LGD \times EAD$ for all portfolios per purchase lot and they reflect expectations of future credit losses at the reporting date.

In the case of listed companies, OP Corporate Bank Group uses the Merton distance-to-default (DD) model as the basis for probability of default (PD), whose outcome will be converted into the PD value based on the model's historical outcome. The figure is adjusted with indicators from companies' financial statements data describing the strength of the balance sheet, liquidity risk and earnings power. These indicators have, in turn, been normalised according to the estimated effect of off-balance-sheet items.

In the case of private companies, PD modelling is based on financial indicators collected from their financial statements and on the average risk modelled for the sector.

The definition of default is consistent with that required by international regulators, covering bankruptcy, non-payment, distressed exchanges and government bail-out.

The cure rate in the LGD model is based on historical realised recovery rates of default bonds. The cure rate is defined as the trading price of the defaulted bond. It takes account of payment rank, issuer's creditworthiness, nature of the industry, credit cycle, type of collateral, region etc.

5.4.3.2 Model 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. The Group primarily uses the averages of external credit rating and secondarily internal credit rating, 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 correspondence is based on, is comprehensive and on a long-term basis. The LGDs also correspond to the studied historical actuals by investment class/collateral type and these are not separately assessed by 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.

5.4.3.3 Classification of notes and bonds into impairment stages

In both calculation models, a significant increase in credit risk is identified by means of consistent criteria as in transfers to stage 3.

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.

5.4.4 Impairment of off-balance-sheet items

Several products provided by OP Corporate Bank 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 Corporate Bank 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 Corporate Bank 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 Corporate Bank'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 Corporate Bank has a contractual ability to demand repayment and cancel the undrawn commitment but it does not limit OP Corporate Bank's exposure to credit losses during the contractual notice period.

5.4.5 Recognition of expected credit losses

The Group mainly recognises a loss allowance for expected credit losses on a loan 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 Corporate Bank 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.

5.4.6 Write-off

A write-off constitutes a derecognition event. When the Group has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof, it 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. Payments received after the derecognition are recognised as an adjustment to impairment losses on receivables.

5.5 Cash and cash equivalents

Cash and cash equivalents consist of cash and receivables from credit institutions repayable on demand.

5.6 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 the counterparty which have been sold but which are not owned at the time of selling (short selling).

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

OP Corporate Bank 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 Corporate Bank 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 Corporate Bank has not made any exchanges of financial liabilities for the existing financial liabilities.

5.7 Netting

Financial assets and liabilities are offset in the balance sheet if OP Corporate Bank 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. OTC interest rate derivatives for central counterparty clearing are offset in the balance sheet, which are cleared in the daily clearing process with London Clearing House or ICE Clear Europe. The settled-to-market (STM) or collateralized to market (CTM) approach is used as a settlement accounting method.

5.8 Derivative contracts

Derivative contracts are classified as hedging derivative contracts and derivative contracts held for trading, containing interest rate, currency, equity, commodity and credit derivatives. Derivatives are measured at fair value at all times.

The fair value of OTC interest rate derivatives for central counterparty clearing is cleared in cash on a daily basis. In the balance sheet, these cleared derivatives are netted and shown as a net change in cash and cash equivalents. 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.

The Group's Risk Management 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, the Group can hedge against interest rate risk, currency risk and price risk by applying fair value hedge or cash flow hedge. Cash flow hedging refers to hedging against changes in future cash flows and fair value hedging refers to hedging against changes in the fair value of the hedged asset.

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. The Group's parent company, OP Corporate Bank plc, also enters into derivative contracts which are in fact used to hedge against financial risks but which do not fulfil these criteria.

5.8.1 Hedging derivatives

OP Corporate Bank 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 Corporate Bank 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 Corporate Bank, the hedgeable risk categories are fair value and cash flow interest rate risks as well as 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 Corporate Bank also enters into derivative contracts which are in fact used to hedge against financial risks but which do not fulfil these criteria.

5.8.2 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.

5.9 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.

The relationship between hedging and hedged instruments is formally documented, containing information on risk management principles, 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 highly 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 Group 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 Corporate Bank's hedging relationship. OP Corporate Bank 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 Corporate Bank applies hedge accounting based on IAS 39 and the related changes caused by the Interest Rate Benchmark Reform.

OP Financial Group set up a Reference Interest Rate Committee tasked with monitoring the progress of the Interest rate Benchmark Reform and its effects on OP Corporate Bank too. OP Financial Group has made a business continuity plan required by the Benchmarks Regulation that determines a substitute rate for contracts if no reference rates are not available or where the existing contract terms by product are identified. The plan is updated as the Reform progresses. OP Corporate Bank will adopt reformed reference rate 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 markets to replace IBORs.

5.9.1 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 Corporate Bank applies the fair value portfolio hedging model to hedging interest rate corridor loans. The 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 equity fund investments.

Changes in the fair value of derivative contracts that are documented as hedging the fair value and are highly effective hedges 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. 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.

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 makes it possible to the market participants to continue using the Euribor after 1 January 2020, covering both the existing and new contracts. OP Corporate Bank expects that the Euribor will remain a reference interest rate in the future too and does not expect to change the risk to be hedged to a second reference rate. For these reasons, OP Corporate Bank does not consider that the reference rate change would directly affect fair value hedges where the Euribor is the reference rate.

5.9.2 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 hedging is used to hedge the future interest flows of the loans defined on the basis of reference interest rate linkage. Interest rate swaps are used as hedging instruments, for example.

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.

OP Corporate Bank 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. However, the duration of cash flow hedges exceeds one day, when the EONIA rate is no longer published but is replaced with the new €STR. The new reference rate is also expected to be replaced with the LIBOR. This transition and the new reference rate still involve uncertainty that may later affect the hedging relationship

effectiveness or the assessment of the highly probable term. In respect of cash flow hedges either, OP Corporate Bank does not see that the Reform would cause any uncertainty with timing or Euribor cash flows on the reporting date of 31 December 2019.

6 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 the consolidated balance sheet.

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 under Net investment income in the income statement.

If no comparable market data is available on the actual transaction prices of the property comparable with the property under review, the 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 Corporate Bank 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 it 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, the 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 Corporate Bank Group's internal expertise. In the fair value of undeveloped plots, OP Corporate Bank 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.

7 Intangible assets

7.1 Goodwill

For business combinations, the 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 the 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 the 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 Corporate Bank reorganises its internal reporting structure, goodwill is allocated to the cash-generating units 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.

7.2 Testing goodwill for impairment

The cash-generating unit to which goodwill has 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 Corporate Bank 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. Any excess 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 continuous strategy process based on the guidelines for OP Financial Group's development confirmed by the Supervisory Board of OP Cooperative and the related derived expectations of the future development of businesses.

7.3 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 Corporate Bank Group's acquired customer relationships is 10–15 years.

7.4 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 Corporate Bank'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 Non-life Insurance plus an asset-specific risk premium or 3%. The testing period of the brands has been determined to be five years under IAS 36.

7.5 Other intangible assets

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

Expenditure on the development of internally-generated intangibles (software) is capitalised starting from the time when the software is found to generate future economic benefits. The capitalised expenditure includes, for example, licence fees, purchased services, other external costs related to projects and in-house 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.

7.6. Software as a service (SaaS)

The SaaS development costs are recognised in prepayments under other assets. The amount capitalised in prepayments is a project that is performed before the service provider is able to produce the service. The other party has control in SaaS and it is not capitalised as an intangible asset. Prepayment costs are spread over the contract period from the date when the asset is ready for use. Purchased services and other project-related external costs, among other things, are entered in prepayments.

8 Property, plant and equipment

Property, plant and equipment (PPE) assets are measured at cost less 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.

The estimated useful lives are mainly as follows:

Buildings	20–50 years
Machinery and equipment	3–10 years
ICT hardware	3–5 years
Cars	5–6 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.

8.1 Impairment of PPE and intangible assets

On each balance sheet date, the 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.

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

In respect of property in own use, the 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. If the income generated in the future by property in own use is expected to be lower than its acquisition cost not depreciated, the resulting difference will be impairment loss and charged to expenses.

9 Leases

9.1 Leases in 2019

At the inception of the lease, OP Corporate Bank 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 Corporate Bank Group companies or its employees have the right to decide on the use of the asset throughout the lease period when OP Corporate Bank Group is the lessee and the customer and its Group companies have decision-making powers related to the use of the asset when OP Corporate Bank Group is the lessor
- The contract includes rights and obligations and related payments
- The asset identified in the contract is used only by OP Corporate Bank Group companies or employees when OP Corporate Bank Group is the lessee, and by the customer or its Group companies when OP Corporate Bank Group is the lessor.

Recognition of assets leased out

On the date of inception, OP Corporate Bank 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, 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.

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 fixed asset class.

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

- i. A fixed term that cannot be extended or terminated without any good reason or sanction or
- ii. 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 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.
- iii. 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 notice period unless the lease has been terminated. When determining the lease term, OP 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
- iv. 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 Corporate Bank Group usually uses the incremental borrowing rate of the lessor. The interest rate quoted by the OP Corporate Bank Group Treasury is used as the incremental borrowing rate that Treasury uses to lend OP cooperative banks and OP Financial Group's subsidiaries.

OP Corporate Bank applies entry concessions allowed for lessors. 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 Corporate Bank Group's leased contracts are mainly those related to premises, company cars and safety devices.

9.2 Leases in 2018

Whether a lease is classified as a finance lease or an operating lease depends 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, 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 under finance lease are recognised as property, plant and equipment and the corresponding finance lease liability is included in other liabilities. At the inception of the lease term, these leased assets are recorded as assets and liabilities at the lower of the fair value of the asset and the present value of the minimum lease payments. PPA assets are depreciated over the shorter of the lease term or the life of the asset. Finance charges are recognised in interest expenses so as to produce a constant periodic rate of interest on the remaining balance of the liability.

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. Lease payments for leased assets under operating lease are recognised as expenses in other operating expenses on a straight-line basis over the lease term.

10 Employee benefits

10.1 Pension benefits

Statutory pension cover for OP Corporate Bank Group companies' employees is arranged by Ilmarinen Mutual Pension Insurance Company and OP Bank Group Pension Fund. Some OP Corporate Bank 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 and those managed by OP Bank Group Pension Fund are defined benefit plans in respect of funded disability and old-age pension benefits. 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, OP Bank Group Pension Fund 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 Fund, 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.

10.2. Long-term management remuneration scheme

OP Corporate Bank Group has a short-term and long-term management remuneration scheme in place. Those included in the schemes may receive bonuses either in cash only or as a combination of cash and a reference instrument decided by OP Cooperative's Supervisory Board or a Remuneration Committee it has appointed. Bonuses will be paid for work performed during the so-called performance and vesting period. The maximum amount of the remuneration schemes 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 and the corresponding adjustment is made in deferred expenses.

11 Insurance assets and liabilities

11.1 Classification of assets and liabilities within insurance business

The section "Classification and recognition" under Financial Instruments contains information on the classification of financial assets and liabilities within Non-life Insurance.

11.2 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. Almost all of the contracts issued by non-life insurers are insurance contracts.

Insurance contracts are classified into risk groups in such a way that the risks of contracts are homogeneous in each group. This classification into categories takes account of the insured object and 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).

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

Short-term policies usually have a policy term of 12 months or less, very rarely over 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 decennial insurance policies under the Housing Transactions Act.

Descriptions of insurance contracts can be found in the section "Risk Management Principles", Insurance operations.

11.3 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 are measured and accounted for in accordance with IFRS 4 Insurance Contracts. 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.

The liabilities comprise provisions for unearned premiums and the provision for outstanding claims. Non-life 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.

11.3.1. 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 decennial 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 occurred but not yet reported to the Group (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 decennial 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.

11.4 Liability adequacy test on insurance contracts

On each balance sheet date, the 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.

11.5 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.

11.5.1 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 only to a minor extent from insurance intermediaries. Prepaid insurance premiums are included in "Direct insurance liabilities" under 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.

11.6 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.

In 2018, the subrogation reimbursements and damaged property that has come into possession were recognised at fair value under "Other assets" in the balance sheet when the claim is settled.

11.7 Reinsurance contracts

Reinsurance taken out by the 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 the 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.

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

11.8 Coinsurance and pools

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

The 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. The 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. The Group recognises liabilities and receivables based on joint liability if joint liability is likely to materialise.

12 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.

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 the 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 as a note.

13 Income tax and deferred tax

Income tax expense shown in the income statement includes current tax, based on the taxable income of OP Corporate Bank Group companies for the financial year, and income tax for prior financial years and deferred tax expense or income. Taxes are recognised in the 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 all temporary differences between the carrying amount and tax base of assets and liabilities. 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 insofar as taxable profits are likely not be generated against which taxable losses or refunds can be utilised. The greatest temporary differences in the Group are tax provisions (e.g. credit loss provision), measurement of investments at fair value, and elimination of equalisation provision within non-life insurance.

The Group offsets deferred tax assets and liabilities by company. Deferred tax assets and liabilities resulting from consolidation are not offset. Deferred tax assets and liabilities are measured at the tax rate that is expected to apply to the period when the asset is realised or the liability is settled, based on tax rates enacted or substantively enacted by the balance sheet date.

14 Revenue recognition

14.1 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 5.2.1 Amortised cost in these accounting policies. 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.

14.2 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 Corporate Banking segment, commissions and fees are charged from private customers and corporate customers. Commissions and fees consist of those from lending and payment transactions. In Corporate Banking, fees are also charged outside OP Corporate Bank, such as for securities brokerage, investment management and guarantees. The abovementioned items consist of several 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, investment management and guarantee fees are mainly fulfilled over time while other those of other Banking fees at a point in time. The amount of consideration for the services is mainly the list price or a contractually stated price.

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. Commissions and fees mainly consist of income from health and wellbeing services as well as from insurance brokerage fees. 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 Corporate Bank Group acts as the principal under IFRS 15, in which case the fee paid to the relevant entrepreneur is presented in commission expenses. OP Corporate Bank'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.

Revenue from contracts with customers in the financial statements is grouped according to the segments (Note 6 Net commissions and fees).

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

15 Summary of presentation of income statement items

Net interest income	<p>Received and paid interest on fixed-income instruments, the recognised difference between the nominal value and acquisition value, interest on interest-rate derivatives and fair value change in fair value hedging</p> <p>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</p>
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	<p>Commission income from lending, deposits, payment transactions, securities brokerage, securities issuance, mutual funds, investment management, legal services, guarantees, insurance brokerage, as well as from healthcare and wellbeing services.</p> <p>Commission expenses for payment transactions, securities brokerage, securities issuance, investment management, insurance operations as well as for healthcare and wellbeing services.</p>
Net investment income	<p>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.</p> <p>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.</p> <p>Income from loans and receivables recognised at amortised cost, and impairment loss.</p> <p>Fair value changes in investment property, rents and other property-related expenses.</p>

	Associated companies' income consolidated using the fair value and equity method.
Other operating income	Central banking service fees and other operating income
Personnel costs	Wages and salaries, pension costs, social expenses
Other operating expenses	ICT production and development costs, purchased service, costs related to premises, charges of financial authorities, telecommunications, marketing, corporate responsibility 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.

16 Charges of financial authorities

OP Corporate Bank Group pays charges to various authorities. 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.

16.1 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 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.

16.2 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 will determine the contribution for each member bank but will charge the amount directly from the former Deposit Guarantee Fund. The deposit guarantee contribution had no effect on OP Corporate Bank Group in 2018 and 2019 in terms of expenses.

16.3 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.

16.4 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.

16.5 European Central Bank's supervisory fee

OP Financial Group, OP Corporate Bank included, is supervised by the European Central Bank (ECB).

17 Segment reporting

Financial information, which the executive in charge monitors regularly, serves as the basis of defining operating segments. The reportable operating segments are Corporate Banking, Insurance, and Other Operations.

A description of the operating segments and segment accounting policies can be found as part of segment information.

18 Critical accounting estimates and judgements

The preparation of financial statements requires making estimates and assumptions about the future and the future 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.

Liabilities arising from insurance contracts involve several discretionary factors and uncertainty. With respect to Non-life Insurance, estimates are based on assumptions about the operating environment and on the actuarial analyses of the 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. Information on uncertainties included in assumptions related to insurance contracts and their effects can be found in Note 59 Sensitivity analysis of Non-life Insurance.

When estimating the control over structured entities, OP Corporate Bank 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 the Group's share of the variable returns exceeds 37% and there is a link between the control and the returns.

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. Information on the effects of these assumptions and estimates can be found in Note 20 Intangible assets.

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 calculated 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.

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 private 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 Corporate Bank'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 calculation of ECL figures is performed using the abovementioned models without management judgement expect if a large corporate exposure in stage 3 is involved, in which case the ECL is calculated using the cash flow based ECL method based on expert assessment.

The management must assess when markets for financial instruments are 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.

The present value of pension obligations depends on several factors determined by using several assumptions. The discount rate, future increases in salaries and pension payments and the inflation rate are the assumptions used to determine net costs (or income) arising from pensions. Changes in actuarial assumptions affect the carrying amount of pension obligations. This is presented in more detail in Note 29 Provisions and other liabilities.

The measurement of investment property at fair value is partially based on the management's estimates of the market value of property holdings. Investment property is also measured using a calculation model based on the income capitalisation approach utilising estimates of future net yield on property holdings. This is presented in greater details in Note 36 Recurring fair value measurements by valuation technique. Income probably generated in the future by property in own use is based on the management's judgement (Note 21. Property, plant and equipment).

19 New standards and interpretations

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

19.1 IFRS 17 Insurance Contracts

Replacing the current IFRS 4 Insurance Contracts, IFRS 17 Insurance Contracts was published on 18 May 2017.

The most important goal of the standard is to harmonise the measurement of insurance 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.

Insurance contracts are measured based on the general approach (GA) using the following three parts on each reporting date:

- Estimates of future cash flows adjusted to reflect time value of money
- A risk adjustment for OP Corporate Bank's non-financial risk describing risk appetite and
- The contractual service margin which is measured at the time of recognition of the contract in such a way that no profit results from the contract at recognition but loss is recognised immediately. The contractual service margin represents unearned profits and it is recognised as revenue during the policy period based on how the insurance service is produced.

The current practice, in which insurance 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.

For insurance contract measurement, IFRS 17 also allows an optional simplified measurement approach, the premium allocation approach (PAA), to contracts whose policy period is a maximum of one year. Non-life insurance products rank among these contracts, for example.

Furthermore, the standard has a variable fee approach (VFA), a modification of the general model, that must be applied to direct insurance participating contracts. In the VFA model, a company's participation in changes in the below investments is included in the contractual service margin that changes on each reporting date. These contracts typically include life insurance unit-linked contracts.

Changes in assumptions of financial risk and changes in liability arising from market changes can be buffered against the corresponding changes in assets in income/expenses. The standard gives the right to reclassify insurance company financial assets when the standard is adopted for the first time.

The new standard means changes in the insurance contract valuation method and the presentation of the balance sheet and income statement. For the presentation of the balance sheet, the rights and obligations involved in insurance contracts are netted and presented either in assets or liabilities. Insurance service earnings are presented as subtotal in the income statement and separately net investment income that is separated from endowment insurance.

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.

IFRS 17 affects the valuation and recognition of OP Corporate Bank's non-life insurance products as well as their presentation in the financial statements. OP Corporate Bank Group has organised a project where it is working on the adoption of the standard and assessing the impact of IFRS 17 on OP Corporate Bank Group's financial position and financial performance.

IFRS 17 must be applied for accounting periods beginning on or after 1 January 2021. Nevertheless, the IASB decided in November 2018 that it would propose the adoption date of IFRS 17 to be postponed until 1 January 2022. This proposal will be discussed after hearing the draft standard. The European Union has not yet adopted IFRS 17.

19.2 Other upcoming amendments to standards

Amendments to IFRS 3, IAS 1 and IAS 8 took effect on 1 January 2020. The amendments will not have any significant effect on OP Corporate Bank's consolidated financial statements.

Note 2. OP Corporate Bank Group's risk management principles

1 OP Corporate Bank's risk-taking principles

OP Corporate Bank Group's operations are based on OP Financial Group's core values, a strong capital base and capable risk management. Our risk-taking is guided by OP Financial Group's values – People First, Responsibility and Succeeding Together.

The Risk Appetite Statement of OP Financial Group confirmed by the central cooperative's Supervisory Board describes our risk-taking bases and key principles. Our risk appetite determines what risks and risks associated with what operations we are ready to take when carrying out our mission within the framework of our strategic targets. The majority of our profits come from customer business and the earnings risks taken and priced in this context. In the main, we take risks that are associated with carrying out our mission. We keep the level of risk-taking relating to other operations to generate earnings low or temporary.

Our success is based on the identification of our customers' needs and our ability to serve our customers in a way that meets their expectations while being cost-effective. Our success is also based on our ability to manage those risks that we assume when serving our customers. In the long term within moderate risk-taking, we seek market-based growth. This requires controlled risk-taking relying on strong risk management.

In OP Corporate Bank Group, we promote an approach based on diligence, which is manifested as a strong risk culture with a positive attitude towards internal control. Our remuneration principles encourage people to act carefully, provide high-quality customer service and maintain a balance between the financial result, risks and capital.

In order for us to be able to operate in accordance with our risk appetite, we must have sufficient risk-bearing capacity, which comprises risk capacity and risk-taking capacity. Risk capacity means knowledge that is manifested, for example, in the way we know our customers and their needs, we can price the risks associated with the customers and the risks they transfer to us, and manage risks at portfolio level, as well as we can quantify the capital and liquid assets needed to cover various risks. In addition, we can organise our business reliably and in a way that secures business continuity, and we have the capability to quickly adapt our risk exposure when needed and have strategic flexibility to change risk-taking.

Risk-taking capacity comprises capital and liquidity. Strong risk-taking capacity enables us to serve our customers with a long-term approach and in difficult market conditions too and to ensure the availability of refinancing and its relative cost-effectiveness. We want to maintain a level of capital and liquid assets and a funding structure with the aid of which we are highly likely to be able to implement our current business models.

Together with the strategy, the Risk Appetite Statement provides the bases for the goal-setting of the businesses. Quantifiable risks are mitigated by means of limits set by the central cooperative's Executive Board for OP Corporate Bank and its Group companies. Limits guide and control risk-taking and ensure that risk-taking complies with the Risk Appetite Statement. The limits set a maximum limit for risk-taking. If this maximum limit is exceeded or threatened to be exceeded, the escalation procedure will be initiated. Quantitative limits are supplemented by guidelines included in risk policies and other guidelines issued by Risk Management to ensure that also the risks that are more difficult to quantify are covered.

2 Risk management

2.1 Objective of risk management

Effective risk management is the basis of customer-driven business and a competitive advantage. It also supports the business profitability of OP Financial Group and its companies, and enhanced trust in relation to customers and other stakeholders.

The objective of risk management is to secure OP Financial Group's and its companies' sufficient risk-bearing capacity and to ensure that any business risks taken do not threaten profitability, capital adequacy, liquidity or the achievement of strategic targets and thereby to secure business continuity.

Risk management is aimed at ensuring that

- all significant risks are identified, measured and assessed and the quantitative risks defined as significant are limited
- earnings risks are managed and consequential risks are reduced efficiently
- significant risks are covered with sufficient capital and they have adequate management capital and liquidity buffers

- risk-taking capacity is allocated to revenue logics and business segments according to the strategy and risk appetite
- risk management processes are efficient, comprehensive and adequate
- customer-service processes and internal processes are cost-effective and they generate up-to-date and high-quality information to the management to support its decision-making, for reporting and the needs of the supervisor
- management decision-making is based on sufficient, detailed and timely risk data
- business continuity has been secured in all situations and fast recovery in incidents
- the management has access to sufficient information and versatile scenarios to assess changes in the business environment, make strategic choices, assess risks and the adequacy of capital and liquidity, has the strategic flexibility to change risk-taking
- compliance with risk-taking and risk policies of business lines/divisions is supervised, the business determines prices for earnings risks in a sustainable manner over cycle and investment income is proportionate to investment risks
- the Group supervises its risk exposure so that it remains within the framework of the risk-taking principles, confirmed limits and that the exceeding of limits triggers the escalation procedures determined in advance and the corrective measures are monitored
- risk exposure is analysed and reported to the management

2.2 OP Corporate Bank's risk management organisation

OP Corporate Bank is part of OP Financial Group and the amalgamation of cooperative banks under the Act on the Amalgamation of Deposit Banks. It is a subsidiary of OP Cooperative (the central cooperative). The management of OP Financial Group and the central cooperative consolidated is based on the control and supervision by the central cooperative Supervisory Board. As the Board of Directors of the parent company of the central cooperative consolidated, the central cooperative Executive Board is responsible for managing the central cooperative consolidated.

In its activities and decisions, OP Corporate Bank's Board of Directors must consider policy lines, confirmed principles and given instructions issued by the central cooperative Supervisory Board and Executive Board or those authorised by them.

OP Corporate Bank complies with the risk-taking and risk management principles confirmed by the central cooperative Supervisory Board and with other instructions issued by the central cooperative Risk Management. Furthermore, the companies are obliged to comply with the instructions issued by the central cooperative by virtue of section 17 of the Act on the Amalgamation of Deposit Banks.

Board of Directors

OP Corporate Bank's Board of Directors is tasked, for example, with ensuring risk management, the adequacy and reliability of the company's internal control and control systems, and compliance with regulation, OP Financial Group's shared operating principles and the guidelines issued by the central cooperative.

The Board of Directors decides on the company's business strategy and annually approves a business plan, targets and an annual plan, and supervises their implementation.

It also confirms the risk policy, OP Financial Group's funding plan and capital plan that includes capital adequacy targets, a contingency plan and a liquidity investment plan, and records guidelines under section 17 of the Act on the Amalgamation of Deposit Banks and approves or deals with other guidelines according to the instructions issued by the central cooperative. The Board of Directors ensures that the company has business continuity planning in place and that the business continuity plans are up to date and are tested on an annual basis.

The Board of Directors supervises and monitors the implementation of risk management and the fact that the company's risk management is in conformity with laws, official regulations and instructions issued by the central cooperative. The Board of Directors is responsible for the sufficiency of risk management systems and supervises their extent and performance. It also supervises the quantity and quality of capital, financial performance, risk exposure and compliance with the risk policy and limits.

Insurance Committee

The highest underwriting risk decision-making body in 2019 was the Insurance Committee, tasked with managing non-life insurance underwriting risks. The Insurance Committee made underwriting decisions within

the framework of confirmed powers and reported its decisions to the Insurance Customers Management Team.

President and CEO

OP Corporate Bank's President and CEO takes charge of the company's day-to-day management based on the instructions regulations issued by the Board of Directors, and of the overall control of the company in such a way that the company as a whole achieves its profit, capital adequacy and other targets and goals by following shared strategies and policies.

Businesses

The business lines/divisions and Group subsidiaries of OP Corporate Bank Group fulfil OP Financial Group's strategy, are responsible for planning their own operations and for their internal control. They make risk decisions within the framework of the restrictions governing risk-taking and risk policy and of other guidelines, price their transactions on a risk basis, apply the risk management framework, supervise their risk exposure and that it remains within the confirmed limits and control limits, as well as bear responsibility for the risks they have taken and for the extensiveness and accuracy of data in the systems. Risk management has been integrated as part of the business and its management of OP Corporate Bank and its group companies.

Risk Management

The central cooperative's Risk Management independent of businesses is responsible for risk management at OP Financial Group level. OP Corporate Bank Group's risk management duties have been centralised in the central cooperative Risk Management.

Risk Management leads the intra-Group risk management process, owns the risk management framework and is responsible for maintaining and developing risk management systems and methods. It maintains, develops and prepares the Risk Appetite Framework for approval by the Executive Board and the Supervisory Board, and maintains other instructions related to risk management. Risk Management controls, supervises and supports the implementation of the Risk Appetite Statement and the Risk Appetite Framework at OP Financial Group and its companies while supervising risk decision processes and their quality. It also supports the efficient use of the Group's balance sheet by analysing the balance sheet against earnings risks.

Together with Finance and Group Treasury, Risk Management ensures the balance between profitability, risks and risk-taking capacity. Risk Management supports capital adequacy management by developing and supervising the principles, models and methods of the measurement of economic capital deriving from risks and the measurement based on regulatory requirements. Furthermore, Risk Management supervises the business lines/division that they comply with the strategy and the Risk Appetite Statement. It supervises the risk exposure of OP Financial Group and its companies Board and the senior management of the central cooperative and its segments and companies.

Risk Management is responsible for maintaining OP Financial Group's recovery plan and coordinates the delivery of information to the resolution authorities.

OP Financial Group's Compliance independent of business lines/divisions is responsible for supervising compliance with provisions and for assessing compliance risks. Risk Management works in close cooperation with Compliance in managing compliance risks.

Independent risk management is organised in such a way that it is in sufficient proportion to the nature, extent and diversity of the Group and each of its business segment and company.

Internal Audit

Internal audit constitutes independent and objective assessment, verification and consulting activities with a view to generating added value to OP Financial Group and improving its operations. Internal Audit helps OP Financial Group to reach its objectives by bringing a systematic, disciplined approach to evaluating and improving the efficiency and effectiveness of the organisation's governance, risk management, supervision and supervision processes.

Internal Audit is organised to correspond to business organisations and is responsible for the performance of Group-level, risk-based internal audit in all OP Financial Group entities. Internal Audit inspects the achievement of strategic and operational goals, the quality of internal control and risk management, the efficiency of internal controls, reporting reliability, compliance with laws, other regulation and similar criteria, compliance with internal policies and guidelines and the efficiency and expediency of operations.

3 OP Financial Group's risk management process

OP Financial Group's risk management process contains the following:

- The steering framework prepared and maintained by independent Risk Management
 - The Risk Appetite Statement and the Risk Appetite Framework that guide risk-taking and the risk policies that specify them and other risk management guidelines
 - The creation of methods to identify, assess, measure, price and limit risks
 - The determination of the need of risk-taking capacity and allocation to the business lines/division based on the strategy
- Daily risk management of operational business
 - The identification, pricing and ongoing monitoring of risks
 - The maintenance of risk position management and risk exposure within the set restrictions and objectives
- Internal control and reporting performed by independent Risk Management
 - Supervision of compliance with risk-taking, risk policies and pricing
 - Risk exposure analysis and reporting to the management

3.1 Risk management steering framework

3.1.1 Guidelines maintained by Risk Management

Risk Management prepares and maintains principles governing risk-taking and risk management that the risk policies and other risk management guidelines specify.

In the Risk Appetite Statement (RAS), the central cooperative's Supervisory Board confirms the bases and key principles of OP Financial Group's risk-taking and the Group's limits and risk tolerances. In the risk management principles (Risk Appetite Framework, or RAF), the Supervisory Board confirms how OP Financial Group's risk management process is organised in practice and how risks are identified, assessed, measured and managed. The Statement and Framework are binding on all OP Financial Group companies.

Revenue logic specific risk policies specify the Risk Appetite Statement and delegate decision-making authorities in respect of risk-taking. Therefore, Risk Management prepares risk policies together with business lines/divisions. The risk policies of OP Financial

Group, Banking, Non-life Insurance and Life Insurance confirm annually risk-management principles, actions, objectives, limits and control limits, to be applied by the business lines/divisions and companies that are used to guide business to implement the policies confirmed in the Group's strategy and Risk Appetite Statement.

OP Financial Group's statutory Recovery Plan creates a framework and determines the policy options used to safeguard the business continuity of the credit institutions within the amalgamation of cooperative banks in a situation where the amalgamation's financial position has significantly deteriorated. The financial position is considered to have deteriorated significantly at least if the amalgamation is in danger of not fulfilling the financial conditions set for its operations or if it otherwise violates the threshold values of the alerting indicators specified in the Recovery Plan. A liquidity contingency plan or tools available to strengthen liquidity and capital adequacy based on the capital plan control practices of the levels of preparedness are likely to be in use before the implementation of the Recovery Plan.

Furthermore, Risk Management maintains and issues risk management guidelines based on the Act on the Amalgamation of Deposit Banks as well as other more specified instructions and descriptions for the Group's companies. Risk Management is also responsible for organising training, guidance and other assistance that supports the set of guidelines.

3.1.2 Methods for identifying, assessing, measuring, pricing and limiting risks

Risk identification

OP Financial Group continuously identifies and assesses risks involved in its business and business environment.

In an extensive risk identification process conducted at least once a year, Risk Management together with the representatives of the businesses concerned assesses risks that are or may be involved in OP Financial Group's business environment and in the operations and exposures of its companies. This also involves identifying and assessing concentration risks within individual types of risk and cumulative Group-level risks and risk concentrations.

Risk Management assesses the significance of the risk through a stress test and the inclusion of the risk in the regular stress test programme. It also assesses the existing risk measurement methodology and efficiency and decides on how a new risk is measured.

Based on the results of the risk identification process, Risk Management annually presents OP Financial Group's most significant risks in its Risk Appetite Statement for the Supervisory Board for confirmation.

The results of the risk identification process are also used in the preparation of risk policies when specifying risk management principles, measures, objectives and limits based on risk-bearing capacity and risk appetite. Risk Management maintains a list of significant risks.

The central cooperative's management defines which significant risks are covered through economic capital and which are not possibly covered on justified grounds, in which case they are managed based on careful action. The liquidity strategy and the guidelines and plans that specify them provide a framework for how liquidity risk is covered through buffers, by means of the liquidity contingency plan and by enhancing the ability to make the balance sheet more liquid.

Before the Group launches new products, services, concepts or systems, the business line/division concerned assesses the associated risks in accordance with the practices approved by Risk Management. OP Financial Group only provides customer products and applies business models that have been approved at Group level.

Risk assessment and measurement

OP Financial Group uses risk management measurement models (internal models) it has developed for risk measurement, capital requirement assessment, business price determination and the determination of values used in accounting. The models take account of their compatibility with OP Financial Group's business model, risk appetite and risk profile. All models applied are Group-specific. The Group and its companies share the related key parameters and assumptions. The models in use are approved by the supervisor, if so required by Risk Management or regulation.

In OP Financial Group, internal models used in credit risk capital adequacy measurement play a key role because regulation sets plenty of requirements for the use of internal methods. For the measurement of credit risk for capital adequacy, OP Financial Group has permission from the supervisory authority to use the Internal Ratings-based Approach (IRB) for corporate and credit institution exposures, retail exposures and equity investments.

Economic capital

In addition to the measurement of the regulatory capital requirement and own funds based on capital adequacy measurement, OP Financial Group uses a measurement model for its own economic capital and internal capital. They help to assess the capital required to bear risks (economic capital requirement) and OP Financial Group's view of how much it has items that can be used to cover any losses (internal capital). The economic capital measurement takes account of risks on a more extensive basis than in capital adequacy measurement. There are also differences in the way how parameters, estimates and risk concentrations are considered.

The economic capital requirement is OP Financial Group's own estimate of the amount of capital sufficient to cover any losses with a 99.97% probability that may arise from risks associated with business and the business environment for the next 12 months.

The economic capital requirement is a risk-taking indicator where business risks, irrespective of risk type, are as inter-comparable as possible. Using models specific to each risk type, each risk is measured to a euro amount. The company must reserve at least the loss amount to cover internal capital. In the measurement, the Group uses thought-out risk metrics, stress scenarios and expert assessment. At least once a year, Risk Management reviews how the model performs and presents changes to the methods or parameters to the Risk Management Committee.

Economic capital is divided into quantitative and qualitative, or assessable, risks. The generally accepted quantitative methods are used to measure the abovementioned risks. When it comes to the latter risks, the assessment is more heavily based on qualitative expert assessment. Quantitative risks include credit risk, Banking interest rate, equity and property as well as market risk associated with long-term investment and insurance operations, and market associated with trading and underwriting risks. The assessable risks are divided into operational risks and other risks that are more difficult to assess in terms of quantity. Other assessable risks include any significant risks that have not been taken into consideration in any other risk-specific models related to economic capital. These risks are typically caused by external factors, such as changes in competition or the market situation or regulatory measures.

OP Corporate Bank Group's economic capital requirement is calculated by combining capital requirements for each type of risk and by taking into account diversification benefits between the types of risk.

The economic capital requirement is measured and reported to OP Corporate Bank's management on a quarterly basis.

Internal capital (permanent capital) is the Group's own estimate of its own funds that cover risks included in the calculation of economic capital requirement. The company's equity capital forms the basis which has been made commensurate with the calculation assumptions of the capital requirement (e.g. confidence level, time horizon and insurance company adjustments).

In determining the economic capital requirement, OP Financial Group uses risk tolerance, limit and control limit and target metrics as well as a capital buffer used in capital planning. Other applications include risk-based pricing and the assessment of the profitability of businesses and capital tie-up.

The economic capital requirement is meant to control risk-taking and risk-weighted assets more extensively and more carefully than the capital requirements set by the relevant authorities. This is how the Group ensures that forecasts and business goals will not jeopardise its operating conditions in the long term either.

Stress tests

OP Financial Group uses stress tests to assess how various serious, albeit potential, situations and those differing from the assumptions of risk models may affect the liquidity, risk exposure, profitability and capital adequacy of the Group and/or its companies. Stress tests assess the effect of both individual stress factors and the joint effect of multiple variables acting simultaneously. In stress testing, the Group utilises reverse stress tests, in addition to various sensitivity and scenario analyses. Stress tests support and supplement the whole picture given by other risk measurement methods of risk exposure.

Stress testing helps OP Corporate Bank Group to identify its key risks and assess their significance and to convert and scale OP Financial Group's risk appetite into risk tolerances and limits as well as to lines of risk policies. Stress tests are aimed covering all risk types identified as significant in the Risk Appetite Statement.

Stress test methods are utilised not only for the measurement of economic capital, especially to determine the capital requirement for other assessable risks, but also as complementary methods for the purposes of, for example, capital planning, liquidity management and as the basis for business continuity and recovery planning as well as in the preparation of

the Recovery Plan. Stress tests are also used to determine the sufficiency of the regulatory and internal capital requirements produced by internal models in various business environments.

Pricing

Risk Management approves the models and methods used in pricing of each business line/division before a decision on their adoption is made by the ALM Committee.

Setting limits and escalation procedures

Quantifiable significant risks are mitigated by means of limits set by the central cooperative's Executive Board for OP Corporate Bank and its Group companies. Limits are aimed at limiting and controlling risk-taking in the direction of the Risk Appetite Statement and prevailing strategies. Risk limits are used to ensure that the company does not take excessive risks to endanger the company's capital adequacy, profitability, liquidity and business continuity. Quantitative limits are supplemented by guidelines included in risk policies and other guidelines issued by Risk Management to ensure that also the risks that are more difficult to quantify are covered.

The central cooperative Risk Management supervises the Group companies to ensure that they remain within the limits set for them. Risk Management regularly reports its observations and the actual limit metrics to the OP Corporate Bank management and the parties that have set the limits.

The limits and control limits set a maximum limit for risk-taking. If this maximum limit is exceeded or threatened to be exceeded, the escalation procedure defined in the Risk Appetite Framework will be applied.

3.1.3 Determination of the need of risk-taking capacity and allocation to the business lines/division based on the strategy

The key task of capital management in OP Financial Group is to determine the amount of available capital (permanent capital, or internal capital) and the capital needed (economic capital). OP Financial Group allocates the internal capital to revenue logic entities and business segments in accordance with the Group strategy and risk appetite – in OP Corporate Bank Group, this applies, for example, to Corporate Banking and Non-life Insurance. The business segment concerned or revenue logic entity concerned may not take risk that exceeds the amount of the internal capital (economic capital requirement) allocated to them.

From the perspective of regulatory requirements, OP Corporate Bank Group monitors credit institution capital adequacy (especially CET1) and own funds their quality. In respect of the quality of capital, its permanence and availability to cover losses is essential. Therefore, the capital adequacy targets are based on a strong CET1 ratio. In addition, the Group internally monitors capital adequacy under the Act on the Supervision of Financial and Insurance Conglomerates.

OP Corporate Bank Group's capital plan prepared annually is used to proactively ensure the sufficiency of the capital base during the planning period and in exceptional circumstances under various scenarios and thereby ensure business continuity.

The capital plan contains a situation analysis of capital adequacy, capital adequacy targets and measures, a contingency plan in the form of the levels of preparedness and control procedures according to which OP Corporate Bank acts if its capital adequacy deteriorates, as well as scenario calculations to assess the adequacy of capital.

Each OP Financial Group company is responsible for its capital adequacy and must set its capital adequacy targets and limits according to guidelines set by the central cooperative. In any potential crises, capital allocation within OP Financial Group is primarily performed on a market consistency basis through voluntary arrangements. The central cooperative is in charge of capitalising OP Financial Group companies in cases where the company's own resources are insufficient to secure its operational capacity. Ultimately, capital allocation within the amalgamation of cooperative banks is based on the provisions of the Act on the Amalgamation of Deposit Banks.

Liquidity management

OP Financial Group's Treasury acting within OP Corporate Bank is responsible for the Group's banking liquidity on a centralised basis and manages the liquidity buffer. OP Corporate Bank obtains funding for the Group from wholesale markets according to the funding plan.

Deposit funding forms OP Financial Group's most significant type of funding. With respect to deposits, the Group emphasises their permanence and avoids aggressive pricing in attracting them.

Wholesale funding is aimed at actively and proactively covering funding needs arising from the growth differentials between the receivables and the deposit portfolio in the balance sheet, funding maturity and other

internal objectives as well as regulatory requirements. Wholesale funding must be diversified by time, investor and market segment.

OP Financial Group manages its banking liquidity position by means of

- proactive planning of funding structures, the Group's risk tolerances and risk limits, as well as limits, control limits and target levels derived from them for Group companies;
- monitoring the liquidity status and a liquidity buffer of the right size;
- planning and managing daily liquidity;
- contingency planning based on emergency levels; and
- effective and ongoing control of the liquidity status.

OP Financial Group secures its banking 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.

Insurance operations' liquidity risk is assessed individually from each insurance business's viewpoint. Insurance companies' investment assets act as a liquidity buffer for the company concerned. The companies' liquidity requirements are taken into account in the investment portfolio weightings.

3.1.4 Control and internal control performed by Risk Management

Control

In accordance with the Act on the Amalgamation of Deposit Banks, the central cooperative is under an obligation to control and supervise its member credit institutions, issue instructions to them on risk management, good corporate governance and internal control to secure liquidity and capital adequacy.

Once the criteria of the Act on the Amalgamation of Deposit Banks have been met, the supervisor has given the central cooperative permission to grant exceptions to the member credit institutions in cases specified in the Act. The most important exceptions relate to regulation governing capital adequacy and large customer risks under the Act on Credit Institutions and to regulation related to liquidity under the Capital Requirements Regulation.

Supervision and reporting

The central cooperative's Risk Management supervises OP Financial Group's and its companies' risk management and liquidity management, risk-taking, pricing of business lines/divisions and risk management processes and their quality. Risk Management analyses the risk exposure of the Group and its companies and its developments, the maintenance of risk-taking within the set tolerances, limits and control limits and compliance with the risk policy. In addition, Risk Management secures business continuity by supervising the annual maintenance and testing of business continuity plans within the Group companies and the central cooperative consolidated.

Risk Management reports regularly its observations and assessments to the central cooperative management, OP Corporate Bank's Board of Directors and segment management teams.

In addition, Risk Management supervises the amalgamation's member credit institutions that they follow the guidelines issued by Risk Management and reports any violation of the guidelines to the central cooperative Compliance.

The fact that reports on measurable risks are produced for Group companies on a centralised basis and separate from any business operations ensures the independence of operational risk reporting in OP Financial Group.

4 OP Corporate Bank Group's significant risks and their management

4.1 Risk categorisation

OP Corporate Bank Group engages in banking and non-life insurance and its business segments are Corporate Banking and Insurance. OP Corporate Bank has branches and subsidiaries in Estonia, Latvia and Lithuania that provide asset and sales finance solutions. Pohjola Hospital Ltd owned by Pohjola Insurance Ltd focuses on orthopaedics and sports clinic services.

Risks associated with business are grouped into revenue and consequential risks. Revenue and consequential risks relate to the current business and the valid agreements that the Group companies have made with their customers and other counterparties. In the basic business, the Group knowingly takes earnings risks to earn income. Consequential risks, for their part, arise from the basic business and thus relate to all business carried on. These risks generate no earnings, but may only lead to financial losses and/or loss of reputation if

they materialise. Risks of future business are associated with on what conditions and with what volumes new agreements, as they stand now or whether they are completely new ones, are concluded. The volumes and margins of new agreements made in customer business as well as the margins of new market transactions have a significant impact on OP Corporate Bank Group's financial result.

4.2 OP Corporate Bank Group's significant risks

Significant earnings risks include banking credit, liquidity and market risks. Market risks associated with investment and insurance liability play a pronounced role in insurance operations, in addition to non-life insurance risks. Pohjola Hospital combines the best practices in the health and wellbeing sector with the existing risk management framework to identify and manage relevant risks, as well as to ensure compliance with regulation.

With regulation becoming more complex and supervision tightening, the management of compliance risk among the consequential risks will play a pronounced role. The role of operational risks will increase in all business segments as services go digital and the role of the commission-based business increases. In addition to financial losses and deterioration of reputation, the materialisation of risks may cause sanctions imposed by authorities.

In both banking and insurance operations, model risk has become essential as models affect, for example, risk selection, related embedded derivatives and the prices of insurance policies, values of insurance liabilities, capital adequacy requirements, expected credit losses (ECL), and the measurement of credit risks associated with derivative contracts (CVA, Credit Valuation Adjustment).

Counterparty risk is associated with derivative and reinsurance contracts.

For instance, concentration risks within individual types of risk may arise from customers, industries and products, and they may cumulate from individual companies and segments to the Group level.

OP Corporate Bank Group companies actively manage earnings risks at the portfolio level within the quantitative limits set and in line with the other guidelines specified in risk policies. Responsibility for reducing consequential risks rests especially with business lines/divisions with the help of careful and effective action and a well-defined assignment of responsibilities.

Inadequate internal reaction and inflexibility in the business and competitive environment or changes in the values of customers or in technology cause a strategic risk.

Reputational risk is associated with all operations and often results from the materialisation of some risk.

The table below presents OP Corporate Bank Group's significant risks. The paragraphs below the table describe the nature of the risks and how they can be managed.

OP Corporate Bank Group's significant risks

Credit risks	Credit risk refers to a risk that a contracting party to a financial instrument is unable to fulfil their contractual repayment obligations and thereby causes a financial loss to the other party.
Liquidity risks	Liquidity risk comprises funding liquidity risk, structural funding risk, funding concentration risk and asset encumbrance.
Market risks	Market risk refers to an unfavourable change related to the value of a contract or the contract revenue that is caused by price changes observed in financial markets. 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.
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 claims incurred for the already-occurred losses are higher than expected or the timing of the payment of claims differs from what has been expected.

Counterparty risks	Counterparty risk refer to a risk of the contracting party not fulfilling its financial obligations. Counterparty risk may be related to a derivative contract, trading or a reinsurance contract.
Operational risks	Operational risk means a risk of an adverse consequence that may result from insufficient or incorrect practices, processes, systems or external factors. Operational risk also includes legal risk, security risks and information security risks.
Model risk	Risk of loss or of loss of reputation, if any, caused by such decisions made on the basis of the results of the models, in which the errors in the development, implementation or use of the models are the reason.
Compliance risks	Risks caused by non-compliance with external regulation, internal policies, appropriate procedures or ethical principles governing customer relationships.
Concentration risks	Risks that may arise of a business's excessive concentration on individual customers, products, lines of business, maturity periods or geographical areas.
Reputational risk	Risk of deterioration of reputation or trust caused by negative publicity or materialisation of a risk.
Risks associated with future business	Risk associated with on what conditions and with what volumes new agreements, as they stand now or whether they are completely new ones, are concluded.
Risks associated with strategic choices and the	Risk that arises from inadequate internal reaction and inflexibility in the business

implementation of the strategy	and competitive environment or changes in the values of customers or in technology.
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4.3 Credit risks

By definition, credit risk refers to a risk that a contracting party to a financial instrument is unable to fulfil their obligations and thereby causes a financial loss to the other party. OP Corporate Bank Group's credit risk derives primarily from corporate financing within Banking. Credit risk may also arise from bonds/notes, debt securities, derivative contracts and off-balance-sheet commitments (limits, guarantees and documentary credits) and from reinsurance contracts. Country and settlement risks are also counted as credit risks.

In investment operations, credit risk arising from a debt instrument issuer's default is included as part of market risk associated with investment. Credit risk associated with reinsurance contracts and derivative contracts, and settlement risk associated with securities and currency trade are counted as counterparty risks. Country risk is included in concentration risks.

Credit and country risks related to credit institutions arise mainly from liquidity management by banking. Country risks affecting credit institutions may also be the result of interest rate trading and the management of the notes and bonds portfolio and the Group's trade

financing. The section below deals with credit risk that arises from financing operations associated with banking.

Measuring credit risks

Risk Management regularly monitors developments in credit risks relative to tolerances, limits and OP cooperative banks' control limits.

Credit risk is measured based on the ratio of doubtful receivables, non-performing exposures and performing forborne exposures to the loan and guarantee portfolio and the economic capital relative to exposure at default. The Group compares expected credit losses with the loan and guarantee portfolio. Loan portfolio concentrations are monitored by customer, industry and country. In the Risk Policy, qualitative targets based on internal credit rating have been set the loan portfolio and new lending. The Group measures the growth differential of the loan portfolio and credit risk economic capital to ensure balance between growth and risk-taking.

The Group assesses the risk using credit risk models. In addition to the models used for assessing probability of default (PD), the Group uses models for predicting loss given default (LGD) and exposure at default (EAD) to measure credit risk. Exposure at Default (EAD) refers to the estimated amount of the bank's receivable from the customer at default. Off-balance-sheet exposures at default are determined on the basis of the conversion factor (CF). Loss Given Default (LGD) is an estimate of a financial loss incurred by the bank, as a share of EAD, if the customer defaults.

Credit risk models

Probability of loan defaults within 12 months	=	Probability of default (PD), %
Estimate of the loss caused by a loan default	=	Loss given default (LGD), %
Estimate of the sum the customer would owe the bank in case of default	=	Exposure at default (EAD), €

The Group makes extensive use of credit risk models in measuring and managing credit risk, such as in

- lending and pricing;
- specifying financing decision-making powers;
- setting and monitoring the loan portfolio’s qualitative targets;
- credit risk reporting;
- capital adequacy measurement using the Internal Ratings Based Approach (IRBA);
- measuring economic capital requirement and expected loss; and
- measuring expected credit loss.

Credit rating and probability of default

A credit rating system refers to models, processes and information systems that the Group uses to assess the probability of default of its obligors and to categorise the obligors into borrower grades based on the probability of default (private customers by contract and others by customer).

OP Financial Group’s credit rating system is based on the IRBA. For the measurement of credit risk, OP Financial Group has permission from the supervisory authority to use the IRBA for retail, corporate and credit institution exposures. The credit rating system is used at Group level, involving all customer segments. The rating uses both expert rating and automated rating.

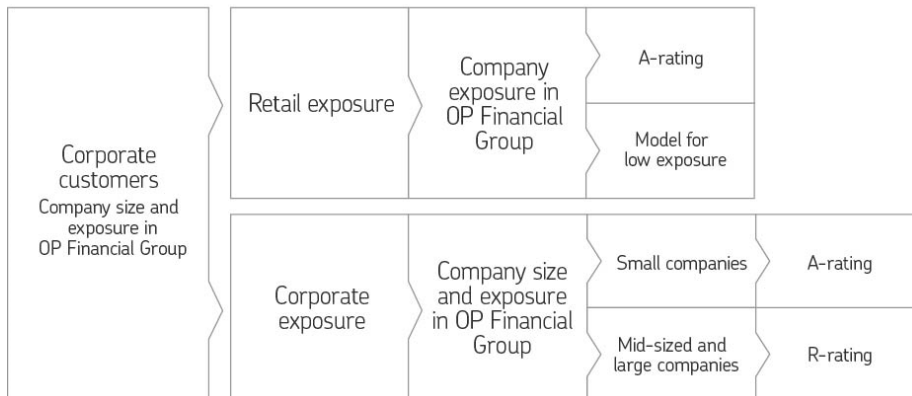
Default means that some of the customer's exposures becomes a receivable to OP Financial Group that is over 90 days past due or some other more severe payment default. A default customer also means a customer who does not fully meet their payment obligations without the bank's measures (e.g. realisation of collateral). Probability of default, or PD, is the average proportion of default events estimated for each borrower grade during one year over the economic cycle. When the economy is thriving, the actual proportion of default customers in a given borrower grade is lower than the estimated PD. Probability of default increases by many times when moving to lower borrower grades compared with high borrower grades.

In expert rating, the Group has seen it appropriate to separate business and risk management responsibilities in such a way that decisions are centralised in the rating decision-makers within the independent Risk Management. The banks in charge are responsible for continuously monitoring the credit rating process, and the ratings must always be kept up to date. Customer credit rating must give a true picture of the customer’s status and repayment capacity, and the lending decision must be based on the existing and up-to-date borrower grades. Credit rating controls customer selection, consequences of insufficient collateral and exposure pricing.

Assessing corporate customers' probability of default

OP Financial Group assesses the probability of default of its corporate customers using its internal 20-level credit rating system on a scale of 1.0–12.0, with 11–12 borrower grades representing defaulting customers.

Rating of corporate customers in OP Financial Group



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 will make a rating proposal on the basis of what is 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 borrower 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 potential default customers, on a half yearly basis.

Suomen Asiakatieto'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 or its persons in charge, key indicators based on financial statements and the customer's basic data. Risk scores provided by Rating Alfa have been described (calibrated) into OP Financial Group's internal borrower grades. Risk scores provided by the rating Alfa and OP Financial Group's internal payment behaviour data are used to generate OP Financial Group's borrower grades that will be changed based on expert assessments, if need be. The banks assess at least once a year the validity of the borrower grade of almost all A rated customers included in Corporate exposure group and they must assess

customers with a low borrower grade and those on the watch list on a half-yearly basis.

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.

Borrower grades generated by the corporate rating models are comparable because, irrespective of the model, each borrower grade is subject to the same probability of default. In deriving probability of default, the Group has used recent years' actual payment default data, long-term loan loss data and bankruptcy statistics and the cyclical nature of the model. The need for updating probabilities of default for each grade is assessed annually.

S&P Rating	AAA...AA-	A+...A-	BBB+...BBB-	BB+...BB-	B+...B-	CCC+...C
OP Financial Group	1.0–2.5	3.0–4.0	4.5–5.5	6.0–7.0	7.5–8.5	9.0–10.0

Assessing credit institutions' probability of default

Credit institution exposure is divided into 20 grades ranging from 1.0 to 12.0, with defaulted customers falling into categories 11–12.

A specific L rating model is used to assess the probability of default of credit institutions as counterparties, the structure of which corresponds to the R rating model.

The statistical model as the basis of the credit rating is based on financial indicators in financial statements and on qualitative background data. Such rating can be revised by an expert with warning signs and, in many cases, rating is also affected by the parent company's support to the banking group and by the Sovereign Ceiling rule whereby the counterparty cannot be better than the country concerned in terms of creditworthiness. The Group decides on credit institution ratings at least once a year.

S&P Rating	AAA...AA+	AA...BBB+	BBB...BBB-	BB+...BB-	B+...B	B-...CCC
OP Financial Group	1.0–2.0	2.5–4.5	5.0	5.5–7.0	7.5–8.0	8.5–10.0

Assessing private customers' probability of default

OP Financial Group uses a 16-level scale of A–F to assess the probability of default for its private customer agreements, with F representing defaulting borrowers.

The Group assesses monthly all private 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. The scores calculated on the basis of this data determine the borrower grade. Average PDs have been calculated for each borrower grade for a period of 12 months. The loan portfolio rating model is used for credit risk assessment and capital requirement measurement.

OP Corporate Banks's private customer exposures are categorised, before any loan portfolio rating model, mainly using the application-stage rating model for asset and sales finance solutions. The rating based on the application stage supports the loan approval process, credit risk assessment and the pricing of new loans.

Use of credit risk models in capital adequacy measurement

For the measurement of credit risk for capital adequacy, OP Financial Group has permission from the supervisory authority to use the Internal Ratings-based Approach (IRBA) for corporate and credit institution exposures, retail exposures and equity investments.

The Group applies the Foundations Internal Ratings Based Approach (FIRBA) to measure capital adequacy requirement for credit risk on corporate and credit institution exposures. In FIRBA, an estimate of probability of default (PD) generated by OP Financial Group's credit risk models affects the capital adequacy requirement for credit risk associated with the customer. Standard estimates issued by the authorities are used for LGD and CF.

The Group uses advanced internal-rating based approach (AIRB) to calculate the capital requirement for credit risk on retail exposures, in which the capital requirement is affected by the PD, LGD and EAD values of OP Financial Group's internal credit risk models. OP Corporate Bank Group uses the Standardised Approach (SA) for government and central bank exposures and for some other exposure categories (like those of the Baltic countries and OP Card Company). The PD/LGD method applies to OP Financial Group's strategic investments, where the PD values are based on internal models and LGD values on standard estimates, and the basic approach to other investments. The OP Amalgamation Capital Adequacy Report provides more information on the approaches used.

Decision-making and assessment related to credit risk models

The ALM Committee decides on the adoption of changes in models and parameters approved by the Risk Management Committee. The credit risk models are developed and maintained by Risk Management, independent of business lines/divisions. In the development of new models and changes in models in production, the approval of the content by Risk Management Committee is segregated from the implementation decision made by the ALM Committee. If such adoption requires permission from or notification to the relevant authority, Finance and Treasury will apply for the required permit before any decision on the adoption.

The effectiveness of the credit rating process and credit risk models is subject to regular monitoring and supervision. The monitoring is aimed at giving real-time picture of the effectiveness and quality of the credit risk models by assessing the performance of the model by means of quantitative and qualitative reviews. If the reviews performed during the monitoring reveal that the model's functionality has deteriorated, the related observation can be submitted to the Risk Management Committee. In less severe cases, it is possible to issue recommendations based on the monitoring, for example, to fix the process related to the adoption of the process or to analyse the model performance in greater detail in

validation. The monitoring includes analysing data, used methods, model structure, variables and model usability and operating process in respect of PD and LGD models, CF and IFRS 9 within the scope of IRBA permission. OP Financial Group's Risk Management also collects continuous feedback from the business lines/divisions on the effectiveness of the credit rating process and credit risk models.

In addition, the Group assures the quality of the models at least once a year in accordance with the validation instructions approved by OP Financial Group's Risk Management Committee. The set of the validation instructions contains requirements for quality assurance carried out when adopting a model. Validation uses statistical methods to test, for example, the model's sensitivity and the validity of risk parameter estimates (PD, LGD and EAD). Validation also involves qualitative assessment, such as an analysis of user feedback, and a peer group analysis. The results of validation and any recommendations for required measures are reported to the Risk Management Committee, which decides on any improvements on the basis of the validation.

OP Financial Group's Internal Audit performs audits to ensure the independence of validation. It also controls the risk model development process and the appropriate and extensive use of the models on the basis of its risk-based assessment.

Securitisations

OP Corporate Bank Group has not acted as an originator or manager of securitisation transactions but has invested in securitised assets. In calculating the total amount of the risk-weighted assets of securitisation exposures, the Group has used IRBA to credit risk when the securitisation exposure belongs to the exposure category to which the assessment model based on credit rating is applied.

Credit risk management

OP Financial Group manages its credit risk through the Group-level guidelines and principles and qualitative and quantitative risk tolerances. These are specified in risk-taking policy lines and limits, 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. The limits set a maximum limit for risk-taking. These help to ensure the sufficient diversification of the loan portfolio while avoiding the emergence of too 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. The Group manages credit risk through the selection of the range of products and product terms and conditions. The Group manages risk associated with new lending through well-thought-out customer selections, covenant terms, collateral and the avoidance of risk concentrations. Managing risk associated with the loan portfolio is based on good customer relationship management and the proactive and consistent management of problem situations.

A customer's sufficient repayment capacity is the prerequisite for all lending. In order to ensure repayment, the Group takes collateral for exposures. With respect to larger corporate customers in particular, the Group also uses covenants to ensure the availability of information and an option to re-evaluate loan terms and conditions, collateral requirements or pricing should the risk status changes. Regularly updated, sufficiently conservative and well documented collateral management ensures good credit risk management. Separate instructions apply to collateral assessment and use of covenants. Maximum valuation percentages for each type of collateral have been specified and the Group monitors developments in collateral values on a regular basis. Collateral evaluation is based on the principle of independent evaluation and a prudent approach to fair value. The Group exercises special care in assessing the value of collateral deemed as cyclical in nature. In case a customer gets into difficulties or the collateral's value changes significantly, the Group checks whether there is need for collateral re-evaluation.

The Group responds to any foreseeable problems as early as possible. Customers whose financial status performance, credit risk and payment behaviour justify a more detailed review are subject to special control. In this context, the Group also analyses the need to revise the customer's credit rating, the probability of a credit loss and the need to recognise an impairment loss. This often also means changes in loan decision levels.

The assessment of corporate customers' repayment capacity and credit risk uses not only credit ratings but also payment behaviour data, financial statements analyses and forecasts, corporate analyses and sector reviews, and credit rating assessments and other documents produced by the banks' account managers. Corporate customers can protect against higher interest rates using an interest rate cap or interest rate corridor.

Risk Management regularly supervises and reports to the central cooperative's and OP Corporate Bank's management on the risk exposure developments of the Group and its companies, and on the implementation of the risk policy principles as part of its regular risk management reporting. Significant and immediate risks that may endanger, or already have endangered, business continuity, security or reputation must immediately be reported to the management.

4.4 Liquidity risks

Liquidity risk comprises funding liquidity risk, structural funding risk, funding concentration risk and asset encumbrance.

Funding liquidity risk refers to the risk that OP Financial Group will not be able to meet its current and future cash flows and collateral needs, both expected and unexpected, without affecting its daily operations or overall financial position. Structural funding risk refers to uncertainty related to long-term lending, arising from the refinancing risk due to the structure of funding. Funding concentration risk refers to the risk that funding becomes more difficult due, for example, to a transaction related to an individual counterparty, currency, instrument or maturity band. Encumbrance of assets means risk of securing liquidity and reducing free collateral used as funding collateral. Market liquidity risk is a risk that is associated with uncertainty regarding the market value of receivables.

OP Financial Group's key source of liquidity risk is banking where inflows and outflows of financing does not take place at the same time. In such a case, the bank is exposed to refinancing risk due mainly to lending with a long maturity and the differences between the maturity of deposit funding dependent on customer behaviour and the liquidity of receivables. At the same time, the bank is exposed to funding concentration risk as regards the counterparties of deposit and wholesale funding, availability and maturity of finance. Lack of market liquidity may reduce liquid assets held by the bank.

Insurance operations' funding liquidity risk is assessed individually from each insurance business's viewpoint. Insurance companies' investment assets act only as a liquidity buffer for the company concerned. Measurement and management of funding liquidity risk is recorded in the companies' investment plans and liquidity requirements are taken into account in the investment portfolio weightings.

Measuring liquidity risks:

- Structural funding risk is measured on the difference between cash inflows and cash outflows in different maturities. In addition, the Group calculates the regulatory Net Stable Funding Ratio (NSFR) which determines how much there must have stable sources of funding in proportion to assets requiring stable funding. The calculation of the ratio is based on rules issued by the authorities.
- Funding liquidity risk is measured using a ratio based on the Liquidity Coverage Ratio (LCR), whose calculation is based on regulations issued by the authorities. The LCR requires that a bank have sufficient liquid assets that cover the net cash outflows from the bank under stress conditions. Internal stress tests are also used to assess the sufficiency of the liquidity buffer.
- The Group measures funding concentration risk by calculating the amount of bond funding with a maturity of rolling 12 months and 3 months and also long-term central bank financing. Concentrations by counterparty and instrument are also subject to monitoring.
- The Group measures its asset encumbrance by proportioning encumbered assets to the aggregate amount of balance sheet assets and collateral securities.

A tolerance or limit has also been set for most of the abovementioned indicators.

As part of OP Financial Group's risk management process, stress tests are carried out regularly to test the effect of stress scenarios on the Group's liquidity, earnings and capital adequacy.

Liquidity risk management

Liquidity risk management is based on the principles governing OP Financial Group's risk-taking and management, risk policy lines as well as on the set tolerances, target levels and the Group's limits from which limits and control limits have been derived to Group companies. Funding liquidity management is also governed by the regulations governing the minimum reserve and marginal lending facility systems by the European Central Bank.

The central cooperative's Executive Board is responsible for OP Financial Group's liquidity risk management and controls funding liquidity management using various threshold levels. In cases of market disruption, liquidity management relies on the liquidity contingency plan. For

each of those liquidity levels, the Group has specified control and monitoring practices which become more rigorous when moving up to the next level.

Each company within OP Financial Group controls its liquidity management within the framework of tolerances, limits and control limits issued by the central cooperative and guidelines and of account, deposit and loan terms and conditions.

The central cooperative's Executive Board has approved the funding plan and the ALM Committee of the Executive Board has approved the liquidity contingency plan that contains a control model of the liquidity status using various threshold levels, and sources of funding. OP Financial Group manages its liquidity position through the proactive planning of the funding structure, the monitoring of the liquidity status and a well-balanced liquidity buffer, planning and management of daily liquidity, the contingency plan based on emergency preparedness, as well as the effective and ongoing control of the Group's liquidity status.

OP Financial Group safeguards its liquidity with a liquidity buffer and other sources of funding referred to in the contingency plan. The liquidity buffer and contingency plan items have been scaled in such a way that OP Financial Group will maintain its liquidity in a long-term liquidity shock too. Liquidity may be made available for use by the Group by selling notes and bonds in the liquidity buffer or using them as collateral. The liquidity buffer consists mainly of deposits with the central bank and receivables eligible as collateral for central bank refinancing.

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's daily liquidity management refers to managing liquidity of the companies engaged in banking. The liquidity of OP Financial Group's insurance companies and pension institutions transfers through bank accounts to the Group's overall liquidity. Any changes in their liquidity position will change OP Corporate Bank's liquidity position. The liquidity buffer of banking within the entire OP Financial Group is managed by the Group's Treasury.

OP Financial Group's funding planning is based on the proactive planning of the funding structure and on the tolerances set for the liquidity risk. Deposits from the general public and wholesale funding form the basis of OP Financial Group's funding. Wholesale funding is aimed at actively and proactively covering funding needs arising from the growth differentials between the receivables

and the deposit portfolio in the balance sheet, funding maturity, other internal objectives and credit rating objectives. A solid funding structure requires that the loan portfolio and OP Financial Group's liquidity buffer be funded not only through deposit funding and short-term funding but also through long-term wholesale funding. Diversifying funding sources will reduce OP Financial Group's dependence on an individual source and decrease price risk associated with funding. The Group diversifies its funding by time, maturity, instrument and customer segment.

Any surplus deposits with member banks are mainly channelled to the central cooperative consolidated accounts or instruments it has issued in order not to increase the Group's wholesale funding unnecessarily. OP Corporate Bank plc manages on a centralised basis the Group's wholesale funding in the form of senior bonds and equity capital, while OP Mortgage Bank manages wholesale funding based on covered bonds.

As the central institution of the amalgamation of cooperative banks, OP Cooperative has given its member credit institutions special permission, under the Act on the Amalgamation of Deposit Banks, whereby the liquidity requirements set for credit institutions mentioned in Part VI of the EU Capital Requirements Regulation are not applied to the member credit institutions. Liquidity based on the regulation is subject to supervision and reporting at the level of the cooperative banks' amalgamation.

Liquidity risk reporting

Monitoring and reporting liquidity risks vary from real-time to quarterly practices, depending on the nature and extent of their business. Monitoring and reporting are based on OP Financial Group's tolerances, limits and target values. Depending on companies and the reporting level, reporting practices may vary from daily cash-flow monitoring (funding liquidity) to the monitoring and forecasting of the long-term funding structure (refinancing risk).

The Group reports liquidity risks to the central cooperative's Executive Board 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 and control limits.

4.5 Market risks

In the management of market risks, it is important to identify the dimensions of the business models' market risk, make risks visible through regular reporting and actively decide on bearing or covering the risk.

Market risks arise from the banking book of banking (interest rate risk in the banking book and optionalities), trading operations, long-term investment by banking and insurance operations and from insurance liability of insurance companies.

Trading operations have been centralised in OP Corporate Bank's Markets. OP Corporate Bank and insurance companies engage in investment.

OP Financial Group uses derivatives for trading and hedging purposes. OP cooperative banks uses derivatives only for hedging purposes.

OP Corporate Bank Group controls and restricts market risk-taking by following the principles of risk-taking and risk management, using the supplementary risk policies as well as tolerances and limits as well as principles of investment plans.

Interest rate risk in the banking book of Banking

The interest rate risk associated with Banking is by nature structural interest rate risk related to interest income from financing. The banking book consists of the loan and deposit portfolio and domestic and foreign wholesale funding and derivative contracts hedging the abovementioned items. The liquidity buffer and other investment assets are also included in the banking book. The management of market risks associated with the banking book has the aim of hedging the consolidation group's net financial income against interest rate fluctuations and the value change of investment assets against credit spreads. No currency risk is taken in the management of the banking book. In addition to the interest rate monitoring standardised throughout OP Financial Group, the Group's Treasury controls interest rate risk by means of interest rate risk limits specific to responsibility areas.

Trading

Trading in derivatives, foreign exchange products, bonds and money market products has been centralised in OP Corporate Bank's Markets. Risks taken include interest rate risk in different currencies, especially EUR, USD and SEK, currency risk, volatility risk of options and credit spread risk. Markets is responsible for the management of the Group's currency exposure and does foreign

exchange transactions on the markets according to needs.

To take account of credit risk, the Group adjusts the valuations of derivatives using Credit Valuation Adjustment (CVA). 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.

Group member banks offer derivative features embedded as promissory note terms within loans: interest rate caps and corridors. Risks arising from derivative features are transferred to Markets that covers them on the market. Risks associated with operations include interest rate and volatility risk. In some products, the forecast customer behaviour has a significant effect on the pricing of the product and risk hedging. If the customers' behaviour differs considerably from the forecast behaviour, the customer behaviour risk materialises. The Group monitors customer behaviour risk associated with the derivative features embedded within loans by comparing the actual customer behaviour with the customer behaviour forecast by the model.

Markets is responsible for providing clients with structured investment products through the Group's sales channels. The products are built in such a way that the risk is covered at the time of issue. When the products are repurchased from clients, open market risk is opened. The risk depends on the product's underlying asset and may be an equity or credit basket, for example.

The risk policy sets limits and framework for business models. Markets manages risk exposures by actively managing positions and actively trade on the markets. The Markets risk and earnings monitoring is performed on a daily basis.

Market risks associated with Trading are measured using a VaR (Value-at-Risk) measure that is aimed at predicting loss at a selected level of confidence and with a time horizon as well as with product- and position-specific sensitivity indicators.

Market risks associated with long-term investment

OP Corporate Bank and insurance companies engage in investment.

To maintain liquidity, OP Financial Group has a liquidity buffer managed by OP Corporate Bank's Treasury. The liquidity buffer consists mainly of deposits with central banks and notes and bonds eligible as collateral for central bank refinancing. Furthermore, OP Corporate Bank invests in the bonds of Finnish companies. In both

investment portfolios, revenue generation is based on covering credit spread risk. The Group uses limits to restrict credit spread risk associated with the portfolios. Derivatives are used to cover interest rate risk.

Investments made by the insurance companies are aimed at obtaining assets covering insurance liabilities and investing profitably. The investment asset allocation of insurance operations takes account, for example, of the insurance companies' structural interest rate risk and other requirements set by insurance liability on investment assets and their liquidity. Indeed, the management of insurance companies' market risks pertain to the management of market risks in the entire balance sheet that involves investments, derivatives and insurance liability.

In the investment plan, the insurance company's board of directors determines the strategic intent in respect of the market risk level on the balance sheet and authorises the investment organisation to manage investment assets (including derivatives) within the framework of the asset class descriptions, basic weighting and risk limits specified in the investment plan. Risky investments are managed in the risk policy by asset class specific restrictions, the maximum number of risky investments and the maximum risk level that limits total risk exposure amount associated with the investment portfolio.

The insurance companies allocate a considerable amount of investments covering insurance liability to securities denominated in euros, because the insurance liability is almost in full denominated in euros. By investing in securities that include currency risk (e.g. debt securities in emerging markets), the Group seeks higher expected return and market risk diversification benefits with respect to the investment assets.

Insurance companies' investment operations may use derivative contracts to hedge against market risk or to take a market view within the limits set in the investment plan. If investment assets contain interest rate option contracts (such as swaptions), this will expose investment assets to volatility risk. In addition, option contracts bring convexity to the interest rate risk profile.

With respect to investment assets the most significant market risk is associated with the effect of a change in equity prices on the value of equity investments. The most significant part of equity risk is caused by illiquid investments and liquid equity investments.

Insurance companies' real estate investments expose investment assets to real estate price risk. Real estate investments are aimed at achieving illiquidity premia and

improving the risk-return ratio of investment assets while levelling off fluctuations in the value of investment assets.

The Group limits risk-taking through limits based on the risk policy and the principles governing risk-taking. The Group ensures sufficient portfolio diversification by means of restrictions by issuer. Liquidity buffer investments are also controlled by the eligibility of investment instruments as central bank collateral.

The VaR measure is used to measure market risks associated with investment portfolios.

Market risks associated with insurance liability

In insurance business, structural interest rate risk arises from interest rate risk associated with the valuation of insurance liabilities and from the credit spread risk: a reduction in interest rates and narrower credit spreads increase the present value of insurance liabilities. Net interest rate risk on the balance sheet consists of both interest rate risk associated with insurance liabilities and the risk profile of fixed income investments covering the insurance liabilities and of derivative hedges.

The insurance liability discounting curve includes a volatility adjustment, which exposes to credit spread risk... In respect of the level of the credit spread, the consistency of the risk profiles of assets and liabilities is essential.

In its investment plan, the insurance company's board of directors determines the company's strategic intent related to interest rate hedging and the room for manoeuvre for hedging while authorising the investment organisation to change interest rate hedging according to its strategy to be in line with the changing structure of the insurance liability and market situation.

In its investment plan, the Group limits market risks through limits by issuer, fund investment and interest rate risk.

4.6 Underwriting risks associated with non-life insurance

Risks of insurance operations

The insurance business is based on taking and managing risks. The largest risks associated with the insurance business pertain to risk selection and pricing, the acquisition of reinsurance cover, and the adequacy of insurance liabilities. In non-life insurance, the risk inherent in insurance liabilities lies mainly in insurance lines characterised by a long claims settlement period.

Biometric risks also arise from granting non-life policies where the non-life insurer pays annuities stemming from non-life obligations as a result of an insurance event. In addition to underwriting risks, a significant insurance business risk consists of the investment risk related to the assets covering insurance liabilities.

Underwriting risks

Underwriting risks associated with Non-life Insurance 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. This results in assets covering technical provisions differing due to expected higher claims incurred. Provision risk arises when the claims incurred due to already-occurred losses are higher than anticipated on the balance sheet date. The uncertainty related to the timing of claims paid out also has an effect on the amount of provision for outstanding claims. Once a loss has been reported, uncertainty may still prevail as regards the size of the loss. However, the most significant uncertainty relates to the assessment of unknown losses.

The majority of claims expenditure in statutory lines of insurance for bodily injuries consists of compensation for loss of income and for medical care. In addition to accidental injuries, statutory occupational accident and occupational disease insurance covers occupational diseases, which tend to develop slowly. For this reason, major uncertainty is involved in assessing claims incurred in the case of occupational diseases.

It is typical of the statutory lines of insurance that the period from the date of the occurrence of loss until the date on which the claim is fully paid is often long. Such underwriting business generates a long-term cash flow, on the evaluation of which the mortality of beneficiaries, medical-cost inflation and return to work have the greatest impact. With respect to occupational accident and occupational disease insurance and motor liability insurance, the insurance company is not, however, liable for the index increments of compensation for loss of income nor for any medical expenses that are paid for over ten years after the accident's occurrence. These are financed through the pay-as-you-go system. The pay-as-you-go system is a scheme based on special laws governing each statutory line of insurance. Under this system, the financing of benefits, the so-called pay-as-you-go benefits, specified in these laws, has been arranged through the pay-as-you-go system. The pay-as-you-go system does not generate any financial benefit or harm to the insurance company that would lead to changes in equity.

Individual claims are usually small in voluntary accident and health insurance. The largest claims may arise from catastrophes with a large number of injured people. Medical-cost inflation has a major impact on projecting cash flows in medical expenses insurance, with respect to illnesses for which compensation is paid for a long time. Rapid progress in medicine and rising pharmaceuticals costs increase medical-cost inflation. Developments in public healthcare will also affect future cash flows. If tax-funded public healthcare services decline, those insured will increasingly start paying for their medical care through medical expenses insurance.

In motor vehicle and cargo insurance, weather conditions have the greatest effect on the number and size of claims. Claims expenditure is therefore larger during the winter than during the summer. The greatest risks within cargo insurance are associated with risk concentrations caused by sea transport and trading stock. In addition, weather conditions, such as storms and floods, and snow and icy roads during the winter relating to motor vehicle insurance may involve accumulation risks covering a geographically large region.

The largest single risks within property and business interruption insurance include fire, natural phenomenon and breakage risks exposed by companies' production facilities and buildings, and the related business interruption risks. Households' individual property risks are small and the related individual claims have no material effect on the non-life insurance earnings. The majority of claims expenditure for households is due to leakage, fire and burglary claims.

The risk of natural catastrophes has been considered minor in Finland. However, studies have suggested that there are indications of a change in climatic conditions in our operating region at least in the longer term. The projected temperature increase will probably be reflected in changes in summer and winter conditions and, for instance, in higher precipitation and wind speeds.

Laws and legal practice governing the liability to pay damages have a major impact on the number and size of liability claims. For private individuals, claims have a minor effect on earnings. In addition, private individuals' risks account for a minor share of the total risk within the class. The majority of corporate liability policies consist of product liability and commercial general liability policies. Liability insurance is characterised by losses being revealed and settled slowly, especially in respect of product liability insurance in North America.

Decennial insurance and perpetual insurance are long-term contracts. Decennial insurance is a statutory policy

where a loss event requires both a construction defect and the builder's default. The underwriting of perpetual insurance was terminated in the 1970s and their sums insured and associated risks are small due to low inflation. The policyholders consist mainly of private individuals.

A specific risk type consists of a claim accumulation generated by natural catastrophes or large catastrophes caused by human activity. In such a case, one catastrophic event may in practice give rise to simultaneously payable claims for a large number of insured risks at high amounts. The resulting total claims expenditure may be extremely large.

Unidentified background factors may also affect underwriting risks. Examples from recent history include cases of occupational diseases caused by exposure to asbestos dust, and the effect of higher life expectancy than predicted on the pension portfolio of statutory insurance.

Underwriting risk management

The most important tasks within the management of underwriting risks relate to risk selection and pricing, the acquisition of reinsurance cover, the monitoring of claims expenditure and the analysis of insurance liabilities. The highest underwriting risk decision-making body in 2019 was the Insurance Committee, tasked with managing non-life insurance underwriting risks. The Insurance Committee made underwriting decisions within the framework of confirmed powers and reported its decisions to the Insurance Customers Management Team.

Decisions on customer and insurance object selection and risk pricing are made according to the UW Guidelines. The Insurance Committee has approved the most significant and demanding risks in terms of their effect. For smaller risks, decisions are made jointly by several underwriters or managers on the basis of risk size and severity. For basic insurance lines, decisions are made on a system-supported basis and customers and the objects of insurance are selected within the powers determined by instructions specifically approved.

The Group assesses non-life underwriting risks by applying the Solvency Capital Requirement (SCR) and the economic capital requirement. Stress tests are used to supplement the assessment. The Group limits the economic capital tied by underwriting risks relative to the Group's permanent capital (internal capital). Underwriting risks are, for their part, also restricted by a target set in

the capital plan for own funds and the requirement for solvency capital.

Risk selection and pricing

Operating models highlight the role of risk selection and pricing. The Group has set limits for the size and extent of risk for each insurance line and risk concentration. Non-life Insurance has a centralised data warehouse and analysis applications in place to support risk selection and pricing. Insurance terms and conditions play a substantial role in risk mitigation. In addition, the Group performs risk analyses on a customer or insurance line specific basis to mitigate risks.

Reinsurance

The reinsurance principles and the maximum retention levels for different type of risks are annually approved by the board of directors of each insurance company. In practice, the Group's own retention levels can be kept lower than the maximum retention levels adopted by the board of directors, if the reinsurance pricing supports this. Retention in both risk-specific reinsurance and catastrophe reinsurance is mainly a maximum of 5 million euros. Reinsurance has an effect on the solvency capital requirement. Only reinsurance companies with a sufficiently high financial strength rating are accepted as reinsurers. The reinsurer's counterparty risk is managed by means of reinsurance diversification limits. Risk Management monitors that the reinsurance programme and the selection of reinsurers have been executed according to the reinsurance principles, and reports its observations in the risk analysis.

Risk concentrations

The Group takes account of local risk concentrations in EML (Estimated Maximum Loss) estimates for property and business interruption risks and through EML breakthrough cover included in reinsurance cover. Our operating region has no major risk of earthquakes. With respect to risks associated with other natural disasters, such as storms and floods, Finland is a stable area. However, the Group has protected against catastrophe accumulation losses through an extensive catastrophe reinsurance cover whose size has been dimensioned to correspond to the calculated size of a catastrophe loss occurring once every 200 years. The catastrophe accumulation cover applies to property damage and personal injuries.

Evaluation of insurance liabilities

The Group calculates insurance liabilities on a monthly basis and ensures their accuracy through a regular process, and reports regularly on how it develops.

Insurance liabilities arising from insurance contracts are determined on the basis of estimated future cash flows. The cash flows comprise payable claims and loss adjustment expenses. The amount of insurance liabilities has been estimated securely in such a way that it would be sufficient to fulfil the obligations arising from insurance contracts. This has been performed in such a way that an expected value has first been estimated for the insurance liability on top of which a safety loading based on the degree of uncertainty related to the liability has been determined.

The estimation of insurance liabilities always involves uncertainties which may be due, for instance, to the prediction of the claims trend, delays in verifying losses, cost inflation, legislative amendments and general economic development. Every few years, an external actuary performs for Non-life Insurance an analysis of the appropriateness of the calculation bases and the amount of insurance liabilities.

The provision for outstanding claims for annuities consists mainly of annuities of statutory insurance lines. Discounting is used in the computation of the provision for outstanding claims for annuities and the discount rate used is of great significance for the provision of outstanding claims. Due to low interest rates, non-life insurance has reduced the discount rate.

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.

4.7 Counterparty risks

Counterparty risk may relate to a derivative contract, security and foreign exchange transactions (settlement risk) or to a reinsurance contract. In investment operations, credit risk arising from a debt instrument issuer's default is included as part of market risk associated with investment. Lending risk arising from the non-fulfilment of the contracting party's repayment obligation is treated as a credit risk.

Counterparty risk arises from derivative contracts concluded by the central cooperative companies, with an external entity acting as the counterparty. The Group

enters into derivative contracts for the purpose of both hedging and trading. Counterparty risk especially arises from derivatives held for trading performed without collateral with the counterparty. OP cooperative banks enter only into derivative contracts where OP Corporate Bank acts as the counterparty.

Reinsurers' counterparty risk is caused by the restriction of underwriting risk included in insurance operations through reinsurance contracts. Risk Management monitors that the reinsurance programme and the selection of reinsurers have been executed according to the reinsurance principles, and reports its observations in the risk analysis.

OP Financial Group's portfolio of derivatives consists mainly of interest rate derivatives in which no parallel correlation exists between the creditworthiness of the counterparty to the derivative contract and interest rates (so-called wrong-way risk).

Measuring counterparty risks

In loans, the market values of contracts decrease over time through repayments. It follows that the largest loss caused by default is the loan's remaining principal and accrued interest. Derivatives differ from this in that market values may increase significantly during the term to maturity. Forecasting an expected change in the market value is a key factor in measuring counterparty risk.

Counterparty risk of derivative contracts is measured by calculating credit equivalents for the counterparty contracts, through which the contracts become commensurate with loans. Credit equivalents are usually calculated by taking the positive part of the combined market values of the customer's contracts plus a buffer against market value. The Group also takes account of counterparty risk in the economic capital requirement as part of the credit risk model.

The Group measures counterparty risk using a fair value model, whereby the value of liability comprises the contract market value and the expected potential future exposure. The market value of counterparty credit risk adjusted using a Credit Value Adjustment (CVA) is determined at counterparty level. The CVA describes the market price of hedging the counterparty's credit risk and means an adjustment that must be made to valuations to take account of the customer's counterparty risk. The CVA is included in measuring economic capital requirement.

The Group assesses reinsurers' counterparty risk by applying the economic capital requirement and the

Solvency Capital Requirement (SCR). Stress tests are used to supplement the assessments.

Counterparty risk management

The Group limits counterparty risk associated with derivatives by using derivative limits per counterparty. The Group confirms counterparty exposure limits once a year when it checks the amount and the status of collateral applying to limits for derivatives. This diversifies risk, i.e. the effect of default of a single customer on OP Financial Group's financial position decreases.

OP Financial Group manages counterparty risks associated with derivative contracts through master agreements enabling netting related to bankruptcies, through collateral and optional early termination (break clause). The Group uses netting for counterparty exposure arising from derivative contracts in both capital adequacy measurement and the monitoring of credit risk limits.

As a result of the global financial crisis of the 2000s, the role of the counterparty risk has grown. Derivatives with banks as counterparties are made on a secured basis. Furthermore, a large part of derivatives transactions between financial services providers has transferred to be cleared by a central counterparty. Collateral securities and central counterparty clearing have a major role in reducing counterparty risk.

The Group manages reinsurers' counterparty risks by diversifying the risks among several counterparties with a good credit rating. The reinsurance principles approved the insurance companies boards of directors describe the restrictions related to credit ratings and exposure amounts.

Risk Management regularly reports to the management on counterparty risks in the risk analysis.

4.8 Operational risks

Operational risks are associated with all OP Financial Group's business, both internal operations and business in the customer interface. Operational risk is a form of qualitative risk that is prevented through careful and high-quality operations. Each OP Financial Group business and company is responsible for organising its operations in a way that minimises the negative consequences of operational risk.

The most significant, identified operational risks pertain to information systems, business processes, the accuracy of documentation, and the allocation of resources. Risk

management related to the management of third parties and outsourcing is a growing operational risk area.

Operational risk may be shown in financial losses or other detrimental consequences, such as in terms of deterioration or loss of reputation or trust. The materialisation of operational risk may also lead to legal consequences, such as sanctions, in addition to the consequences mentioned above.

The Group measures and assesses operational risk in several ways and at several levels to ensure the extensive identification and control of operational risk. The Group measures and assesses risks in the following ways:

- OP Financial Group's business lines/divisions record operational risk events of those materialised and the so-called near-miss events. The aim is to ensure that the statistics on the events can be collected at Group level and be reported to the management and the relevant authorities.
- OP Financial Group assesses all new products, services and concepts against risks. Its business lines/divisions assess the risks based on practices approved by the central cooperative's Risk Management. OP Financial Group offers only products to customers and applies only business models that have been approved at Group level.
- The business lines/divisions and the companies analyse operational risks at least once a year that apply or may apply to OP Financial Group's business environment, business and exposures.
- The assessment of operational risks is supplemented by the annual operational risk stress test carried out by Risk Management. The results of stress tests are analysed and utilised, for example, in the assessment of the sufficiency of economic capital.

Management of operational risks

Operational risk management ensures that operations have been organised appropriately and that risks do not result in unforeseeable financial losses or other negative consequences, such as loss of reputation. Due to the qualitative nature of operational risks, it is not possible to ever fully hedge against them and their adverse effects cannot be prevented in all cases. Operational risk management does neither always aim to eliminate the risk altogether, but it does aim to bring risks down to an acceptable level.

Group-level instructions are used to control operational risk management. Operational risks also have Group-level restrictions, such as those for the number of MIM (Major Incident Management) failures in 2019, materialised operational risks in euros and the usability of information systems.

The key tool to manage operational risks is diligence. OP Financial Group emphasises well-defined responsibilities and the role of personal responsibility in reducing operational risks.

In addition to the standard procedures and tools to management individual risks, the central cooperative may consider any effect of a materialised operational risk transferring outside the Group through insurance.

The business lines/divisions and companies themselves and the owner of each process are first and foremost responsible for operational risk management. They are also responsible for the fact that operational risks are identified and assessed and well-functioning and sufficient management tools are specified for them, for example through relevant controls, supervision and, if needed, by carrying out sufficient development measures to reduce the risk.

As business processes are being automated, the Group pays attention in the risk management assessment of new products and business models to compliance with policies required by good bank and insurance practices and the sufficiency of automated controls.

Business continuity planning also forms an integral part of managing operational risks. The Group prepares for risks threatening the continuity of critical and important processes by means of thorough business continuity planning.

Operational risks are reported regularly to the management of the central cooperative and the companies.

Management of security and information security risks

OP Financial Group's security work aims at upgrading the security culture throughout the organisation, developing and maintaining the desired security level by emphasising preventive measures and effective management of threatening situations and incidents. In threatening situations, ensuring personal security is always the primary goal, while property and data protection remains a secondary goal.

OP Financial Group manages the control, supervision and development of its security by means of the Corporate

Security Policy confirmed by the central cooperative Executive Board.

A specific, centralised cyber security framework is used to manage and supervise cyber security and report on related issues. When processing the information, the Group always ensures data and cyber security. By means of data security, the Group ensures data usability, integrity, confidentiality and availability, through technical and administrative measures. Data is protected against unauthorised access and handling unlawfully or accidentally. The owner of data classifies the data on the basis of its confidentiality and takes the necessary protection measures. Data access rights and authorisations are granted on the basis of work duties. This also includes defining avoiding any inadequate segregation of duties.

Threats and external requirements are systematically identified and preventive measures are planned on the basis of risks involved. The Group monitors systematically measures aimed at maintaining and enhancing security.

4.9 Model risk

The model means a method used to translate the source data based on mathematics, statistics and expert assessments into data guiding business decisions or quantitative data related to financial position or risk exposure.

The sources of model risk can be divided into the following three categories: shortcomings in the development stages of the models, shortcomings in the implementation of the models and shortcomings in the use of the models. All these share sources of risk, such as shortcomings in data, weak knowledge of interdependencies between mathematical methods and models and shortcomings in the knowledge of business, risk measurement and regulation. Furthermore, inadequate or unclear responsibilities of the management of the models as well as incomplete documentation in all stages of the model lifecycle lead to a higher risk of misunderstanding the models' function.

The models are used in the measurement of risks, measurement of regulatory capital adequacy, internal determination of capital need, assessment of liquidity sufficiency, measurement of balance sheet and income statement items and in price determination and decision-making in business. The models are grouped based on the purpose of use to implement model risk management.

All models applied in OP Financial Group are Group-specific. OP Financial Group and its companies share the related key parameters and assumptions. The independent validation unit within Risk Management maintains a register of all approved and adopted models.

In addition to the grouping, the models are classified in terms of quality according to their significance, which enables managing the models on a risk-based basis. Data on the models used by OP Financial Group and an assessment of the model's significance are registered in a model inventory.

The quantification of uncertainty involved in the model consists of the identification of shortcomings in data, the assessment of the model's estimation error and the determination of the model's shortcomings. The Group seeks to quantify uncertainty associated with the model arising from these sources by using applicable methods.

Model risk management

Risks associated with models are managed and restricted using practices included in the model risk management framework. OP Financial Group's model risk management framework specifies responsibilities related to the ownership and decision-making of the models as well as policies applying to the development, adoption, validation and other quality assurance of the models. The management model ensures effective and appropriate models, well-defined roles and responsibilities as well as the implementation of decisions in accordance with good governance, and supervision.

The Group manages model risk through well-defined roles and responsibilities as well as by ensuring adequate knowledge of quantitative methods and resource allocation. The development of models is segregated from their validation while the approval of models is segregated from the decisions of their implementation. Each model has its owner. The model owner is responsible for the development of the model, the arrangement of its monitoring as well as for ensuring the data required by validations and its quality and the execution of development measures based on the validations.

Model development is primarily based on the Group's own, high-quality historical material or on measuring risk in risk position or on market information suitable for the valuation of an asset or liability. The model must be applicable to the review of the matter to be modelled and fulfil regulatory requirements. The Group uses generally used and proven modelling methods and models whenever they are available. Model development aims to identify shortcomings in the model and the situations

where the model performs poorly. Regulation and risk management perspectives must be taken into account in the further development of the model.

The Risk Management Committee approves both new models and changes in the models in production. In its approval, the Risk Management Committee ensures the quality and effectiveness of the model and the sufficiency of impact analyses relative to the purpose of use of the model.

The adoption of the models included in the use categories based on the risk management principles requires valid approval from the Risk Management Committee, a comprehensive impact analysis and, as applicable, permission or notification from the supervisor. An appropriate business line/division's decision-making body decides on the implementation of the business line's/division's pricing and decision-making models. With respect to the valuation models of items measured at market price, the model owner may make the decision on the approval of implementation unless the Risk Management Committee states otherwise in connection with the approval of the model. The ALM Committee decides on implementing other models.

The model owner (and other model users, if any) are responsible for the fact that each model's system implementation is tested and verified extensively before adoption and that the model is used only for what it has been developed and for what it has been approved. Extending the use of the model to a new application will always require a new approval and an implementation decision.

Standardised and regular monitoring is used in the assessment of use of the models. The extent, detail and frequency of monitoring must be proportionate to the significance of the model. In monitoring, the Group takes account of regulatory requirements.

The performance of the models is subject to a quantitative and qualitative review, or validation, carried out on a regular basis. The review takes account of the purpose of use of the model and its significance. The Risk Management validation unit is responsible for independent validation. The functionality of the models other than those included in the use categories under the risk management principles can be ensured through other procedures when the regulatory requirements are fulfilled.

Every stage of the model lifecycle pays also attention to adequate documentation and the fulfilment of regulatory requirements set for documentation.

Risk Management supervises model risks and reports them to the management. It also supervises the implementation of the approval conditions related to the used models, of the monitoring of the confirmed validation measures and functionality as well as the updatedness of validations. The Group regularly reports the supervision results, any deviations included, to the management.

The Group's Internal Audit inspects model risk management, the processes of the development, monitoring and validation of the models, individual models including their development and validation projects as well as the appropriate and extensive use of the models based on its risk-based assessment.

4.10 Compliance risks

Compliance risk forms part of operational risk. Compliance activities are aimed at ensuring that all OP Financial Group companies comply with laws, official instructions and regulations, self-regulation of markets, and internal guidelines, policies and instructions of OP Financial Group and the companies. Compliance also ensures that customer relationship management complies with appropriate and ethically sound principles and practices.

Materialisation of compliance risk may result not only in financial loss but also other adverse consequences, such as sanctions. Such sanctions may include a corporate fine and separate administrative fines for violation of obligations, and public warnings and reprimands. Compliance risk may materialise in terms of loss or deterioration of reputation or trust.

Responsibility for regulatory compliance and its supervision within OP Financial Group companies rests with the top and senior management and all supervisors and managers. In addition, everyone employed by OP Financial Group is responsible for their own part for regulatory compliance.

Guidelines, advice and support concerning compliance within OP Financial Group are the responsibility of the Compliance organisation that is independent of business. It assists the Group Executive Management and senior management and business lines/divisions in the management of risks associated with regulatory non-compliance, supervises regulatory compliance and, for its part, develops internal control further. Central cooperative consolidated companies have concentrated compliance functions in the centralised compliance organisation, in addition to which the most significant

central cooperative consolidated companies have their own compliance officers.

Compliance risk management

Managing compliance risks forms part of internal control and good corporate governance practices and, as such, an integral part of business management duties and the corporate culture. Compliance risk management tools include monitoring legislative developments, providing the organisation concerned with guidelines, training and consultation in respect of observing practices based on regulation as well as supervising regulatory compliance with procedures applied within the organisation.

Compliance risks are identified, assessed and reported regularly according to the operational risk management model as part of the assessment of operational risks. Compliance has regularly reported its observations to the business segments and the central cooperative management.

4.11 Concentration risks

OP Financial Group's concentration risks consist primarily of the following:

- Regional concentration of business within Finland, as evidenced by the current market position or within another individual country.
- Funding counterparties or timing (deposit funding and short- and long-term wholesale funding).
- Customer concentration. Customer concentrations arise from large exposures in different businesses. Customer, industry and sector concentrations arise from lending, derivatives business and investment.
- Concentration of investments by insurance companies' on low liquidity instruments, whose expected return is better due to illiquidity.

Concentration risk management

The management of concentration risks associated with business is closely integrated with other risk management. Strategic risk management addresses the degree of concentration related to business. The Group allocates capital to the business Finland centricity in the economic capital model. The Group sets limits for the exposures of the largest industry in the corporate sector, for the largest customer risks and for the total of the largest customer risks. The Group restricts the combined proportion of corporate and housing company exposures in the real property sector. The Group takes account of Group-level customer and sector credit risk concentrations and the differences of the risks associated

with sectors in the measurement of economic capital of large exposures ($EAD \times LGD > 1.5$ million euros).

Maximum asset allocations are set for risky and illiquid investment instruments of the insurance companies' investment.

In order to ensure ongoing access to funding, the Group makes use of various financial instruments and diversifies the funding maturity structure. Funding sources are also diversified by geographic region, market and investor.

Country risk

OP Financial Group's country risks mainly arise from funding liquidity management by Banking (liquidity buffer) and investment by insurance companies. The liquidity buffer funds are mainly invested in notes and bonds eligible as collateral for central bank refinancing, such as government bonds or covered bonds. In insurance companies' investments, government bonds and bonds issued by companies and credit institutions with a high credit rating have a significant weight in the investment portfolio.

In Banking, country risks also arise from businesses based on the customer's need to secure its foreign receivables.

The Group manages country risks by determining country limits for different countries based, for example, on external credit rating that it uses to monitor, control and prevent its country risk concentrations. When setting the limits, the Group takes account of concentrations relative to its permanent capital.

4.12 Reputational risk

All OP Financial Group's operations involve reputational risks. These and any possible expected crises are assessed and identified systematically. Reputational risks may also arise for reasons not attributable to OP, such as negative associations or operations related to the sector in general.

OP Financial Group constantly monitors the publicity of the Group and its companies, and developments in the amount and tone of publicity and in media exposure. OP Financial Group measures its reputation and that of its main competitors by means of a half-yearly nationwide study whose results are analysed in relation to themes appearing in public or those that potentially increase or prevent reputational risk.

The management is regularly informed of reputational risks and any threat to imminent significant reputational risk is reported immediately.

Reputational risk management

Reputational risk is managed proactively and in the long term by complying with regulation, good practices of the financial sector and OP Financial Group's Code of Business Ethics and by emphasising transparency of operations and communications. In addition, the business line/division concerned plays an important role in identifying and preventing reputational risks. OP Financial Group adheres to international financial, social and environmental responsibility principles and international commitments.

The Group minimises reputational risks proactively by building a strong corporate image through active and transparent communications. The Group actively monitors the media coverage and social media publicity of the Group and the financial sector and other topical subjects. The Group also analyses the public image of the Group and the financial sector on a regular basis as part of its contingency plan for liquidity management. In the case of the materialisation of reputational risks and crisis situations, the Group has created communication models and plans in order to handle such cases as well as possible.

Executives and experts receive regular media training in respect of conventional and social media. Media training encourages active communications and gives guidelines on performing according to the Group's values in different channels in compliance with laws and good practice. OP Financial Group seeks to identify and address the excesses and misunderstandings in respect of its public image.

In addition to systematic communications, the Group attempts to minimise reputational risks by implementing its Corporate Responsibility Programme. OP Financial Group has in place a Code of Business Ethics. OP Financial Group also adheres to international economic, social and environmental responsibility principles and international commitments.

4.13 Risks associated with future business and strategy

General changes in the business environment (megatrends, root causes), such as climate change, demographic development and civil peace, affect the needs and preferences of customers. Changes in the business environment together with scientific and

technological innovation affect financial-sector demand and supply in the longer term.

For business, it is essential on what conditions and with what volumes new agreements, as they stand now or whether they are completely new ones, are concluded. The volumes and margins of new agreements made in customer business as well as the margins of new market transactions have a significant impact on the financial result. These constitute risks associated with future business.

OP Financial Group manages risks associated with future business by means of strategic choices and their effective implementation.

OP Financial Group implements shared Group-level strategy, from where the central cooperative's business lines/divisions and OP cooperative banks derive their own strategy implementation plans. The strategy specifies OP Financial Group's core values, mission vision and strategic priorities as well as measures to achieve the selected strategic goals. Strategy statements are discussed extensively within OP Financial Group before being confirmed and implemented.

OP Financial Group is adopting a strategy process in which it assesses, reshapes and implements its strategy on an ongoing basis. It constantly updates strategic assumptions, priorities and measures in the face of the changing business environment.

Strategic Planning together with Risk Management analyses the business environment while producing diverse scenarios to support strategic choices. To assess strategic flexibility, they also identify factors that could put OP Financial Group and its companies in an unfavourable position compared to competitors in the implementation of the strategy.

Changes in the business environment and the strategic risks are subject to regular reporting and the central cooperative Group Executive Management discusses and monitors related actions. The representatives of management body members, Group Executive Management and business lines are involved in assessing the significance and probability of change drivers. Based on the assessment, the Supervisory Board confirms significant strategic risks and their management tools.

Note 3. Changes in accounting policies and presentation

Changes in presentation

Interest income and expenses of held-for-trading notes and bonds and derivatives previously presented in net interest income have been presented in net investment income since 1 January 2019. The change has been made retrospectively. Net interest totalling EUR 10 million was transferred from net interest income for Q1–4/2018 to net investment income. The change also involved specifying the presentation of items within net interest income.

Accrued interest on held-for-trading notes and bonds and derivatives previously presented in other assets and liabilities has been presented under derivative contracts items in the balance sheet since 1 January 2019. At the same time, the Group specified the netting procedure of these contracts' interest. The change has been made retrospectively. As a result of the change, other assets in the balance sheet assets of 31 December 2018 decreased by EUR 159 million, investment assets increased by EUR 3 million and derivative contracts increased by EUR 171 million. In the balance sheet, provisions and other liabilities under liabilities decreased by EUR 231 million, derivative contracts increased by EUR 244 million and debt securities issued to the public increased by EUR 2 million. As a result of the change, the balance sheet total increased by a total of EUR 15 million on 31 December 2018.

Salvage property that has come to the company's possession in connection with claims settlement or undisputable subrogation reimbursements related to claims have been reduced from insurance liability since 1 January 2019. These items, totalling EUR 62 million, were previously presented under other assets in the balance sheet.

IFRS 16 Leases

OP Corporate Bank Group has adopted IFRS 16 Leases since 1 January 2019. The new standard changed the lessor's accounting and affect the Group's accounting for operating leases. As a result, almost all the lessor's leases are recognised in the balance sheet since operating leases and finance leases will no longer be separated from each other. Accounting by lessors remains substantially similar to IAS 17.

OP Corporate Bank Group applied a retrospective approach in the transition to a limited extent, in which case the comparatives were not restated. Owing to this choice, the following practical expedients under the transitional provisions were applied when assessing leases:

- At the date of initial application, the Group reassessed whether a contract is, or contains, a lease.
- A lease liability was recognised at the date of initial application for leases previously classified as an operating lease applying IAS 17. Lease liability

was measured at the present value of the remaining lease payments discounted using the incremental borrowing rate. The right-to-use asset was recognised to the amount that equals the lease liability adjusted to the prepayments or deferring lease payments related to the lease concerned, which were recognised in the balance sheet on 31 December 2018. Initial direct costs were not taken into account in the measurement of the right-to-use asset.

- Hindsight will be used to determine lease terms if the lease involves renewal or termination options.

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 on the whole are separated from the lease amount, are presented in other operating expenses. Separating the service charge is performed by right-of-use asset class.

OP Corporate Bank's leased contracts are mainly those related to premises and company cars. In the adoption of 1 January 2019, OP Corporate Bank Group recognised around EUR 7 million in right-of-use assets and lease liability in its balance sheet.

On 31 December 2019, the right-of-use asset amounted to EUR 5 million (Note: 23 Leases).

Reconciliation statement	€ million
Operating lease commitments on 31 December 2018 as disclosed in the notes	3
Operating lease obligations discounted at borrowing rate on 31 December 2018	3
Adjustments relating to different treatment of renewal options	4
Lease liability on 1 January 2019	7
Lease liability was discounted at borrowing rates on 31 December 2018. The weighted average rate applied was 0.2%	
Right-of-use assets 1 January 2019	€ million
Buildings	6
Cars	0
ICT equipment	1
Machinery and equipment	-
Total right-of-use assets	7

New segments as of 1 January 2019

At its meeting on 6 June 2018, the Supervisory Board of OP Financial Group's central cooperative decided on a new division of responsibilities of the central cooperative's Executive Management Team, which changed the segment structure as of the beginning of 2019. In its interim reports and financial statements, OP Corporate Bank began financial reporting based on its new segments as of the first interim report of 2019. The 2018 segment information has been restated to correspond to the new segments.

Interest rate benchmark reform

In September 2019, the IASB published a document entitled Interest Rate Benchmark Reform that amended IFRS9, IAS 39 and IFRS 7. The European Union adopted the amendments on 15 January 2020 and they are effective for accounting periods beginning on or after 1 January 2020. Earlier application is allowed. OP Financial Group already applied amendments to IAS 39 during the financial year 2019. The interest rate benchmark reform has a significant effect on OP Financial Group's processes, and the Group proceeds with the changes according to its business continuity plan related to reference rates. Following the reform, the EONIA rate is calculated on the €STR by adding a fixed rate of 8.5 basis points to it until the EONIA rate ceases to exist on 31 December 2021. The determination principles of the Euribor too changed during 2019. Changes in the determination methods of the EONIA and Euribors will not affect the continuity of contract terms. The adoption of €STR in OP Financial Group will involve system changes, process changes, changes in risk and valuation models and in accounting. When it comes to hedge accounting, the change means a relief, for example, in the way that OP Financial Group can still continue with cash flow and fair value hedging despite the fact that the method of determination of the reference rate originally defined as the hedged one changes. In cash flow hedges, future cash flows can still be considered to be highly likely insofar as they depend on the reference interest rate.

Notes to the income statement

Note 4. Net interest income

EUR million	2019	2018
Interest income		
Receivables from credit institutions		
Interest	17	23
Negative interest	11	14
Total	27	36
Receivables from customers		
Loans	346	318
Finance lease receivables	31	27
Impaired loans and other commitments	0	1
Negative interest	15	14
Total	392	359
Notes and bonds		
Measured at fair value through profit or loss	1	1
At fair value through other comprehensive income	81	90
Amortised cost	0	0
Total	81	91
Derivative contracts		
Fair value hedge	-109	-112
Cash flow hedge	0	3
Ineffective portion of cash flow hedge	0	0
Other	6	7
Total	-103	-103
Other	5	3
Total	403	386
Interest expenses		
Liabilities to credit institutions		
Interest	88	68
Negative interest	66	68
Total	154	137
Liabilities to customers	9	2
Debt securities issued to the public	171	146
Subordinated liabilities		
Subordinated loans	4	5
Other	45	44
Total	49	49
Derivative contracts		
Cash flow hedge	-164	-132
Other	-115	-92
Total	-279	-224
Other	5	4
Total	109	113

Net interest income before fair value adjustment under hedge accounting	294	274
Hedging derivatives	14	5
Value changes of hedged items	-13	-5
Total	295	274

Interest income calculated using the effective interest method totalled EUR 420 million (395).

Note 5. Net insurance income

EUR million	2019	2018
Net insurance premium revenue		
Premiums written	1,494	1,478
Insurance premiums ceded to reinsurers	-2	0
Change in provision for unearned premiums	-14	-10
Reinsurers' share	0	-3
Total	1,478	1,465
Net Non-life Insurance claims		
Claims paid	-1,017	-951
Insurance claims recovered from reinsurers	21	30
Change in provision for unpaid claims*	-79	-6
Reinsurers' share	2	13
Total	-1,073	-915
Other Non-life Insurance items	-4	-3
Total	402	548

* The item includes EUR 147 million (17) as a result of changes in reserving bases.



Note 6 Net commissions and fees

2019, EUR million	Corporate Banking	Insurance	Other operations	Group eliminations	Group total
Commission income					
Lending	46	0	0	-1	45
Deposits	2		0	0	1
Payment transfers	24		0	-1	23
Securities brokerage	21		0		21
Securities issuance	6		0		6
Mutual funds	0		0		0
Asset management	13			0	13
Legal services	0				0
Guarantees	12		0	0	12
Insurance brokerage		13			13
Health and wellbeing services		22		0	21
Other	13		0	0	13
Total commission income	138	35	0	-2	171
Commission expenses					
Payment transfers	2	1	0	-1	2
Securities brokerage	8		0	0	7
Securities issuance	2		1		2
Asset management	3	0	1		4
Insurance operations		62			62
Health and wellbeing services		8			8
Other*	113	0	1	0	114
Total commission expenses	127	71	2	-1	199
Total net commissions and fees	11	-36	-2	-1	-28

* The item includes EUR 106 million in commission expenses paid to member banks arising from derivative trading.

2018, EUR million	Corporate Banking	Insurance	Other operations	Group eliminations	Group total
Commission income					
Lending	44	0	0	0	44
Deposits	1		0	0	1
Payment transfers	22		0	-1	22
Securities brokerage	16				16
Securities issuance	7		1		8
Mutual funds	0		0		0
Asset management	13		0	0	13
Legal services	0		0	0	0
Guarantees	13		0	0	13
Insurance brokerage		12			12
Health and wellbeing services		19		0	19
Other	13		0	0	13
Total commission income	130	31	1	-2	160
Commission expenses					
Payment transfers	2	1	0	-1	2
Securities brokerage	6				6
Securities issuance	1		1		1
Asset management	3	0	1		4
Insurance operations		64			64
Health and wellbeing services		7			7
Other*	98	0	1	0	98
Total commission expenses	109	73	2	-1	183
Total net commissions and fees	21	-41	-1	-1	-23

* The item includes EUR 91 million in commission expenses paid to member banks arising from derivative trading.

Note 7. Net investment income

EUR million	2019	2018
Net income from assets at fair value through other comprehensive income		
Notes and bonds		
Interest income	36	35
Other income and expenses	-9	2
Capital gains and losses	58	24
Currency fair value gains and losses	3	8
Impairment losses and their reversal*	2	-3
Total	91	65
Total	91	65
Net income recognised at fair value through profit or loss		
Financial assets held for trading		
Notes and bonds		
Fair value gains and losses	-1	-5
Interest income and expenses	6	7
Total	4	2
Shares and participations		
Fair value gains and losses	-5	3
Dividend income	5	2
Total	0	6
Derivatives		
Fair value gains and losses*	248	115
Interest income and expenses	11	6
Total	259	121
Total	264	129
Financial assets that shall be measured at fair value through profit or loss		
Notes and bonds		
Interest income	2	2
Fair value gains and losses	-3	-3
Total	0	-1
Shares and participations		
Fair value gains and losses	85	-12
Dividend income	27	28
Total	112	17
Total	112	16
Financial assets designated as at fair value through profit or loss		
Notes and bonds		
Interest income		1
Fair value gains and losses		0
Total		1
Total net income recognised at fair value through profit or loss	375	146

* Net income from hedging derivatives amounted to 2.5 million euros (-1.8).

Net income from investment property		
Rental income	27	26
Fair value gains and losses	3	7
Maintenance charges and expenses	-19	-18
Other	-4	-4
Net income from investment property total	7	11

Net income from loans and receivables measured at amortised cost

Loans and receivables		
Interest income	5	5
Interest expenses	-1	-1
Impairment losses and their reversal	-2	0
Loans and receivables total	3	4

Non-life Insurance

Unwinding of discount, Non-life Insurance	-27	-28
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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 1.0% (1.5).

Associates

Consolidated using the equity method	1	1
Total	1	1

Total net investment income	450	200
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* Expected credit losses (ECL) on notes and bonds

Note 8. Other operating income

EUR million	2019	2018
Capital gains on property in own use		0
Central banking service fees	5	4
Other income received from OP Financial Group	20	16
Leasing agreements	0	0
ICT income	2	2
Capital gains		15
Other	19	8
Total	47	47

Note 9. Personnel costs

EUR million	2019	2018
Wages and salaries	139	135
Variable remuneration*	12	11
Pension costs	27	7
Defined contribution plans	17	18
Defined benefit plans**	10	-11
Other personnel related costs	6	7
Total	184	159

* Note 44

** Note 31

The Representative Assembly of OP Bank Group Pension Fund, which manages statutory earnings-related pension for the personnel, decided on 31 July 2018 to transfer its pension liability and the management of earnings-related pension insurance portfolio worth around EUR 1,068 million to Ilmarinen Mutual Pension Insurance Company. The transfer was executed on 31 December 2018. The transfer of the liabilities resulted in a non-recurring item of EUR 34 million recognised in defined benefit plans for 2018.

Note 10. Depreciation/amortisation and impairment loss

EUR million	2019	2018
Depreciation and amortisation		
Buildings	6	6
Machinery and equipment	0	0
Intangible assets related to business combinations		18
Other intangible assets	38	38
Right-of-use assets	3	
Leased out assets	1	0
Other	0	0
Total	48	62
Impairment loss		
Property in own use	2	0
Brand		4
Information systems	13	17
Total	15	21
Total	63	83

Note 11. Other operating expenses

EUR million	2019	2018
ICT costs		
Production	137	114
Development	67	62
Rental expenses		1
Expenses of short-term and low-value leases	2	
Expenses for property in own use	6	13
Government charges and audit fees*	40	39
Membership fees	1	2
Purchased services	34	50
Telecommunications	10	10
Marketing	13	13
Corporate responsibility	2	3
Insurance and security costs	4	4
Temporary employment agency costs (excl. ICT)	10	
Other	59	58
Total	386	369

* The item includes EUR 337,000 (250,000) in audit fees paid to auditors, EUR 11,000 (17,000) in fees for assignments as referred to in Chapter 1, Section 1, Paragraph 2 of the Auditing Act, EUR 158,000 (10,000) in fees for legal counselling and EUR 178,000 (104,000) in fees for other services. Non-audit services rendered by KPMG Oy Ab to OP Corporate Bank Group companies totalled EUR 154,000 (excl. VAT).

Development costs

EUR million	2019	2018
ICT development costs	67	62
Share of own work	1	1
Total development costs in the income statement	68	63
Capitalised ICT costs	38	34
Capitalised share of own work	0	0
Total capitalised development costs	38	34
Total development costs	106	97
Depreciation/amortisation and impairment loss	49	57

The development investments ensure the competitiveness and continuity of the present-day business and regulatory compliance and create conditions for new customer-driven business models.

Note 12. Impairment loss on receivables

EUR million	2019	2018
Receivables written off as loan or guarantee losses	-4	-21
Recoveries of receivables written off	1	1
Expected credit losses** (ECL) on receivables from customers and off-balance-sheet items	-47	9
Expected credit losses** (ECL) on notes and bonds*	0	-1
Total	-51	-13

* The expected credit losses on notes and bonds in insurance operations are presented in net investment income.

** Loss allowance is itemised in Note 45. Loss allowance regarding receivables and notes and bonds.

Note 13. Temporary exemption (overlay approach)

EUR million	2019	2018
Net investment income within the scope of the overlay approach recognised according to IFRS 9		
Financial assets that must be measured at fair value through profit or loss		
Shares and participations		
Fair value gains and losses	85	-28
Total (A)	85	-28
Net investment income within the scope of the overlay approach measured according to IFRS 39		
Shares and participations		
Capital gains and losses	34	-7
Impairment losses and their reversals	-15	-2
Total (B)	19	-9
Effect of the overlay approach on the income statement (-A+B)	-66	19
Effect of the overlay approach on the statement of comprehensive income - (-A+B)	66	-19

**Note 14. Income tax**

EUR million	2019	2018
Current tax	92	45
Tax for previous financial years	-2	3
Deferred tax	-10	39
Income tax expense	79	87
Corporate income tax rate	20.0	20.0

Reconciliation between tax expense in the income statement and tax expense calculated by the applicable tax rate

Earnings before tax	412	439
Tax calculated at a tax rate of 20.0%	82	88
Tax for previous financial years	-2	3
Tax-exempt income	-4	-11
Non-deductible expenses and income portions of limited partnerships	0	7
Re-evaluation of unrecognised tax losses	0	1
Tax adjustments	1	1
Other items	1	-1
Tax expense	79	87

Notes to assets

Note 15. Cash and cash equivalents

EUR million	31 Dec 2019	31 Dec 2018
Cash	2	1
Deposits with central banks repayable on demand		
OP Corporate Bank plc's minimum reserve deposit	767	703
Cheque account	11,145	11,535
Total cash and cash equivalents	11,914	12,239

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 16. Receivables from credit institutions

EUR million	31 Dec 2019	31 Dec 2018
Deposits		
Repayable on demand	988	1,116
Total	988	1,116
of which receivables from credit institutions due in less than 3 months	987	1,112
Loans and receivables		
Repayable on demand		
From other credit institutions	0	0
Total	0	0
Other		
From OP Financial Group entities	8,072	8,501
From other credit institutions	67	110
Total	8,139	8,611
Loss allowance*		
From other credit institutions	0	-1
Total	0	-1
Total receivables from credit institutions	9,126	9,726

* Loss allowance is itemised in Note 45. Loss allowance regarding receivables and notes and bonds.

Note 17. Derivative contracts

EUR million	31 Dec 2019	31 Dec 2018
Held for trading		
Interest rate derivatives	4,144	3,324
Currency derivatives	238	145
Equity and index derivatives	0	0
Credit derivatives	10	3
Commodity derivatives	14	4
Total	4,407	3,476
Hedging derivative contracts		
Fair value hedging		
Interest rate derivatives	56	45
Currency derivatives	412	142
Interest rate derivatives		0
Total	468	187
Total derivative contracts	4,874	3,663

The balance sheet item includes positive changes in fair value of derivative contracts as well as premiums paid.

Note 18. Receivables from customers

EUR million	31 Dec 2019	31 Dec 2018
Loans to the public and public sector entities	16,292	15,575
Finance lease receivables*	2,340	2,154
Guarantee receivables	2	2
Other receivables	5,488	4,878
Total	24,122	22,609
Loss allowance**	-293	-258
Total receivables from customers	23,829	22,351

* Finance lease receivables are itemised in Note 23.

** Loss allowance is itemised in Note 45. Loss allowance regarding receivables and notes and bonds.

Note 19. Investment assets

EUR million	31 Dec 2019	31 Dec 2018
Financial assets held for trading		
Notes and bonds	1,033	501
Shares and participations	23	36
Loans acquired and other receivables		
Total	1,056	537
Financial assets that shall be measured at fair value through profit		
Notes and bonds	42	46
Shares and participations (Overlay approach)	689	611
Shares and participations (other than those under Overlay approach)	5	5
Total	737	662
Financial assets at fair value through other comprehensive income		
Notes and bonds	14,899	14,730
Shares and participations	0	0
Total	14,899	14,730
Amortised cost		
Other	59	32
Total	59	32
Investment property	339	320
Associated companies		
Associates	76	72
Joint ventures	8	
Total	84	72
Total investment assets	17,174	16,353

Changes in investment property, EUR million	2019	2018
Acquisition cost 1 Jan.	283	267
Business operations acquired		
Increase	12	53
Decrease	-1	-38
Transfers between items	-1	1
Acquisition cost 31 Dec.	292	283
Accumulated changes in fair value 1 Jan.	38	37
Changes in fair value during financial year	3	4
Decrease	4	-2
Other changes	1	-1
Accumulated changes in fair value 31 Dec.	46	38
Carrying amount 31 Dec.	339	320

Increases in investment property do not include capitalised expenses recognised after the acquisition. Any changes in the fair value of investment property are recognised under net investment income. The fair value of investment property holdings includes the portion of debt.

Breakdown of investment property leased out under operating lease can be found in Note 23.

Investment property does not include real property received as collateral in 2019 and 2018.

A total of 89% of investment property holdings, or EUR 302 million, was appraised by external property valuers, all of them being authorised property valuers (AKA).

Information on associated companies can be found in Note 20. Investments accounted for using the equity method.

Note 45 describes expected credit losses of items measured at fair value through other comprehensive income and at amortised cost.

Note 20. Investment accounted for using the equity method

Amounts entered in the balance sheet:

EUR million	31 Dec 2019	31 Dec 2018
Associates	76	72
Joint ventures	8	
Total	84	72

Amounts entered in the income statement:

EUR million	31 Dec 2019	31 Dec 2018
Associates	1	1
Total	1	1

Investments in associates and joint ventures

OP Corporate Bank Group has two (2) associates and one (0) joint venture which are not significant when reviewing them one by one. The table above shows OP Corporate Bank Group's share of the profit/loss of these associates.

OP Corporate Bank Group's investments in associates and joint ventures have no quoted market price and no contingent liabilities are involved in them. 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.

Note 21. 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 Jan 2019	421	166	282	394	1,263
Increases				39	39
Decreases				-74	-74
Acquisition cost 31 Dec 2019	421	166	282	359	1,228
Accumulated amortisation and impairments 1 Jan 2019		-4	-272	-266	-541
Amortisation during the financial year			-1	-36	-38
Impairments for the financial year	-3			-11	-13
Decreases				73	73
Accumulated amortisation and impairments 31 Dec 2019	-3	-4	-273	-240	-519
Carrying amount 31 Dec 2019	419	162	9	119	709

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 Jan 2018	422	179	291	368	1,261
Increases				34	34
Decreases	-1	-13	-10	-9	-33
Acquisition cost 31 Dec 2018	421	166	282	394	1,263
Accumulated amortisation and impairments 1 Jan 2018		-7	-262	-215	-484
Amortisation during the financial year			-19	-36	-56
Impairments for the financial year		-4		-17	-21
Decreases		7	10	3	19
Accumulated amortisation and impairments 31 Dec 2018		-4	-272	-266	-541
Carrying amount 31 Dec 2018	421	162	10	128	722



	31 Dec 2019	31 Dec 2018
	Carrying amount	Carrying amount
Information systems and Other intangible assets, EUR million		
Information systems	79	102
Information systems under development	43	30
Other	-4	-3
Total	119	128

	31 Dec 2019	31 Dec 2018
Intangible assets with indefinite economic lives, EUR million		
Goodwill	419	421
Brands	162	162
Total	581	583

The economic lives of brands acquired through business combinations are estimated to be indefinite, since they affect the accrual of cash flows for an indefinable period.

Goodwill, EUR million

Segment	Acquired business	31 Dec 2019	31 Dec 2018
Insurance	Acquisition of Pohjola Group plc's non-life business	406	409
Corporate Banking	Acquisition of Pohjola Finance Ltd's businesses	13	13
Total		419	421

Testing goodwill for impairment

At the end of 2019, goodwill totalled EUR 419 million as against EUR 421 million a year earlier. Goodwill derecognised in 2019 totalled EUR 2.6 million. The write-down applied in full to the employee wellbeing business of Excenta Ltd terminated as a result of business arrangements executed.

The testing period was determined to be five years under IAS 36, and a growth expectation in cash flows for the previous forecast period or of a maximum of 2% was used as growth in cash flows for post-forecast periods. The effect of taxes has been taken into account in the cash flow statement. In testing, the surplus/deficit after return on equity requirements for the forecast cash flows of cash-generating units was discounted using a discount rate corresponding to the return on equity requirement. Market data available in the 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. The discount rate used in the calculations related to the Non-life Insurance cash-generating units was 6.9% (8.7) and the assets and sales finance solutions cash-generating unit 6.0% (8.1). Impairment testing in 2019 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.

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 cash flow forecasts, %	Change caused by impairment risk, pp
Insurance	Non-life Insurance business	406	Discount rate, %	6.9	5.7
			Combined ratio, %	89,8-92	7.1
			Net investment income, %	2.0	-1.9
Corporate Bank	Asset and sales finance solutions	13	Discount rate, %	6.0	10.0
			Loan portfolio growth, %	2,0-4,5	-59.0
			Growth in expenses, %	2,0-6,7	15.6

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 forecasts derived from them for 2020–2024. A 2% growth expectation was used as growth in cash flows for post-forecast periods. On the basis of testing, there is no need to recognise any impairment loss on brands in the financial statements 2019.

Impairment testing of customer relationships

OP Corporate Bank Group's customer relationships were acquired as part of the acquisition of the business operations of Pohjola Group plc. Intangible assets originating from customer relationships was amortised on a straight-line basis during 2018.

Note 22. Property, plant and equipment

EUR million	31 Dec 2019	31 Dec 2018
Property in own use		
Land and water areas	10	10
Buildings	97	104
Total	107	115
Machinery and equipment	1	0
Other tangible assets	2	2
Right-of-use assets	5	
Leased-out assets	0	0
Total property, plant and equipment	114	117

Changes in property, plant and equipment (PPE), EUR million	Property in own use	Machinery and equipment	Other tangible assets	Leased- out assets	Total PPE
Acquisition cost 1 Jan 2019	148	27	2	1	179
Increases	3	1		0	4
Decreases	-4	-48	0		-51
Transfers between items	1				1
Acquisition cost 31 Dec 2019	148	-20	2	1	132
Accumulated depreciation and impairments 1 Jan 2019	-34	-27	0	-1	-62
Depreciation during the financial year	-6	0			-6
Impairments for the financial year	-2				-2
Decreases		47	0		48
Accumulated depreciation and impairments 31 Dec 2019	-41	20	0	-1	-22
Right-of-use assets					5
Carrying amount 31 Dec 2019	107	1	2	0	114

Changes in property, plant and equipment (PPE), EUR million	Property in own use	Machinery and equipment	Other tangible assets	Leased- out assets	Total PPE
Acquisition cost 1 Jan 2018	139	31	3	2	175
Increases	10	0	0	0	11
Decreases	0	-4	-1	-1	-6
Transfers between items	0				0
Acquisition cost 31 Dec 2018	148	27	2	1	179
Accumulated depreciation and impairments 1 Jan 2018	-28	-30	0	-2	-60
Depreciation during the financial year	-6	0	0	0	-6
Impairments for the financial year	-1				-1
Reversals of impairments for the financial year	0				0
Decreases	0	3	0	1	4
Other changes	0				0
Accumulated depreciation and impairments 31 Dec 2018	-34	-27	0	-1	-62
Carrying amount 31 Dec 2018	115	0	2	0	117

Note 23. Leases

Right-of-use assets, € million	Buildings	Cars	IT equipment	Machinery and equipment	Total
Carrying amount 1 Jan. 2019	6	0	1		7
Increases	0	0	0	0	1
Decreases	1	0			1
Depreciation for the financial year	-2	0	0	0	-3
Value changes for the financial year	-1	0			-1
Other changes					
Carrying amount 31 Dec. 2019	4	1	0	0	5

Lease liabilities, € million	31 Dec 2019
* Carrying amount	5
Contractual maturities	
< 1 year	2
1-2 years	1
2-3 years	1
3-4 years	0
4-5 years	0
Over 5 years	

* Note 31 Provisions and other liabilities.

Items entered in the income statement, € million	31 Dec 2019
Interest expenses	0
Depreciation on right-of-use assets	-3
Impairment of right-of-use assets	
Lease income received from sublease	1
Expenses related to variable lease payments not included in lease liabilities	0
Variable lease payments	
Gains or losses arising from sale and leaseback transactions	
Expenses of short-term and low-value leases	-2
Total cash flow from leases	-6

Lessor's operating leases

OP Corporate Bank Group companies have leased out investment properties they own, which generated lease income of EUR 27 million (26).

Minimum lease payments receivable under operating leases

EUR million	31 Dec 2019
< 1 year	55
1-2 years	65
2-3 years	41
3-4 years	33
4-5 years	18
Over 5 years	13
Total	224

EUR million	31 Dec 2018
< 1 year	25
1-5 years	70
Over 5 years	86
Total	181

Finance lease receivables

OP Corporate Bank Group finances moveable capital assets, real property and other premises through finance leases.

EUR million	31 Dec 2019
Maturity of finance lease receivables	
< 1 year	663
1-2 years	571
2-3 years	429
3-4 years	318
4-5 years	156
Over 5 years	300
Gross investment in finance leases	2,436
Unearned finance income (-)	-96
Present value of minimum lease payments	2,340

Present value of minimum lease payment receivables

< 1 year	632
1-2 years	550
2-3 years	415
3-4 years	310
4-5 years	151
Over 5 years	283
Total	2,340

EUR million	31 Dec 2018
Maturity of finance lease receivables	
< 1 year	585
1–5 years	1,336
Over 5 years	326
Gross investment in finance leases	2,246
Unearned finance income (–)	–92
Present value of minimum lease payments	2,154
Present value of minimum lease payment receivables	
< 1 year	557
1–5 years	1,290
Over 5 years	307
Total	2,154

Items entered in the income statement, € million	31 Dec 2019
Interest income from finance lease receivables	31
Capital gain/loss accrued from finance leases	–1

Note 24. Other assets

EUR million	31 Dec 2019	31 Dec 2018
Payment transfer receivables	16	16
Pension assets	6	3
Accrued income and prepaid expenses		
Interest	90	131
Interest on derivatives receivables	22	5
Other insurance operations' items	21	28
Other	16	19
Derivatives receivables, central counterparty clearing	1	3
CSA receivables from derivative contracts	432	458
Securities receivables	6	20
Direct insurance receivables	290	318
Claims administration contracts	181	181
Reinsurance receivables	22	14
Reinsurers' share of provisions for unearned premiums	7	8
Reinsurers' share of provisions for unpaid claims	98	97
Other receivables	124	189
Total	1,334	1,489

Note 25. Tax assets and liabilities

EUR million	31 Dec 2019	31 Dec 2018
Income tax assets	16	35
Deferred tax assets	35	31
Total tax assets	51	65

EUR million	31 Dec 2019	31 Dec 2018
Income tax liabilities	18	0
Deferred tax liabilities	434	420
Total tax liabilities	452	421

Deferred tax assets	31 Dec 2019	31 Dec 2018
Due to financial assets at fair value through other comprehensive income	2	3
Due to depreciation and impairment losses	0	0
Due to provisions and impairment losses on receivables	11	15
Due to defined-benefit pension plans	13	10
Due to consolidation of Group accounts	2	1
Due to other temporary differences	8	4
Set-off against deferred tax liabilities	-2	-2
Total	35	31

Deferred tax liabilities	31 Dec 2019	31 Dec 2018
Due to appropriations	296	294
Due to financial assets at fair value through other comprehensive income	9	-1
Due to cash flow hedging	0	0
Due to elimination of equalisation provision	62	66
Due to fair value measurement of investment	30	26
Due to allocation of sale price of business combinations	32	32
Due to defined benefit pension plans	2	1
Due to consolidation of Group accounts	1	1
Due to other temporary differences	5	5
Set-off against deferred tax assets	-2	-2
Total	434	420

Net deferred tax asset (+)/liability (-)	-399	-390
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	31 Dec 2019	31 Dec 2018
Changes in deferred taxes		
Deferred tax assets/liabilities 1 Jan.	-390	-389
Effect of changes in accounting policies and other adjustments, total		-2
Recognised on the income statement		
Effect of losses		
Provisions and impairments on receivables	0	-1
Appropriations	-2	-33
Elimination of equalisation provision	4	-7
Fair value changes in and sale of investments	6	-2
Depreciation/amortisation and impairments		4
Timing difference of securities issued to the public		0
Defined benefit pension plans	1	-3
Other	-2	1
Recognised in statement of comprehensive income		
Fair value reserve		
Fair value measurement	-18	38
Cash flow hedges	0	0
Transfers to the income statement	-2	5
Actuarial gains/losses on post-employment benefit obligations	1	-5
Other	3	2
Total deferred tax assets 31 December, asset (+)/liability (-)	-399	-390
Income tax assets, asset (+)/liability (-)	-1	34
Total tax assets, asset (+)/liability (-)	-401	-356

Tax losses for which a deferred tax asset was not recognised came to EUR 14 million (18) at the end of 2019. The losses will expire before 2029.

A deferred tax liability has not been recognised for the EUR 32 million (22) of undistributed profits of the Baltic subsidiaries, since the assets have been permanently invested in these countries.

Notes to liabilities and equity capital

Note 26. Liabilities to credit institutions

EUR Million	31 Dec 2019	31 Dec 2018
Liabilities to central banks	2,000	4,006
Liabilities to credit institutions		
Repayable on demand		
Deposits		
With OP Financial Group entities	634	305
With other credit institutions	8	24
Other liabilities		
With OP Financial Group entities	788	700
Total	1,430	1,029
Other than repayable on demand		
Deposits		
With OP Financial Group entities	11,561	9,809
With other credit institutions	342	730
Total	11,903	10,540
Total liabilities to credit institutions and central banks	15,334	15,575

Note 27. Derivative contracts

EUR million	31 Dec 2019	31 Dec 2018
Held for trading		
Interest rate derivatives	3,437	2,866
Currency derivatives	231	146
Equity and index derivatives		0
Credit derivatives	1	2
Other	14	8
Total	3,683	3,023
Hedging derivative contracts		
Fair value hedging		
Interest rate derivatives	178	209
Currency derivatives	21	55
Total	199	264
Total derivative contracts	3,882	3,287

The balance sheet item includes negative changes in value of derivative contracts as well as premiums received.

**Note 28. Liabilities to customers**

EUR million	31 Dec 2019	31 Dec 2018
Deposits		
Repayable on demand		
Private	70	140
Companies and public-sector entities	10,664	11,021
Total	10,733	11,161
Other		
Private	0	0
Companies and public-sector entities	370	370
Total	370	370
Total deposits	11,103	11,531
Other financial liabilities		
Repayable on demand		
Private	3	15
Companies and public-sector entities	0	
Total	3	15
Other		
Companies and public-sector entities	4,396	4,876
Total	4,396	4,876
Total other financial liabilities	4,400	4,890
Total liabilities to customers	15,503	16,422

**Note 29. Insurance liabilities**

EUR million	31 Dec 2019	31 Dec 2018
Non-life Insurance insurance liabilities	3,234	3,157
Total	3,234	3,157

Non-life Insurance contract liabilities and reinsurers' share

EUR million	31 Dec 2019			31 Dec 2018		
	Gross	Reinsurers' share	Net	Gross	Reinsurers' share	Net
Provision for unpaid claims for annuities	1,571	-4	1,567	1,510	-4	1,506
Other provisions by case	197	-81	116	182	-69	113
Special provision for occupational diseases	10		10	13		13
Collective liability (IBNR)	779	-13	766	761	-23	737
Reserved loss adjustment expenses	114		114	101		101
Provision for unearned premiums	584	-7	576	569	-8	561
Interest rate hedge for insurance liabilities	-22		-22	21		21
Total Non-life Insurance insurance liabilities	3,234	-106	3,128	3,157	-104	3,053

Changes in insurance liabilities arising from insurance contracts and in receivables arising from reinsurance contracts

EUR million	2019			2018		
	Gross	Reinsurers' share	Net	Gross	Reinsurers' share	Net
Provision for unpaid claims						
Provision for unpaid claims 1 Jan	2,588	-97	2,491	2,557	-84	2,473
Claims paid in financial year	-1,140	21	-1,119	-1,075	30	-1,045
Change in liability/receivable	1,219	-23	1,196	1,081	-42	1,039
Current period claims	1,116	-24	1,092	1,121	-40	1,081
Increase (decrease) from previous financial years	-25	1	-24	-39	-2	-42
Change in discount rate	128		128			
Unwinding of discount	27		27	27		27
Value change in interest rate hedges	-43		-43	25		25
Sold business operations	0	0	0	-28		-28
Foreign exchange gains (losses)	0		0	0		0
Provision for unpaid claims 31 Dec	2,650	-98	2,552	2,588	-97	2,491
Liability for remaining contract period						
Insurance liabilities 1 Jan	569	-8	561	585	-11	574
Increase	530	-7	523	539	-7	532
Decrease	-516	8	-509	-528	10	-518
Sold business operations				-27		-27
Unwinding of discount	1		1	1		1
Insurance liabilities 31 Dec	584	-7	576	569	-8	561
Total Non-life Insurance insurance liabilities	3,234	-106	3,128	3,157	-105	3,052

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 2019, the discount rate used was 1.0% (1.5). 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 2-10% 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	2019	2018
EUR million (increase +/decrease - in liability)		
Effect of changes in methods and assumptions on amount of liability	147	17
Total	147	17

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Estimated total claims expenditure											
0*	738	784	815	903	931	976	1,000	1,043	1,121	1,116	9,428
n+1	746	751	802	879	905	887	1,006	1,063	1,149		
n+2	744	752	805	861	920	902	995	1,078			
n+3	743	757	821	885	939	910	998				
n+4	750	771	836	891	929	912					
n+5	760	786	840	888	930						
n+6	771	785	840	900							
n+7	772	783	838								
n+8	779	784									
n+9	782										
Current estimate of total claims expenditure											
	782	784	838	900	930	912	998	1,078	1,149	1,116	9,488
Accumulated claims paid											
	-744	-750	-796	-842	-872	-838	-911	-948	-940	-661	-8,301
Provision for unpaid claims for 2010-19											
	38	35	42	57	58	74	88	130	210	455	1,186
Provision for unpaid claims for previous years											247

* = 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
2010	38	44	-3	0		0
2011	35	50	-3	-6	5	-2
2012	32	53	-4	-4	2	-1
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

Development of annuities confirmed as final, EUR million

Financial year	Year-start	Year-end	New annuity capital	Annuities paid	Changes in reserving basis*	Adequacy
2010	771	794	60	34		3
2011	794	895	66	35	77	7
2012	895	940	66	34	31	18
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

* Effect of changes in the discount rate and the mortality model on final annuity capital.

Claims triangles, net business, EUR million

Occurrence year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Estimated total claims expenditure											
0*	693	721	796	861	897	957	992	1,019	1,081	1,092	9,110
n+1	707	697	782	829	868	877	1,000	1,026	1,109		
n+2	705	710	786	819	875	892	990	1,045			
n+3	705	714	804	843	887	898	994				
n+4	712	727	818	847	887	901					
n+5	721	741	823	847	885						
n+6	732	743	823	858							
n+7	734	742	822								
n+8	740	744									
n+9	743										
Current estimate of total claims expenditure											
	743	744	822	858	885	901	994	1,045	1,109	1,092	9,194
Accumulated claims paid											
	-706	-709	-780	-803	-830	-828	-909	-932	-934	-658	-8,088
Provision for unpaid claims for 2010-2019											
	38	35	42	55	56	73	86	113	175	434	1,106

Provision for unpaid claims for previous years

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* = 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 104 million while those for the previous financial year decreased by EUR 42 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.

Note 30. Debt securities issued to the public

EUR million	31 Dec 2019	31 Dec 2018
Bonds	11,955	10,121
Other		
Certificates of deposit		105
Commercial paper	9,716	10,162
Subordinated bonds (SNP)	1,156	
Included in own portfolio in trading (-)*	-101	-50
Total debt securities issued to the public	22,726	20,338

*Own bonds held by OP Corporate Bank 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	Sub- ordinated liabilities
Balance sheet value 1 Jan 2019	20,338	1,482
Changes in cash flows from financing activities		
Increases in bonds	5,591	
Increases in certificates of deposit	75	
Increases in commercial papers	21,920	
Increases total	27,587	
Decreases in bonds	-2,899	
Decreases in certificates of deposit	-182	
Decreases in commercial papers	-22,714	
Decreases total	-25,795	0
Total changes in cash flows from financing activities	1,792	0
Valuations and changes in exchange rates	595	-8
Balance sheet value 31 Dec 2019	22,726	1,474

EUR million	Debt securities issued to the public	Subordinated liabilities
Balance sheet value 1 Jan 2018	16,791	1,547
Changes in cash flows from financing activities		
Increases in bonds	2,373	
Increases in certificates of deposit	141	
Increases in commercial papers	24,495	
Increases total	27,009	
Decreases in bonds	-2,022	
Decreases in certificates of deposit	-121	
Decreases in commercial papers	-21,346	
Decreases in subordinated loans		-50
Decreases total	-23,489	-50
Total changes in cash flows from financing activities	3,521	-50
Valuations and changes in exchange rates	27	-15
Balance sheet value 31 Dec 2018	20,338	1,482

Long-term loans and interest rate bases	Nominal amount	Interest rate	Maturity
OP Corporate Bank plc Issue of GBP 255,000,000 Floating Rate Instruments due 14 January 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	299.7	GBPL3M + 0,215%	14 Jan. 2020
OP Corporate Bank plc Issue of GBP 240,000,000 Floating Rate Instruments due February 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	282.1	GBPL3M + 0,140%	28 Feb. 2020
OP Corporate Bank plc Issue of EUR 300,000,000 Floating Rate Instruments due 11 March 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	760.0	EUB3M + 0.280%	11 March 2020
OP Corporate Bank plc Issue of GBP 210,000,000 Floating Rate Instruments due March 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	246.8	GBPL3M + 0,140%	31 March 2020
OP Corporate Bank plc Issue of GBP 250,000,000 Floating Rate Instruments due April 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	293.8	GBPL3M + 0,140%	30 April 2020
OP Corporate Bank plc Issue of HKD 850,000,000 Floating Rate Note due May 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	97.0	Fixed 2.140%	27 May 2020
OP Corporate Bank plc Issue of USD 200,000,000 Floating Rate Instruments due 5 June 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	178.0	USL3M + 0,150%	5 June 2020
OP Corporate Bank plc Issue of GBP 250,000,000 Floating Rate Instruments due 18 June 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	293.8	GBPL3M + 0,100%	18 June 2020
OP Corporate Bank plc Issue of GBP 200,000,000 Floating Rate Instruments due 8 July 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	235.1	GBPL3M + 0,140%	8 July 2020
OP Corporate Bank plc Issue of HKD 214,000,000 Floating Rate Note due September 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	24.5	Fixed 2.160%	18 Sept. 2020
OP Corporate Bank plc issue of GBP 10 000 000 floating rate instruments due 13 November 2020 under EUR 20,000,000,000 programme for the Issuance of debt instruments	11.8	GBL3M + 0.850%	13 Nov. 2020



OP Corporate Bank plc Issue of EUR 10,000,000 1.965 per cent. Instruments due 19 November 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	10.0	Fixed 1.965%	19 Nov. 2020
OP Corporate Bank plc Japanese Yen Bonds JPY 28,500,000,000 - Third Series (2015)	233.7	Fixed 0.325%	27 Nov. 2020
OP Corporate Bank plc Japanese Yen Floating Rate Bonds JPY 1,500,000,000 - Third Series (2015)	12.3	JPL3M + 0.160%	27 Nov. 2020
OP Corporate Bank plc Issue of JPY 8,000,000,000 Fixed Rate Instruments due December 2020 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	65.6	Fixed 1.405%	3 Dec. 2020
OP Corporate Bank plc Issue of EUR 750,000,000 2 per cent. Instruments due 3 March 2021 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	750.0	Fixed 2.000%	3 March 2021
OP Corporate Bank plc Issue of EUR 500,000,000 Floating Rate Instruments due May 2021 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	500.0	EUB3M + 0.500%	22 May 2021
OP Corporate Bank plc Issue of GBP 200,000,000 Floating Rate Instruments due May 2021 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	235.1	GBL3M + 0.340%	30 May 2021
OP Corporate Bank plc Issue of EUR 500,000,000 0.875 per cent. Instruments due 21 June 2021 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	500.0	Fixed 0.875%	21 June 2021
OP Corporate Bank plc Issue of CHF 300,000,000 1.000 per cent. Instruments due 14 July 2021 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	276.4	Fixed 1.000%	14 July 2021
OP Corporate Bank plc Issue of EUR 60,000,000 Floating Rate Instruments due 25 January 2022 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	60.0	EUB3 + 0,750%	25 Jan. 2022
OP Corporate Bank plc Issue of EUR 60,000,000 3.75 per cent. Instruments due 1 March 2022 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	60.0	Fixed 3.750%	1 March 2022
OP Corporate Bank plc Issue of EUR 1,000,000,000 0.75 per cent. Instruments due March 2022 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	1,000.0	Fixed 0.750%	3 March 2022
OP Corporate Bank plc Issue of GBP 400,000,000 2.500 per cent. Instruments due 20 May 2022 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	470.1	Fixed 2.500 %	20 May 2022
OP Corporate Bank plc Issue of SEK 2,600,000,000 Floating Rate Instruments due May 2022 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	248.9	SES3M + 0,750%	31 May 2022
OP Corporate Bank plc Issue of EUR 200,000,000 Floating Rate Instruments due 13 June 2022 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	300.0	EUB3M + 0.75%	13 June 2022
OP Corporate Bank plc Issue of EUR 50,000,000 Floating Rate Instruments due August 2022 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	50.0	EUB3M + 0.50%	17 Aug. 2022
OP Corporate Bank plc Issue of EUR 500,000,000 0.375 per cent. Instruments due 11 Oct 2022 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	500.0	Fixed 0.375%	11 Oct. 2022
OP Corporate Bank plc Issue of EUR 500,000,000 0.375 per cent. Instruments due 29 Aug 2023 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	500.0	Fixed 0.375%	29 Aug. 2023
OP Corporate Bank plc Issue of EUR 10,000,000 0.55 per cent. Instruments due 5 Oct 2023 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	10.0	Fixed 0.550%	5 Oct. 2023
OP Corporate Bank plc Issue of EUR 20,000,000 1.097 per cent. Instruments due 16 February 2024 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	20.0	Fixed 1.097%	16 Feb. 2024
OP Corporate Bank plc Issue of EUR 500,000,000 0.375 per cent. Instruments due 26 February 2024 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	500.0	Fixed 0.375%	26 Feb. 2024



OP Corporate Bank plc Issue of EUR 15,000,000 Fixed Rate Notes due 14 June 2024 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments.	15.0	Fixed 0.780%	14 June 2024
OP Corporate Bank plc Issue of EUR 500,000,000 0.375 per cent. Senior Non-Preferred Instruments due 19 June 2024 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	500.0	Fixed 0.375%	19 June 2024
OP Corporate Bank plc Issue of EUR 10,000,000 0.725 per cent. Instruments due 20 June 2024 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments.	10.0	Fixed 0.725%	20 June 2024
OP Corporate Bank plc Issue of EUR 20,000,000 0.55 per cent. Instruments due 30 Aug 2024 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments.	20.0	Fixed 0.550%	30 Aug. 2024
OP Corporate Bank plc Issue of AUD 200,000,000 Floating Rate Senio Non-Preferred Instruments due 25 November 2024 under the AUD 3 000,000,000 Programme for the Issuance of Debt Instruments	125.0	BBSW + 1,150%	25 Nov. 2024
OP Corporate Bank plc Issue of EUR 57,000,000 1.07 per cent. Notes due 2025 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments.	57.0	Fixed 1.070%	12 May 2025
OP Corporate Bank plc Issue of EUR 500,000,000 1.00 per cent. Instruments due 22 May 2025 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments.	500.0	Fixed 1.000%	22 May 2025
OP Corporate Bank plc Issue of HKD 1,270,000,000 Floating Rate Note due September 2025 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	145.2	Fixed 3.001%	4 Sept. 2025
OP Corporate Bank plc Issue of EUR 20,000,000 0.91 per cent. Fixed Rate Notes due 14 January 2026 under the EUR 20,000,000 Programme for the Issuance of Debt Instruments	20.0	Fixed 0.910%	14 Jan. 2026
OP Corporate Bank plc Issue of HKD 663,000,000 2.88 per cent. Instruments due 21 January 2026 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	75.8	Fixed 2.880%	21 Jan. 2026
OP Corporate Bank plc Issue of EUR 50,000,000 0.25 per cent. Fixed Rate Notes due 1 July 2026 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	50.0	Fixed 0.250%	21 July 2026
OP Corporate Bank plc Issue of EUR 10,000,000 1.058 per cent. Instruments due 18 May 2027 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	10.0	Fixed 1.058%	18 May 2027
OP Corporate Bank plc Issue of EUR 50,000,000 3.086 per cent. Instruments due 23 August 2027 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	50.0	Fixed 3.086%	23 Aug. 2027
OP Corporate Bank plc Issue of EUR 25,000,000 1.00 per cent. Notes due 2027 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	25.0	Fixed 1.000%	8 Oct. 2027
OP Corporate Bank plc Issue of USD 60,000,000 3.692 per cent. Instruments due 15 Jun 2028 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	53.4	Fixed 3.692%	15 June 2028
OP Corporate Bank plc Issue of EUR 10,000,000 1.30 per cent. Instruments due 23 Oct 2028 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	10.0	Fixed 1.300%	23 Oct. 2028
OP Corporate Bank plc Issue of USD 100,000,000 3.901 per cent. Instruments due 7 Dec 2028 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	89.0	Fixed 3.901%	7. Dec. 2028
OP Corporate Bank plc Issue of EUR 10,000,000 1.310 per cent. Fixed Rate Instruments due 24 January 2029 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	10.0	Fixed 1.310%	24 Jan. 2029
OP Corporate Bank plc Issue of EUR 19,000,000 1.005 per cent. Fixed Rate Instruments due 6 March 2029 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	19.0	Fixed 1.005%	6 March 2029
OP Corporate Bank plc Issue of NOK 200,000,000 3.80 per cent. Instruments due 27 May 2029 under the EUR 20,000,000,000 Programme for Debt Instruments	20.3	Fixed 3.800%	27 May 2029
OP Corporate Bank plc Issue of AUD 197,000,000 2.440% per cent.	123.2	Fixed 2.440%	10 July 2029

OP Corporate Bank plc Issue of USD 50,000,000 Fixed Rate Senior Non-Preferred Instruments due 17 July 2029 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	44.5	Fixed 2.933%	17 July 2029
OP Corporate Bank plc Issue of EUR 500,000,000 0.625 per cent. Senior Non-Preferred Instruments due 12 November 2029 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	500.0	Fixed 0.625%	12 Nov. 2029
OP Corporate Bank plc Issue of EUR 10,000,000 0.53 per cent. Fixed Rate Instruments due 15 November 2029 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	10.0	Fixed 0.530%	15 Nov. 2029
OP Corporate Bank plc Issue of EUR 30,000,000 1.70 per cent. Notes due 2030 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	30.0	Fixed 1.700%	21 Aug. 2030
OP Corporate Bank plc Issue of EUR 50,000,000 2.045 per cent. Instruments due 18 November 2030 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	50.0	Fixed 2.045%	18 Nov. 2030
OP Corporate Bank plc Issue of EUR 10,000,000 1.865 per cent. Instruments due 27 January 2031 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	10.0	Fixed 1.865%	27 Jan. 2031
OP Corporate Bank plc Issue of EUR 50,000,000 1.706 per cent. Instruments due 12 Dec 2033 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	50.0	Fixed 1.706%	12. Dec. 2033
OP Corporate Bank plc Issue of EUR 30,000,000 3.068 per cent. Instruments due 21 March 2034 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	30.0	Fixed 3.068%	21 March 2034
OP Corporate Bank plc Issue of EUR 30,000,000 Fixed Rate Notes due 2034 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	30.0	Fixed 3.015%	31 March 2034
OP Corporate Bank plc Issue of EUR 40,000,000 Fixed Rate Notes due 2034 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	40.0	Fixed 3.000%	11 April 2034
OP Corporate Bank plc Issue of EUR 40,000,000 1.40 cent. Instruments due 16 March 2035 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	40.0	Fixed 1.400%	16 March 2035
OP Corporate Bank plc Issue of EUR 30,000,000 2.155 per cent. Instruments due 20 November 2035 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	30.0	Fixed 2.155%	20 Nov. 2035
OP Corporate Bank plc Issue of JPY 2,500,000,000 1.30 per cent. Instruments due 27 November 2035 under the EUR 20,000,000,000 Programme for the Issuance of Debt Instruments	20.5	Fixed 1.300%	27 Nov. 2035

The interest rate is the rate according to the issue currency. The euro equivalents are calculated using the average rate of the European Central Bank on the balance sheet date. The nominal amount of structured bonds issued by OP Corporate Bank plc was EUR 1,130 million (1,163). The bonds' interest rate is determined on the basis of interest, equity, equity index or similar underlying instruments. Any possible additional return on the bonds to the investor is hedged using a corresponding derivative structure.

Note 31. Provisions and other liabilities

EUR million	31 Dec 2019	31 Dec 2018
Provisions		
Loss allowance	16	4
Reorganisation provision	4	3
Other statutory provisions		5
Other liabilities		
Payment transfer liabilities	805	824
Accrued expenses		
Interest payable	118	112
Interest payable on derivatives	1	-9
Other accrued expenses	68	58
CSA liabilities from derivatives	728	504
Pension liabilities	70	58
Lease liabilities	5	
Accounts payable on securities	12	21
Payables based on purchase invoices	20	14
Direct insurance liabilities	50	47
Reinsurance liabilities	20	11
Claims administration contracts	162	209
Other	69	37
Total provisions and other liabilities	2,148	1,897

Changes in provisions

EUR million	Loss allowance	Re- organisation	Other provisions	Total
1 Jan 2019	4	3	5	12
Increase in provisions	12	4	0	17
Provisions used		-2	-4	-7
Reversal of unused provisions		-1	0	-1
31 Dec 2019	16	4		21

EUR million	Loss allowance	Re- organisation	Other provisions	Total
31 Dec 2017				
1 Jan 2018 IFRS 9 transition	4			4
Increase in provisions		3	5	8
31 Dec 2018	4	3	5	12

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 Corporate Bank Group has funded assets of its pension schemes through OP Bank Group Pension Fund, OP Bank Group Pension Foundation and insurance companies. Schemes related to supplementary pensions in the Pension Foundation and insurance company, as well as the TyEL (Employees' Pensions Act) funded old-age and disability pension schemes managed by the Pension Fund are treated as defined benefit plans. Contributions to the TyEL pay-as-you-go system are treated as defined contribution plans.

OP Bank Group Pension Fund

OP Bank Group Pension Fund managed statutory pension insurance for the employees of OP Corporate Bank Group employers until 2018. On 31 December 2018, OP Financial Group transferred 90.8% of OP Bank Group Pension Fund's pension portfolio to Ilmarinen Mutual Pension Insurance Company. Based on the initial plan, the remaining pension liability will be transferred to Ilmarinen at a later date, but no earlier than at the end of 2020. The remaining portion mainly consists of Pohjola Insurance's pension liabilities transferred on 31 December 2015 from Ilmarinen Mutual Pension Insurance Company to OP Bank Group Pension Fund. The statutory pension scheme under TyEL (Employees' Pensions Act) provides pension benefits based on the years of employment and earnings as prescribed in the Act. Benefits under the employees pension scheme comprise old-age pension, partial early old-age pension, year-of-service pension, disability pension, survivors' pension and rehabilitation benefits.

The TyEL pension scheme is based on a system that is partly a funded system and partly a pay-as-you go system. A pension insurance institution, which has insured each employment, manages funding for each employee.

OP Bank Group Pension Fund aims to manage statutory pension insurance in such a way that the level of contributions will remain steady year after year and be below the average contribution level of the employees pension scheme. In 2019, OP Bank Group Pension Fund's level of contributions was 22.9% and the level of contributions of Ilmarinen Mutual Pension Insurance Company was 24.4%. The most significant risk associated with OP Bank Group Pension Fund relates to the possibility of the actual return on investment assets being lower than the actual average investment return under the pension scheme. If such a risk materialises in several consecutive years, this would result in increasing the level of insurance contributions.

The most significant actuarial risks of OP Bank Group Pension Fund are associated with interest rate and market risks, future increases in pension benefits and systematically increasing life expectancy. A change in the discount rate for pension liabilities has a substantial effect on the amount of pension liabilities.

Under the Employee Benefit Funds Act, the Pension Fund must invest its assets securely and profitably and in view of its liquidity. The Pension Fund must cover the insurance liability arising from pension obligations, in accordance with the national accounting framework. When covering the insurance liability, the Pension Fund must consider what type of insurance business it conducts and, accordingly, must ensure the security of, return on and cashability of its assets and that they are appropriately versatile and properly diversified. As prescribed by law, the Pension Fund has a specific solvency limit which it must cover through its solvency capital.

Responsible for investment, the Board of Trustees of the Pension Fund approves the pension institution'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 Fund's risk-bearing capacity.

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 Corporate Bank 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. Given that providing supplementary pension is voluntary, not all employers belonging to the Pension Fund belong automatically to the Pension Foundation. 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 pension institution'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. The adaptation performed as a result of the TyEL change in 2017 increased the liability by EUR 9 million in the financial statements for 2018.

Balance sheet value of defined benefit plans,	Defined benefit obligations		Fair value of pension assets		Net liabilities (assets)	
	2019	2018	2019	2018	2019	2018
Opening balance 1 Jan	260	423	-205	-333	55	90
Defined benefit pension costs recognised in income statement						
Current service cost	8	13			8	13
Interest expense (income)	5	7	-4	-6	1	2
Effect of plan curtailment, change and fulfilment of obligation or previous service	0	-162		137	0	-26
Administrative expenses			0	0	0	0
Total	13	-142	-4	131	9	-11
Losses (gains) recognised in other comprehensive income arising from remeasurement						
Actuarial losses (gains) arising from changes in economic expectations	26	-21			26	-21
Return on TyEL interest rate difference and growth in old-age pension liabilities (net) and corporate transaction	0	6	0	-6		
Experience adjustments	0	3			0	3
Return on plan assets, excluding amount (-) of net defined benefit liability (asset)			-20	-5	-20	-5
Total	26	-12	-20	-11	7	-23
Other						
Employer contributions*			-6	-2	-6	-2
Benefits paid	-8	-10	8	10		
Total	-8	-10	2	8	-6	-2
Closing balance 31 Dec	291	260	-226	-205	64	55

* Include refund of OP Bank Group Pension Fund's solvency capital surplus, totalling EUR 3 (5) million.

Liabilities and assets recognised in the balance sheet, EUR million	31 Dec 2019	31 Dec 2018
Net liabilities/assets (Pension Foundation)	-6	-3
Net liabilities/assets (Pension Fund)	43	34
Net liabilities (Other pension plans)	27	24
Total net liabilities	70	58
Total net assets	-6	-3

Pension Fund and Pension Foundation assets, grouped by valuation technique, 31 Dec 2019, EUR million	Level 1	Level 2	Level 3	Total
Shares and participations	18	0	9	27
Notes and bonds	51		1	52
Real property			3	3
Mutual funds	24	8	51	84
Derivatives			0	0
Other assets	15		1	16
Total	109	8	65	182

Pension Fund and Pension Foundation assets, grouped by valuation technique, 31 Dec 2018, EUR million	Level 1	Level 2	Level 3	Total
Shares and participations	22	0	5	27
Notes and bonds	49	0	3	52
Real property			5	5
Mutual funds	53	2	20	75
Derivatives	0	0		0
Other assets	12		1	13
Total	136	2	33	172

The fair value of Level 1 assets is determined on the basis of the quotes in markets.

The fair value of Level 2 assets 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.

The fair value Level 3 assets is determined using a pricing model whose input parameters involve uncertainty.

Proportion of the most significant assets of total fair value of plan assets, %	31 Dec 2019	31 Dec 2018
Shares and participations	15	16
Financial sector	0	0
Forest	0	5
Real estate	4	3
Other	10	8
Notes and bonds	29	30
Government bonds	28	28
Other	1	2
Real property	1	3
Mutual funds	46	44
Equity funds	17	17
Bond funds	6	2
Real estate funds	18	19
Hedge funds	5	6
Derivatives	0	0
Interest rate derivatives		0
Currency derivatives	0	
Other	9	8
Total	100	100

Pension plan assets include, EUR million,	31 Dec 2019	31 Dec 2018
Other receivables from OP Financial Group companies	19	13
Total	19	13

Contributions payable under the defined benefit pension plan in 2020 are estimated at EUR 9 million.

The duration of the defined benefit pension obligation in the Pension Fund on 31 December 2019 was 26.3 years, in the Pension Foundation 14.8 years and in other plans 19.9 years.

Key actuarial assumptions used, 31 Dec 2019, EUR million	Pension Fund	Pension Foundation	Other
Discount rate, %	1.0	0.8	0.9
Future pay increase assumption, %	2.3	2.1	2.1
Future pension increases, %	0.5	1.5	1.5
Turnover rate, %	3.0	0.0	0.0
Inflation rate, %	1.5	1.3	1.3
Estimated remaining service life of employees in years	23.0	7.0	8.0
Life expectancy for 65-year old people			
Men	21.4	21.4	21.4
Women	25.4	25.4	25.4
Life expectancy for 45-year old people after 20 years			
Men	23.7	23.7	23.7
Women	28.1	28.1	28.1

Key actuarial assumptions used, 31 Dec 2018, EUR million	Pension	Pension	Other
	Fund	Foundation	
Discount rate, %	1.9	1.7	2.0
Future pay increase assumption, %	2.5	2.3	2.5
Future pension increases, %	1.1	1.6	1.9
Turnover rate, %	3.0	0.0	0.0
Inflation rate, %	1.7	1.5	1.7
Estimated remaining service life of employees in years	24.0	7.0	8.0
Life expectancy for 65-year old people			
Men	21.4	21.4	21.4
Women	25.4	25.4	25.4
Life expectancy for 45-year old people after 20 years			
Men	23.7	23.7	23.7
Women	28.1	28.1	28.1

Sensitivity analysis of key actuarial assumptions, 31 Dec 2019	Change in defined benefit pension obligation			
	Pension Fund	Pension Foundation		
	EUR million	% EUR million	%	%
Discount rate				
0.5 pp increase	-20	-11.1	-2	-6.6
0.5 pp decrease	23	13.2	3	7.4
Pension increases				
0.5 pp increase	21	12.1	3	6.7
0.5 pp decrease	-19	-10.8	-2	-6.3
Mortality				
1-year increase in life expectancy	5	3.1	1	3.7
1-year decrease in life expectancy	-5	-3.0	-1	-3.5

Sensitivity analysis of key actuarial assumptions, 31 Dec 2018	Change in defined benefit pension obligation			
	Pension Fund	Pension Foundation		
	EUR million	% EUR million	%	%
Discount rate				
0.5 pp increase	-17	-10.8	-3	-6.2
0.5 pp decrease	20	12.7	4	7.0
Pension increases				
0.5 pp increase	18	11.7	3	6.3
0.5 pp decrease	-17	-10.5	-3	-5.9
Mortality				
1-year increase in life expectancy	5	3.0	2	3.3
1-year decrease in life expectancy	-5	-2.9	-2	-3.2

Note 32. Subordinated liabilities

EUR million	31 Dec 2019	31 Dec 2018
Subordinated loans	222	223
Other		
Debentures	1,252	1,259
Total subordinated liabilities	1,474	1,482

Principal terms and conditions of the hybrid bonds/subordinated loans are as follows:

1. Perpetual bond of EUR 50 million

This is a perpetual loan without interest-rate step-ups, but with an 8% interest rate cap. The loan was issued on 31 March 2005 and its interest rate for the first year was 6.5% and thereafter CMS 10 years + 0.1%. Interest payments are made annually on 11 April. If interest cannot be paid for a given interest period, the obligation to pay interest for the period in question will lapse. The loan can be called in on the interest due date as of 11 April 2010 at the earliest, subject to authorisation by the supervisory authority. The loan's entire principal must be repaid in one instalment.

2. Perpetual bond of EUR 40 million

This perpetual loan carries a variable interest rate based on 3-month Euribor + 1.25% payable quarterly on 28 February, 30 May, 30 August and 30 November. If interest cannot be paid for a given interest period, the obligation to pay interest for the period in question will lapse. Subject to authorisation by the supervisory authority, the loan may be called in on the due date of interest payment of 30 November 2010. The entire loan principal must be repaid in one instalment.

3. Pohjola Insurance Ltd's capital bond

Capital bond of EUR 50 million. Issued on 17 June 2008, the bond carries a variable interest rate based on 3-month Euribor + 3.20%, payable on a quarterly basis. Interest which cannot be paid on the interest payment date and interest which Pohjola Insurance Ltd could not have paid for previous interest payment dates constitute 'Unpaid interest'. Interest will accrue on unpaid interest in accordance with the interest rate applicable to the bonds and this additional interest accrued until each interest payment date will be added to unpaid interest on the interest payment date in question. The issuer agrees not to distribute dividends or other profit or to buy back own shares until unpaid interest has been paid in its entirety. The bond may be called in at the earliest in 2013 and its principal can be paid back only if the statutory terms and conditions are fulfilled. The bond will not be taken into account in the capital adequacy measurement under the Act on Credit Institutions but can be fully utilised in the capital adequacy measurement of the insurance company.

4. Pohjola Insurance Ltd's capital bond

Capital bond of EUR 75 million. Issued on 18 June 2015, the bond carries a variable interest rate based on 3-month Euribor + 2.60%, payable on a quarterly basis. Interest which cannot be paid on the interest payment date and interest which Pohjola Insurance Ltd could not have paid for previous interest payment dates constitute 'Unpaid interest'. Interest will accrue on unpaid interest in accordance with the interest rate applicable to the bonds and this additional interest accrued until each interest payment date will be added to unpaid interest on the interest payment date in question. The issuer agrees not to distribute dividends or other profit or to buy back own shares until unpaid interest has been paid in its entirety. The bond matures on 18 June 2040 unless the issuer will have paid it earlier under the bond terms and conditions. The bond may be called in at the earliest on 18 June 2020 and its principal can be paid back only if the statutory terms and conditions are fulfilled. The bond will not be taken into account in the capital adequacy measurement under the Act on Credit Institutions but can be fully utilised in the capital adequacy measurement of the insurance company.

5. A-Insurance Ltd's capital bond

Capital bond of EUR 10 million. Issued on 18 June 2015, the bond carries a variable interest rate based on 3-month Euribor + 3.10%, payable on a quarterly basis. Interest which cannot be paid on the interest payment date and interest which A-Insurance Ltd could not have paid for previous interest payment dates constitute 'Unpaid interest'. Interest will accrue on unpaid interest in accordance with the interest rate applicable to the bonds and this additional interest accrued until each interest payment date will be added to unpaid interest on the interest payment date in question. The issuer agrees not to distribute dividends or other profit or to buy back own shares until unpaid interest has been paid in its entirety. The bond matures on 18 June 2040 unless the issuer will have paid it earlier under the bond terms and conditions. The bond may be called in at the earliest on 18 June 2020 and its principal can be paid back only if the statutory terms and conditions are fulfilled. The bond will not be taken into account in the capital adequacy measurement under the Act on Credit Institutions but can be fully utilised in the capital adequacy measurement of the insurance company.

Debentures

1. A debenture loan of CHF 100 million (euro equivalent 92 million), which is a ten-year bullet loan, will mature on 14 July 2021. The loan carries a fixed interest rate of 3.375% p.a.
2. A debenture loan of EUR 100 million, which is a ten-year bullet loan, will mature on 14 September 2021. The loan carries a fixed interest rate of 5.25% p.a.
3. A debenture loan of EUR 500 million, which is a 10-year bullet loan, will mature on 28 February 2022. 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 5.75% p.a.
4. Debenture loan of JPY 10 billion (euro equivalent 82 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%.
5. Debenture loan of SEK 3,500 million (euro equivalent 335 million), which is a ten-year non-call 5 loan. The loan may be called in on 25 August 2020, matures on 25 August 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 Stibor + 1.60%.
6. Debenture loan of 100 million euros, 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.

Loans 1–6 were issued in international capital markets.

In addition, OP Corporate Bank plc has issued a fixed debenture loan of EUR 0.8 million related to OP Financial Group management remuneration.

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 33. Equity capital

EUR million	31 Dec 2019	31 Dec 2018
Capital and reserves attributable to owners		
Liabilities to central banks	428	428
Reserves		
Restricted reserves		
Share premium account	519	519
Reserve fund	203	203
Fair value reserve		
Cash flow hedge	0	0
Measurement at fair value		
Notes and bonds	26	-3
Loss allowance regarding notes and bonds	5	6
Shares and participations	0	
Shares and participations (overlay approach)	38	-15
Other restricted reserves	1	1
Non-restricted reserves		
Reserve for invested non-restricted equity	298	298
Other non-restricted reserves	72	72
Retained earnings		
Profit (loss) for previous financial years	2,382	2,213
Profit (loss) for the financial year	328	346
Equity capital attributable to owners	4,299	4,067
Non-controlling interests	74	80
Total equity capital	4,374	4,147

Share capital and shares

The number of shares remained unchanged, 319,551,415. The shares have no nominal value and their stated value (not an exact figure) is 1.34 euros per share. All of the shares issued have been paid in full.

Proposed distribution of dividend

The Board of Directors proposes that no dividend be distributed and that the profit for the financial year 2019 is entered in the account of retained earnings/loss. Dividends distributed a year ago amounted to EUR 0.54 per share, totalling EUR 173 million.

Reserves

Share premium account

The share premium account was formed during the validity of regulations in force before 1 September 2006. Items entered in the share premium account include amounts exceeding the stated value paid for shares in a rights issue and amounts exceeding the stated value of a share and paid for share subscription based on stock options.

The share premium account may be lowered in compliance with the regulations governing the reduction of share capital and may be used to increase the share capital. The amount of the subscription price exceeding the stated value of shares subscribed in September and November 2006, based on stock options, was entered in the share premium account, because the General Meeting had made the decision on issuing stock options before the entry into force of the new Companies Act. Otherwise, it has no longer been possible to increase the share premium account since 1 September 2006.

Reserve fund

The reserve fund consists of profits transferred to it during previous periods and the loan loss provisions transferred to it in 1990. The reserve fund may be used to cover losses for which the non-restricted equity is not sufficient. The reserve fund may also be used to increase the share capital and it may be reduced in the same way as the share capital. Since 1 September 2006, it has no longer been possible to increase the reserve fund.

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 increase 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

EUR million	Fair value through other comprehensive income				Total
	Notes and bonds	Shares and participations	Shares and participations (overlay approach)	Cash flow hedging	
Balance sheet 31 Dec 2017	117	45		2	164
Effect of IFRS 9 transition at 1 January 2018	-1	-45			-46
Opening balance 1 Jan 2018	115	0		2	118
Fair value changes	-111	0	-20	1	-130
Capital gains transferred to income statement	-30		-3		-33
Impairment loss transferred to income statement			5		5
Transfers to net interest income				-3	-3
Deferred tax	28	0	4	0	32
Closing balance 31 Dec 2018	3		-15	0	-12

EUR million	Fair value through other comprehensive income				Total
	Notes and bonds	Shares and participations	Shares and participations (overlay approach)	Cash flow hedging	
Opening balance 1 Jan 2019	3		-15	0	-12
Fair value changes	52		41	0	93
Capital gains transferred to income statement	-17		12		-4
Impairment loss transferred to income statement			13		13
Transfers to net interest income				0	0
Deferred tax	-7		-13	0	-20
Closing balance 31 Dec 2019	31		38	0	70



The fair value reserve before tax amounted to EUR 87 million positive on 31 December 2019 and the related deferred tax liability was EUR 17 million. At the end of the financial year 2018, the fair value reserve was EUR 15 million negative and the related deferred tax asset was EUR 3 million. During the financial year, positive mark-to-market valuations of equity instruments in the fair value reserve totalled EUR 51 million (24) and negative mark-to-market valuations EUR 3 million (43), owing to the application of the overlay approach. The loss allowance on notes and bonds recognised at fair value through other comprehensive income totalled EUR 2 million in the fair value reserve during the financial year.

The negative fair value reserve may recover by means of asset appreciation, capital losses and recognised impairments.

Other restricted reserves

These reserves consist of retained earnings based on the Articles of Association or other rules describing their purpose.

Reserve for Invested non-restricted equity

Capital raised through the rights offering in 2009 was entered in the reserve for invested non-restricted equity.

Other non-restricted reserves

These reserves consist of retained earnings based on decisions by the General 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 the balance sheet

Note 34. Collateral given

EUR million	31 Dec 2019	31 Dec 2018
Given on behalf of own liabilities and commitments		
Pledges	79	59
Others	3,496	5,775
Total collateral given*	3,575	5,834
Secured derivative liabilities	1,098	928
Other secured liabilities	2,093	4,072
Total secured liabilities	3,191	5,000

* In addition, bonds with a book value of EUR 6.4 billion have been pledged in the central bank, of which EUR 1.5 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 35. Financial collateral held

EUR million	31 Dec 2019	31 Dec 2018
Fair value of collateral received		
Other	707	490
Total	707	490

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 707 million on the balance sheet date (490). The Group had no securities received as collateral on the balance sheet date.

Note 36. Classification of financial assets and liabilities

Assets, EUR million	Amortised cost	Fair value through other comprehensive income	Financial assets held for trading	Must be measured at fair value through profit or loss	Hedging derivatives	Carrying amount total
Cash and cash equivalents	11,914					11,914
Receivables from credit institutions	9,126					9,126
Derivative contracts			4,407		468	4,874
Receivables from customers	23,829					23,829
Notes and bonds		14,899	1,033	42		15,975
Equity instruments		0	23	694		717
Other financial assets	1,393					1,393
Financial assets						67,828
Other than financial assets						1,297
Total 31 December 2019	46,262	14,899	5,463	737	468	69,126

Assets, EUR million	Amortised cost	Fair value through other comprehensive income	Financial assets held for trading	Must be measured at fair value through profit or loss	Hedging derivatives	Carrying amount total
Cash and cash equivalents	12,239					12,239
Receivables from credit institutions	9,726					9,726
Derivative contracts			3,476		187	3,663
Receivables from customers	22,351					22,351
Notes and bonds		14,730	501	46		15,278
Equity instruments		0	36	616		651
Other financial assets	1,521					1,521
Financial assets						65,429
Other than financial assets						1,296
Total 31 December 2018	45,838	14,730	4,013	662	187	66,725

Liabilities, EUR million	Financial liabilities at fair value through profit or loss	Other liabilities	Hedging derivatives	Carrying amount total
Liabilities to credit institutions		15,334		15,334
Derivative contracts	3,683		199	3,882
Liabilities to customers		15,503		15,503
Insurance liabilities		3,234		3,234
Debt securities issued to the public		22,726		22,726
Subordinated loans		1,474		1,474
Other financial liabilities		1,991		1,991
Financial liabilities				64,143
Other than financial liabilities				609
Total 31 December 2019		3,683	199	64,752

Liabilities, EUR million	Financial liabilities at fair value through profit or loss	Other liabilities	Hedging derivatives	Carrying amount total
Liabilities to credit institutions		15,575		15,575
Derivative contracts	3,023		264	3,287
Liabilities to customers		16,422		16,422
Insurance liabilities		3,157		3,157
Debt securities issued to the public		20,338		20,338
Subordinated loans		1,482		1,482
Other financial liabilities		1,779		1,779
Financial liabilities				62,038
Other than financial liabilities				539
Total 31 December 2018	3,023	58,752	264	62,577

Bonds included in debt securities issued to the public are carried at amortised cost. On 31 December, the fair value of these debt instruments was approximately EUR 232 million (102) higher than their carrying amount, based on information available in markets and employing commonly used valuation techniques. Subordinated liabilities are carried at amortised cost. Their fair values are higher than their amortised costs, but determining reliable fair values involves uncertainty.

Note 37. Recurring fair value measurements by valuation technique

Fair value of assets on 31 December 2019, EUR million	Level 1	Level 2	Level 3	Total
Recognised at fair value through profit or loss				
Equity instruments	334	58	325	717
Debt instruments	484	82	510	1,076
Derivative financial instruments	11	4,789	74	4,874
Fair value through other comprehensive income				
Equity instruments		0		0
Debt instruments	12,470	1,556	874	14,899
Total financial instruments	13,299	6,485	1,783	21,566
Investment property			339	339
Total	13,299	6,485	2,121	21,905
Fair value of assets on 31 December 2018, EUR million	Level 1	Level 2	Level 3	Total
Recognised at fair value through profit or loss				
Equity instruments	297	53	301	651
Debt instruments	115	133	299	547
Derivative financial instruments	0	3,606	57	3,663
Fair value through other comprehensive income				
Equity instruments		0		0
Debt instruments	11,873	2,666	191	14,730
Total financial instruments	12,286	6,459	848	19,592
Investment property			320	320
Total	12,286	6,459	1,168	19,912
Fair value of liabilities on 31 December 2019, EUR million	Level 1	Level 2	Level 3	Total
Recognised at fair value through profit or loss				
Other		12		12
Derivative financial instruments	9	3,841	32	3,882
Total	9	3,853	32	3,894
Fair value of liabilities on 31 December 2018, EUR million	Level 1	Level 2	Level 3	Total
Recognised at fair value through profit or loss				
Other		0		0
Derivative financial instruments	10	3,233	44	3,287
Total	10	3,234	44	3,287

Fair value measurement

Derivatives

The 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. 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. In the fair value measurement of some contracts, however, the Group 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 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, including the measurement of Level 3 hierarchy. Middle Office compares regularly at contract level valuation prices with valuations supplied by CSA counterparties and central counterparties and, whenever necessary, determine 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 derivatives takes account of the credit risk of the parties to a transaction. Credit risk is adjusted with a Credit Valuation Adjustment (CVA) and with a Debit Valuation Adjustment (DVA). CVA and DVA valuation adjustments are calculated for each counterparty.

CVA and DVA adjustments are calculated by simulating the market values of derivatives and events of default based primarily on data obtained from markets. In assessing probabilities of default, the Group utilises market data through illiquid counterparties too by combining the counterparties with liquid market data.

Fair value hierarchy

Level 1: Quoted prices in active markets

This level includes equities listed on stock exchanges, quoted debt instruments issued by companies, governments and financial institutions, as well as exchange-traded derivatives. The fair value of these instruments is determined on the basis of 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 Group'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. Level 3 fair value is based on pricing information from a third party.

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.

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
Openin balance 1 January 2019	600	57	191	848
Total gains/losses in profit or loss comprehensive income	-265	18	0	-247
Purchases	93		2	95
Sales	-59		-8	-67
Settlements	0		-4	-4
Transfers into Level 3	465		762	1,226
Transfers out of Level 3			-69	-69
Closing balance 31 December 2019	834	74	875	1,783

Financial assets, EUR million	Financial assets at fair value through profit or loss	Derivative contracts	Fair value through other comprehen- sive income	Total assets
Balance sheet 31 December 2017	409	131	574	1,115
Effects of IFRS 9 transition 1 January 2018	270		-263	6
Openin balance 1 January 2018	679	131	311	1,122
Total gains/losses in profit or loss comprehensive income	-406	-75	-1	-481
Purchases	107		1	108
Sales	-60		0	-60
Settlements	-8		-5	-12
Transfers into Level 3	287		134	421
Transfers out of Level 3			-250	-250
Closing balance 31 December 2018	600	57	191	848

Financial liabilities, EUR million	Derivative contracts	Total liabilities
Opening balance 1 January 2019	44	44
Total gains/losses in profit or loss	-11	-11
Closing balance 31 December 2019	32	32

Financial liabilities, EUR million	Derivative contracts	Total liabilities
Opening balance 1 January 2018	92	92
Total gains/losses in profit or loss	-48	-48
Closing balance 31 December 2018	44	44

Total gains/losses included in profit or loss by item for the financial year on 31 December 2019

EUR Million	Net interest income	Net investment income	Change in fair value reserve	Statement of comprehen sive income/ assets/ liabilities held at year- end
Realised net gains (losses)	-264	-1	0	-264
Unrealised net gains (losses)	29		0	29
Total net gains (losses)	-235	-1	1	-235

Total gains/losses included in profit or loss by item for the financial year on 31 December 2018

EUR Million	Net interest income	Net investment income	Change in fair value reserve	Statement of comprehen sive income/ assets/ liabilities held at year- end
Realised net gains (losses)	-411	6		-406
Unrealised net gains (losses)	-26		0	-26
Total net gains (losses)	-438	6	0	-432

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 2019.

Sensitivity analysis of input parameters involving uncertainty on 31 December 2019

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	510		510	51.0	10%
Illiquid investments	57		57	8.6	15%
Private equity funds**	145		145	14.5	10%
Real estate funds***	123		123	24.6	20%
Derivatives:					
Index-linked bond hedges and structured derivatives, and derivatives with a long-term maturity*	74	-32	42	4.6	11%
Fair value through other comprehensive income:					
Bond investments	874		874	87.4	10%
Investment property					
Investment property***	339		339	67.8	20%

Sensitivity analysis of input parameters involving uncertainty on 31 December 2018

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	299		299	29.9	10%
Illiquid investments	48		48	7.2	15%
Private equity funds**	132		132	13.2	10%
Real estate funds***	121		121	24.2	20%
Derivatives:					
Index-linked bond hedges and structured derivatives, and derivatives with a long-term maturity*	57	-44	13	1.4	11%
Fair value through other comprehensive income:					
Bond investments	191		191	19.1	10%
Investment property					
Investment property***	320		320	64.0	20%

* Following stress scenarios: the combined value change of volatility of shares (30%), dividends of shares (30%), credit risk premiums (30%) and significant correlation changes.

** 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.

*** In the valuation of real estate funds and investment property, OP Corporate Bank Group 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.



Notes to contingent liabilities and derivatives

Note 38. Off-balance-sheet commitments

	31 Dec 2019	31 Dec 2018
Guarantees	550	647
Other guarantee liabilities	1,882	1,668
Loan commitments	5,146	5,257
Commitments related to short-term trade transactions	315	265
Other	699	712
Total off-balance-sheet commitments	8,593	8,549

Note 39. 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 40. Derivative contracts****Derivatives held for trading 31 December 2019**

EUR million	Nominal values/residual maturity				Fair values	
	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	22,053	43,992	55,245	121,289	2,559	1,942
Cleared by the central counterparty	6,502	23,008	31,391	60,902	41	43
OTC interest rate options						
Call and caps						
Purchased	6,277	9,544	7,779	23,599	242	208
Written	6,876	7,850	5,355	20,081	104	190
Put and floors						
Purchased	3,278	5,050	4,218	12,546	168	68
Written	3,332	6,722	2,403	12,458	70	50
Total OTC interest rate derivatives	41,816	73,158	74,999	189,973	3,143	2,458
Interest rate futures	1,134	938		2,072	0	0
Total exchange traded derivatives	1,134	938		2,072	0	0
Total interest rate derivatives	42,949	74,096	74,999	192,044	3,143	2,458
Currency derivatives						
Forward exchange agreements	33,881	305		34,186	233	220
Interest rate and currency swaps	909	5,149	1,760	7,818	606	603
Currency options						
Call						
Purchased	158	12		170	1	1
Written	161	13		174	1	0
Put						
Purchased	143	13		156	1	0
Written	130	14		144	0	1
Total OTC currency derivatives	35,382	5,506	1,760	42,648	842	825
Total currency derivatives	35,382	5,506	1,760	42,648	842	825
Equity and index derivatives						
Equity index options						
Call						
Purchased	1	2		3	0	
Total OTC equity and index derivatives	1	2		3	0	
Total equity and index derivatives	1	2		3	0	
Credit derivatives						
Credit default swaps	59	892	112	1,063	14	12
Total credit derivatives	59	892	112	1,063	14	12
Other						
Other forward contracts	3	3		5	0	0
Other swaps	231	432	18	681	67	38
Total other OTC derivatives	233	435	18	686	68	38
Total other derivatives	233	435	18	686	68	38
Total derivatives held for trading	78,624	80,931	76,889	236,444	4,067	3,333



Derivatives held for trading 31 December 2018

EUR million	Nominal values/residual maturity			Total	Fair values	
	<1 year	1–5 years	>5 years		Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	21,091	42,938	53,949	117,979	1,705	1,415
Cleared by the central counterparty	7,151	21,767	27,371	56,288	6	10
OTC interest rate options						
Call and caps						
Purchased	3,128	8,713	6,926	18,767	212	75
Written	2,624	9,983	4,651	17,258	86	115
Put and floors						
Purchased	4,637	5,717	2,823	13,177	116	56
Written	4,360	6,281	1,771	12,412	59	50
Total OTC interest rate derivatives	35,841	73,632	70,120	179,593	2,179	1,710
Interest rate futures	3,850	3,280		7,129	0	0
Total exchange traded derivatives	3,850	3,280		7,129	0	0
Total interest rate derivatives	39,691	76,912	70,120	186,723	2,179	1,710
Currency derivatives						
Forward exchange agreements	18,022	631	2	18,654	137	137
Interest rate and currency swaps	2,699	4,269	2,928	9,896	798	817
Currency options						
Call						
Purchased	180	17		197	1	1
Written	239	24		262	1	1
Put						
Purchased	316	24		340	2	1
Written	299	21		319	1	2
Total OTC currency derivatives	21,754	4,986	2,930	29,669	939	959
Total currency derivatives	21,754	4,986	2,930	29,669	939	959
Equity and index derivatives						
Equity index options						
Call						
Purchased		3		3	0	0
Total OTC equity and index derivatives		3		3	0	0
Total equity and index derivatives		3		3	0	0
Credit derivatives						
Credit default swaps	15	189	2	206	4	9
Total credit derivatives	15	189	2	206	4	9

Other

Other forward contracts	16	1		17	0	4
Other swaps	190	363	8	560	34	24
Other options						
Call						
Purchased	0			0		
Written	0			0		
Put						
Purchased	0			0		
Written	0			0		
Total other OTC derivatives	207	364	8	579	34	28
Other futures contracts	0	0		1	0	0
Total other derivatives	208	364	8	580	34	29
Total derivatives held for trading	61,667	82,454	73,060	217,180	3,156	2,707

Derivative contracts for hedging purposes – fair value hedging 31 December 2019

EUR million	Nominal values/residual maturity				Fair values	
	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	4,577	13,388	11,158	29,123	56	48
Cleared by the central counterparty	4,289	13,118	10,817	28,224	11	10
Total OTC interest rate derivatives	4,577	13,388	11,158	29,123	56	48
Total interest rate derivatives	4,577	13,388	11,158	29,123	56	48
Currency derivatives						
Interest rate and currency swaps	2,609	1,448	654	4,711	166	130
Total OTC currency derivatives	2,609	1,448	654	4,711	166	130
Total currency derivatives	2,609	1,448	654	4,711	166	130
Total derivative contracts, fair value hedge	7,187	14,836	11,812	33,834	222	178

Average interest rates of derivative contracts in hedge accounting – fair value hedge 31 December 2019

	<1 yr	1–5 yrs	>5 yrs	total
Interest rate derivatives				
Cleared by the central counterparty	0.019	0.672	0.608	0.549
OTC interest rate derivatives	3.419	3.959	2.666	3.239
Total interest rate derivatives	0.062	0.727	0.662	0.602

Average interest rates of derivative contracts in hedge accounting – fair value hedge 31 December 2018

	<1 yr	1–5 yrs	>5 yrs	total
Interest rate derivatives				
Cleared by the central counterparty	0.616	0.488	0.771	0.591
OTC interest rate derivatives	2.185	3.852	2.658	2.986
Total interest rate derivatives	0.747	0.542	0.829	0.654

Average interest rates of derivative contracts in hedge accounting – fair value hedge 31 December 2019

	<1 yr	1–5 yrs	>5 yrs	total
Interest rate and currency swaps				
AUD			2.440	2.440
CHF		1.604		1.604
GBP		2.155		2.155
HKD	2.144		2.959	2.670
JPY	0.562		1.300	0.609
NOK			3.800	3.800
USD	1.691	2.219	3.611	2.747

Average interest rates of derivative contracts in hedge accounting – fair value hedge 31 December 2018

	<1 yr	1–5 yrs	>5 yrs	total
Interest rate and currency swaps				
GBP	0.910	2.231		2.000
JPY	0.434	0.562	1.300	0.518
USD		1.939	3.823	2.764

Derivative contracts for hedging purposes – cash flow hedge 31 December 2019

EUR million	Nominal values/residual term to maturity			Total	Fair values	
	<1 year	1–5 years	>5 years		Assets	Liabilities
Currency derivatives						
Forward exchange agreements	7,374			7,374	241	17
Total OTC currency derivatives	7,374			7,374	241	17
Total currency derivatives	7,374			7,374	241	17
Total derivative contracts, cash flow hedge	7,374			7,374	241	17
Total derivative contracts held for hedging	14,560	14,836	11,812	41,208	463	195

Average prices of derivative contracts in hedge accounting – cash flow hedge 31 December 2019

	<1 yr	1–5 yrs	>5 yrs	total
Currency derivatives				
Forward exchange agreements				
Average EUR:USD	1.120			1.120
Average EUR:GBP	0.878			0.878
Average EUR:CHF	1.101			1.101
Average EUR:HKD	8.879			8.879
Average EUR:SGD	1.534			1.534
Average EUR:AUD	1.625			1.625
Average EUR:NOK	10.108			10.108
Average EUR:CAD	1.473			1.473



Average prices of derivative contracts in hedge accounting – cash flow hedge 31 December 2018

	<1 yr	1–5 yrs	>5 yrs	total
Interest rate derivatives				
Cleared by the central counterparty	0.602			0.602
OTC interest rate derivatives				
Total interest rate derivatives	0.602			0.602
Currency derivatives				
Forward exchange agreements				
Average EUR:USD	1.165			1.165
Average EUR:GBP	0.894			0.894
Average EUR:CHF	1.153			1.153

Derivative contracts for hedging purposes – fair value hedging 31 December 2018

EUR million	Nominal values/residual maturity				Fair values	
	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	2,539	17,454	9,679	29,671	45	30
Cleared by the central counterparty	2,027	16,903	9,333	28,264	2	2
Total OTC interest rate derivatives	2,539	17,454	9,679	29,671	45	30
Total interest rate derivatives	2,539	17,454	9,679	29,671	45	30
Currency derivatives						
Interest rate and currency swaps	422	1,799	475	2,696	91	179
Total OTC currency derivatives	422	1,799	475	2,696	91	179
Total currency derivatives	422	1,799	475	2,696	91	179
Total derivative contracts, fair value hed	2,961	19,252	10,154	32,367	136	209

Derivative contracts for hedging purposes – cash flow hedge 31 December 2018

EUR million	Nominal values/residual term to maturity				Fair values	
	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives						
Interest rate swaps	100			100	0	
Cleared by the central counterparty	100			100	0	
Total OTC interest rate derivatives	100			100	0	
Total interest rate derivatives	100			100	0	
Currency derivatives						
Interest rate and currency swaps	6,843			6,843	35	39
Total OTC currency derivatives	6,843			6,843	35	39
Total currency derivatives	6,843			6,843	35	39
Total derivative contracts, cash flow hedge	6,943	0		6,943	35	39
Total derivative contracts held for hedging	9,905	19,252	10,154	39,311	171	248

Total derivatives 31 December 2019

EUR million	Nominal values/residual maturity				Fair values	
	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives	47,526	87,484	86,157	221,167	3,198	2,506
Cleared by the central counterparty	10,791	36,126	42,208	89,126	52	53
Currency derivatives	45,365	6,954	2,414	54,733	1,250	972
Equity and index-linked derivatives	1	2		3	0	
Credit derivatives	59	892	112	1,063	14	12
Other derivatives	233	435	18	686	68	38
Total derivatives	93,185	95,766	88,701	277,652	4,530	3,529

Total derivatives 31 December 2018

EUR million	Nominal values/residual maturity				Fair values	
	<1 year	1–5 years	>5 years	Total	Assets	Liabilities
Interest rate derivatives	42,330	94,366	79,799	216,494	2,223	1,740
Cleared by the central counterparty	9,278	38,670	36,704	84,652	8	12
Currency derivatives	22,176	6,784	3,404	32,365	1,031	1,138
Equity and index-linked derivatives		3		3	0	0
Credit derivatives	15	189	2	206	4	9
Other derivatives	208	364	8	580	34	29
Total derivatives	64,728	101,706	83,213	249,648	3,292	2,915

*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. Note 41 below presents the effects of netting. Other derivative contracts are presented on a gross basis in the balance sheet. In capital adequacy measurement, OP Corporate Bank Group also applies netting of derivatives. Note 72 below presents the effects of netting. Netting would reduce the credit equivalent of OP Corporate Bank plc's derivative contracts by EUR 6,934 million (4,099).

Note 41. Financial assets and liabilities offset in the balance sheet or subject to enforceable master netting arrangements or similar agreements

Financial assets

31 December 2019, EUR million	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	6,753	-1,879	4,874	-2,303	-707	1,865

31 December 2018, EUR million	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	4,597	-934	3,663	-1,884	-490	1,289

Financial liabilities

31 December 2019, EUR million	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	5,937	-2,055	3,882	-2,303	-654	925

31 December 2018, EUR million	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	4,353	-1,066	3,287	-1,884	-703	700

* Incl. daily cleared derivatives on a net basis included in cash and cash equivalents, totalling -177 (-140) million euros.

** Fair values excluding accrued interest.

***It is the 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 or ICE Clear Europe in 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). 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.

Other notes

Note 42. Ownership interests in subsidiaries, structured entities and joint operations

Changes occurred in subsidiaries and structured entities during the financial year

On 31 August 2019, OP Corporate Bank plc acquired OP Custody Ltd from OP Cooperative. Eurooppalainen Insurance Company Ltd merged into Pohjola Insurance Ltd on 31 October 2019.

Material subsidiaries included in the consolidated financial statements in 2019

Major 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	% of share- holding	% of votes
A-Insurance Ltd	Helsinki	100	100
Pohjola Hospital Ltd	Helsinki	100	100
OP Finance AS	Estonia	100	100
OP Finance SIA	Latvia	100	100
OP Custody Ltd	Helsinki	100	100
Pohjola Insurance Ltd	Helsinki	100	100
UAB OP Finance	Lithuania	100	100

The number of other subsidiaries included in the consolidated financial statements was 1 (1), in addition to major subsidiaries.

Material subsidiaries included in the consolidated financial statements in 2018

Company	Domicile	% of share- holding	% of votes
A-Insurance Ltd	Helsinki	100	100
Pohjola Hospital Ltd	Helsinki	100	100
OP Finance AS	Estonia	100	100
OP Finance SIA	Latvia	100	100
Pohjola Insurance Ltd	Helsinki	100	100
UAB OP Finance	Lithuania	100	100
Eurooppalainen Insurance Company Ltd	Helsinki	100	100

Structured entities included in the consolidated financial statements

OP Corporate Bank Group acts as an investor in various mutual funds in order to gain investment income. The consolidated financial statements of group include the accounts of two (2) real estate funds. These funds that have been classified as structured entities because 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.

The table below structured entities with a significant number of non-controlling interests

Name	Place of business	Main line of business	Interest, % 2019	Interest, % 2018	Non-controlling interests, % 2019	Non-controlling interests, % 2018
Real Estate Funds of Funds II Ky	Helsinki	Real estate fund	22.2	22.2	77.8	77.8
Real Estate Fund Finland III Ky	Helsinki	Real estate fund	24.5	24.5	75.5	75.5

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. 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 Corporate Bank 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		Real Estate Fund Finland III Ky	
	2019	2018*	2019	2018
EUR million				
Cash and cash equivalents	0	4	2	1
Investments	10	21	297	287
Other assets	1	1	2	4
Total assets	11	26	301	292
Financial liabilities			209	209
Other liabilities		0	5	3
Total liabilities	0	0	214	212
Net assets	11	25	87	80
Accrued share of non-controlling interests	9	20	66	60
Statement of comprehensive income in summary	2019	2018	2019	2018
Net sales	1	4	4	6
Profit or loss of continuing operations after tax	3	3	3	5
Other comprehensive income		-1		
Comprehensive income	3	2	3	5
Comprehensive income attributable to non-controlling interests	2	2	2	4
Share of profit paid to non-controlling interests	7	2	5	11

Cash flows in summary

Net cash flow from operating activities	0	-2	6	28
Net cash flow from investing activities	14	19	-9	-83
Net cash flow from financing activities	-17	-14	4	36
Net change in cash flows	-4	3	1	-19
Cash and cash equivalents at year start	4	0	1	20
Cash and cash equivalents at year end	0	4	2	1

* Group figures

Joint operations

A total of 44 (42) property companies are incorporated into OP Corporate Bank Group's financial statements as joint operations by consolidating the proportionate share of 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 Corporate Bank 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 Corporate Bank Group's own use. These apartments are included in property, plant and equipment in the balance sheet, shown in Note 22. Each shareholder of the mutual property company is responsible for its/his/her share of the company's loans. The rest of the property companies are investment property included in Note 19.

Summary of the effect of consolidation of joint operations on the balance sheet

EUR million	31 Dec 2019	31 Dec 2018
Land	43	41
Buildings	380	372
Total assets	423	413
Total liabilities	136	136

Most significant joint operations included in the consolidated financial statements in 2019

Name	Domicile	Sector	Holding
Kiinteistö Oy Helsingin Puutarhurinkuja 2	Helsinki	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 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 Grand Cargo Terminal 1	Vantaa	Property holding and management	100.0
Kiinteistö Oy Grand Cargo Terminal 2	Vantaa	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 Frantzeninkatu 13	Helsinki	Property holding and management	100.0
Kiinteistö Oy Topeliuksenkatu 41b	Helsinki	Property holding and management	50.0

Kiinteistö Oy Asiakkaankatu 3	Helsinki Property holding and management	100.0
Kiinteistö Oy Tuusulan Jatke	Tuusula Property holding and management	100.0
Keskinäinen Kiinteistö Oy Marikko	Helsinki Property holding and management	100.0
Kiinteistö Oy Helsingin Kaarlenkadun Fenno	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 included in the consolidated financial statements in 2018

Name	Domicile	Sector	Holding
Kiinteistö Oy Helsingin Puutarhurinkuja 2	Helsinki	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 Vantaan Kisällintie 13	Vantaa	Property holding and management	100.0
Tikkurilan Kauppatalo Oy	Vantaa	Property holding and management	53.7
Kiinteistö Oy Grand Cargo Terminal 1	Vantaa	Property holding and management	100.0
Kiinteistö Oy Grand Cargo Terminal 2	Vantaa	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 Asiakkaankatu 3	Helsinki	Property holding and management	100.0
Kiinteistö Oy Tuusulan Jatke	Tuusula	Property holding and management	100.0
Keskinäinen Kiinteistö Oy Marikko	Helsinki	Property holding and management	100.0
Kiinteistö Oy Helsingin Kaarlenkadun Fenno	Helsinki	Property holding and management	100.0
Kiinteistö Oy Koivuhaan Yrityskeskus	Vantaa	Property holding and management	100.0

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 Corporate Bank 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. Group's risk of loss is limited to the investment's balance sheet value. Investments in mutual funds managed by OP Corporate Bank Group totalled 88 million (104) on 31 December 2019.

Note 43. Related-party transactions

OP Corporate Bank Group's related parties comprise its parent company OP Cooperative, subsidiaries consolidated into the Group, associates and administrative personnel and other related-party entities. Administrative personnel comprises OP Corporate Bank plc's President and CEO, members of the Board of Directors and their close family members. Related parties also include companies over which a person among administrative personnel or his close family member exercises significant influence. Other related-party entities include OP Pension Fund, OP Pension Foundation and sister companies within OP Financial Group Central Cooperative Consolidated.

Standard terms and conditions for credit are applied to loans granted to the related parties. Loans are tied to generally used reference rates.

Related-party transactions 2019

EUR 1,000	Parent company	Associates	Administra- tive personnel	Others*
Loans			49	5,974,270
Other receivables	112		49	150,501
Deposits	426,254	141		4,375,968
Other liabilities	1,014			464,945
Interest income	815			-1,338
Interest expenses	3,418			104,148
Dividend income	1			
Net income from Non-life Insurance	924			4,167
Net commissions and fees	258	0		32,033
Net trading income				65,735
Other operating income	678			6,573
Operating expenses	37,060			157,505
Contingent liabilities and derivatives				
Off-balance-sheet commitments				
Other guarantee liabilities				3,407
Derivative contracts				
Nominal values				7,249,601
Credit equivalents				63,771
based pay				
Salaries, other short-term benefits and performance-based			413	
Related-party holdings				
Number of shares	319,551,415			

Related-party transactions 2018

EUR 1,000	Parent company	Associates	Administra- tive personnel	Others*
Loans			55	6,101,037
Other receivables	61		55	108,846
Deposits	425,907	307		3,106,589
Other liabilities	1,220			277,792
Interest income	643			53,827
Interest expenses	4,557			165,405
Dividend income	1			
Net income from Non-life Insurance	387			-2,324
Net commissions and fees	417	0	0	36,392
Net trading income				16,747
Other operating income	14			4,848
Operating expenses	37,844			147,005
Contingent liabilities and derivatives				
Off-balance-sheet commitments				
Other guarantee liabilities				3,389
Derivative contracts				
Nominal values				22,118,429
Credit equivalents				211,175
Salaries, other short-term benefits and performance-based pay				
Salaries, other short-term benefits and performance-based			401	
Related-party holdings				
Number of shares	319,551,415			

* Other related-party entities include OP Bank Group Pension Fund, OP Bank Group Pension Foundation and their sister companies within OP Cooperative Consolidated.

Board member fees 2019

In 2019, the members of the Board of Directors did not receive from OP Corporate Bank Group subsidiaries any monthly fees or attendance allowances or share-based bonuses.

Salaries and fringe benefits paid to the President and CEO for the financial year that ended on 31 December 2019. No performance-based bonuses or bonuses under the management remuneration scheme were paid to the President and CEO in 2019.

President and CEO Katja Keitaanniemi EUR 413,160

The period of notice applicable under the President and CEO's executive contract is six months. According to this contract, the company must pay the President and CEO severance pay equalling his 6-month total salary, in addition to compensation for loss of office, if the company dismisses him or he has to resign or terminate the contract due to a reason attributable to the company. In case the executive contract terminates due to reasons attributable to the company, the President and CEO will be entitled to bonuses under the short- and long-term remuneration schemes for the year of contract termination, provided that the schemes' performance criteria and the criteria for payment under the schemes' terms and conditions are fulfilled. In addition, the President and CEO belongs to the long-term management remuneration scheme (2017–2019), under which bonuses will be paid from 2020 until 2023.

Pension obligations regarding President and CEO and Board members

The President and CEO is covered by TyEL (the Finnish Employees Pensions Act) which provides pension benefits based on the years of employment and earnings as prescribed in the Act. The retirement age is 63–68 years, depending on his choice. A retirement age of 63 years applies to the President and CEO under the executive contract. The supplementary pension plan for the President and CEO has been arranged through OP Life Assurance Company Ltd. No pension obligations apply to Board members. This also applies to former Board members. More detailed information on OP Corporate Bank Group's pension plan can be found in Note 31 Provisions and other liabilities.

Pension costs of President and CEO, thousands of euros	2019	2018
Pension costs under TyEL plan*		27
Pension costs of defined contribution plans under TyEL	104	
Pension costs of supplementary defined contribution plans	83	32

* IFRS expense has been used for the portion of the TyEL defined benefit plan and the equalisation portion of an employee's contribution less the employee's portion of the contribution has been used for the defined contribution plan.

Note 44. Variable remuneration

Personnel fund

OP Financial Group's personnel fund covers the employees of OP Corporate Bank and its subsidiaries who are not included in the management remuneration scheme or the Baltic operations.

Payment of profit-based bonuses to OP Financial Group's Personnel Fund in 2019 was based on the achievement of the following targets: OP Financial Group's EBT with a weight of 60%, use of digital services with a weight of 20%, service encounter NPS with a weight of 15% and brand NPS with a weight of 5%. Profit-based bonuses for 2019 transferred to the Fund account for some 2.3% (1.7) of the combined salaries and wages earned by the Fund's members. The bonuses recognised in 2019 totalled EUR 2.9 million (2.0).

Long-term remuneration schemes

OP Financial Group's remuneration schemes are in compliance with regulation in the financial sector and are based on OP Financial Group's strategic targets.

OP Financial Group's variable remuneration principles take account of the Group's risk exposure and risk management methods. The performance indicator targets have been set at a level that does not encourage excessive risk-taking. Long-term variable remuneration is based on reaching OP Financial Group's targets, whereas short-term variable remuneration is based on how an individual Group company or business unit reaches its targets. The maximum amount of remuneration is limited in all schemes.

Long-term scheme

OP Corporate Bank plc belongs to the long-term incentive scheme within OP Financial Group, which has OP Financial Group level targets. These targets conform to those of OP Personnel Fund for all of the Group's personnel.

OP Corporate Bank's and its subsidiaries' directors and designated persons in key positions are included in the long-term management remuneration scheme whom the board of directors of the company concerned or the Executive Management Team of OP Cooperative has appointed. The 2014–2016 scheme covers some 270 (270) persons, the 2017–2019 scheme some 300 (310) persons.

The scheme consists of consecutive three-year performance periods. The bonus for the performance period of 2014–2016 will be paid after a deferment period in three equal instalments by the end of each June from 2018 to 2020. Bonuses for the performance period of 2017–2019 will be paid in four equal instalments between 2020 and 2023. The bonus will be paid to members of OP Cooperative's Executive Management Team in six equal instalments between 2020 and 2025.

During the performance period of 2014–2016, it was possible to annually earn bonuses equalling a person's 2–8-month salary and the targets were achieved at around 57%. During the performance period of 2017–2019, it was possible to annually earn bonuses equalling a person's 1–8-month salary and the targets were achieved at around 13%.

Performance metrics under the long-term scheme

The Supervisory Board of OP Cooperative shall determine the performance metrics for the scheme and targets set for them separately for each performance period.

In setting targets for the 2014–16 scheme, OP has taken account of the Capital Requirements Directive IV (CRD IV) of the European Parliament and of the Council, which limits the maximum variable remuneration to the amount of a person's annual fixed remuneration. The targets for the 2014–16 scheme were based on the following criteria:

- OP Financial Group's EBT
- OP Financial Group's CET1
- Growth in the number of customers using OP as their main bank and insurer

The targets set for the 2017–19 scheme are in line with the strategy in force and are based on the following criteria:

- Group EBT
- Use of digital services
- Service encounter NPS
- Brand NPS

The Group-level targets are the same in the management incentive scheme and OP Financial Group's Personnel Fund.

Determination and payout of bonuses under the long-term scheme

At the beginning of the scheme for 2014–2016, bonuses were determined in euro terms and bonuses that may be paid under the scheme will be paid in terms of debentures issued by OP. The earned euro bonus will be converted into the number of debentures once the outcome of the scheme is known. An amount paid in cash will be deducted from the bonus to cover related taxes and fiscal charges. During the financial year, OP Cooperative's Supervisory Board decided to change the scheme terms in such a way that the bonus will be paid in cash unless deferral procedures under regulation are applied to the person concerned. In such a case, half of the bonus payout is tied to a reference instrument decided by OP Cooperative's Supervisory Board or the Remuneration Committee it has appointed.

Bonuses for 2017–19 will be paid in cash unless deferral procedures under regulation are applied to the person.

Bonuses for the 2014–2016 scheme will be paid to their beneficiaries provided that OP Financial Group's FiCo capital adequacy is 1.30 or higher on the payout date. Bonuses for the 2017–2019 scheme will be paid to their beneficiaries provided that OP Financial Group's CET1 ratio exceeds the CET1 buffer set by the ECB + 3% on the bonus payout date and OP Financial Group's LCR is less than 110% in the financial statements preceding the year of the bonus payout date, and that the person within the scheme is employed by OP Financial Group up to the payout date.

Expenses for both schemes are recognised from the beginning of the performance period up to the date of payment (vesting period) as personnel costs, and the equivalent liability is recognised under deferred expenses. A liability recognised under the scheme amounted to EUR 1.2 million (2.7) on 31 December 2019.

OP Cooperative's Supervisory Board or the Remuneration Committee it has appointed manages the long-term scheme and supervises compliance with it. OP Cooperative's Supervisory Board may exercise discretion to change the terms and conditions of the scheme and defer bonus payout for compelling reasons.

In June 2019, the Supervisory Board of OP Cooperative decided not to initiate a new performance period for the long-term management remuneration scheme in 2020. OP Financial Group's variable remuneration comprises short-term remuneration and the personnel fund. Group-level strategic goals and targets will be taken into account in the metrics of short-term remuneration and the personnel fund.

Short-term remuneration scheme

The short-term remuneration performance period is 6 or 12 months. Short-term remuneration schemes are based on targets set for each company, team and person derived from an annual, covering all personnel of OP Corporate Bank Group.

The bonus is determined by the job grade and the maximum bonuses correspond to a 1–4-month annual salary. The maximum bonuses for separately specified duties may not exceed the amount equalling the person's annual salary.

Performance metrics of short-term remuneration

A factor applies to the bonus created through the achievement of the targets achieved in OP Corporate Bank Group that is based on OP Financial Group's EBT. Targets shown in the balanced scorecards and derived from annual planning are decided by the business lines/functions.

Determination and payout of bonuses under the short-term scheme

Like in long-term remuneration, bonuses will be paid to their beneficiaries provided that OP Financial Group's CET1 ratio exceeds the CET1 buffer set by the ECB + 3% on the bonus payout date and the LCR is less than 110% in the financial statements preceding the year of the bonus payout date, and that the person within the scheme is employed by OP Financial Group up to the payout date. Bonus payout in OP cooperative banks requires that the bank's customer business show profit.

Bonuses earned based on the balanced scorecard will be reduced before bonus payout if binding internal guidelines within the Group or task or regulatory requirements have been ignored and risk management elements have been materialised. If an offence or negligence becomes apparent only after the bonus payout, bonus reduction or clawback can also be applied retrospectively.

Expenses for the schemes are recognised from the beginning of the performance period up to the date of payment (vesting period) as personnel costs, and the equivalent liability is recognised under deferred expenses.

OP Cooperative's Supervisory Board decides on the terms and conditions of OP Financial Group's short-term remuneration scheme, maximum bonuses based on job grades and a structural framework within which OP Cooperative's Executive Management Team and OP cooperative banks' boards of directors can select the scheme metrics and set related targets.

Deferral of variable remuneration

The Act on Credit Institutions (610/2014) prescribes payment of variable remuneration to persons whose action may cause significant risk to the company ("identified staff"). OP Corporate Bank Group's identified staff includes CEOs/Managing Directors and other key management personnel as well as those involved in internal control.

The deferral of variable remuneration payment and variable bonuses paid in cash other than on a fifty-fifty basis apply to the identified staff if their variable remuneration for a 12-month performance period exceeds EUR 50,000 – the maximum recommended by the Financial Supervisory Authority. The remuneration of the identified staff is reviewed up to the EUR 50,000 deferment limit as a whole, considering both long- and short-term remuneration.

If the euro maximum for deferment is exceeded, some bonus is paid immediately, while the rest is deferred and the deferred bonus will be paid in equal instalments within the next three years. In such a deferment situation, 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 Supervisory Board or the Remuneration Committee appointed by the Supervisory Board. The bonus tied to the reference instrument will be paid to its beneficiary after a one-year retention period.

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.

The Remuneration Committee appointed by OP Cooperative 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	2019	2018
Personnel fund	3	2
Short-term schemes	10	8
Long-term schemes:		
Scheme for 2014-16	0	0
Scheme for 2017-19	-1	1
Total	12	11

* Excl. social expenses

More information on the remuneration schemes is available at www.op.fi.

Note 45. Loss allowance regarding receivables and notes and bonds

Credit risk exposures and related loss allowance

A description of OP Corporate Bank's credit risk formation and management can be found in section 4 of Note 2. The measurement principles of expected credit losses are described in section 5.4 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 Corporate Bank 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 2019

Exposures	Stage 1	Stage 2		Stage 3		Total exposure
		Not more than 30 DPD	More than 30 DPD	Total		
EUR million						
Receivables from customers (gross)						
Corporate Banking	25,103	1,388	306	1,693	384	27,180
Total	25,103	1,388	306	1,693	384	27,180
Off-balance-sheet limits						
Corporate Banking	4,674	318	151	470	60	5,204
Total	4,674	318	151	470	60	5,204
Other off-balance-sheet commitments						
Corporate Banking	7,011	1,216		1,216	70	8,297
Total	7,011	1,216		1,216	70	8,297
Notes and bonds						
Other Operations	12,259	93		93		12,352
Insurance	1,990	2		2	5	1,998
Total	14,250	95		95	5	14,350
Total exposures within the scope of accounting for expected credit losses	51,038	3,017	457	3,474	519	55,031

Loss allowance by stage 31 December 2019

On-balance-sheet exposures and related off-balance-sheet limits*	Stage 1	Stage 2		Stage 3		Total loss allowance
		Not more than 30 DPD	More than 30 DPD	Total		
EUR million						
Receivables from customers						
Corporate Banking	-25	-18	-3	-21	-248	-294
Total	-25	-18	-3	-21	-248	-294
Off-balance-sheet commitments**						
Corporate Banking	-2	-4		-4	-10	-16
Total	-2	-4		-4	-10	-16
Notes and bonds***						
Other Operations	-2	-1		-1		-3
Insurance	-2	0		0	-3	-5
Total	-4	-1		-1	-3	-8
Total	-31	-24	-3	-27	-260	-318

* Loss allowance 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.

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 2019	Stage 1	Stage 2		Stage 3	Total	
		Not more than 30 DPD	More than 30 DPD			Total
Receivables from customers; on-balance-sheet and off-balance-sheet items						
Corporate Banking	36,788	2,922	457	3,379	514	40,681
Loss allowance						
Corporate Banking	-27	-22	-3	-26	-258	-310
Coverage ratio, %						
Corporate Banking	-0.07%	-0.77%	-0.71%	-0.76%	-50.12%	-0.76%
Receivables from customers; total on-balance-sheet and off-balance-sheet items						
	36,788	2,922	457	3,379	514	40,681
Total loss allowance	-27	-22	-3	-26	-258	-310
Total coverage ratio, %	-0.07%	-0.77%	-0.71%	-0.76%	-50.12%	-0.76%
Carrying amount, notes and bonds						
Other Operations	12,259	93		93		12,352
Insurance	1,990	2		2	5	1,998
Loss allowance						
Other Operations	-2	-1		-1		-3
Insurance	-2	0		0	-3	-5
Coverage ratio, %						
Other Operations	-0.02%	-0.81%		-0.81%		-0.02%
Insurance	-0.09%	-18.51%		-18.51%	-53.78%	-0.24%
Total notes and bonds	14,250	95		95	5	14,350
Total loss allowance	-4	-1		-1	-3	-8
Total coverage ratio, %	-0.03%	-1.18%		-1.18%	-53.78%	-0.06%

The agreements have been grouped to correspond to OP Financial Group's new segments effective of 1 January 2019. The comparatives have been restated accordingly.

Exposures within the scope of accounting for expected credit losses by impairment stage 31 December 2018*

Exposures	Stage 1	Stage 2		Stage 3		Total exposure
		Not more than 30 DPD	More than 30 DPD	Total		
EUR million						
Receivables from customers (gross)						
Corporate Banking	22,997	1,257	283	1,540	360	24,897
Total	22,997	1,257	283	1,540	360	24,897
Off-balance-sheet limits						
Corporate Banking	4,443	512	139	651	86	5,180
Total	4,443	512	139	651	86	5,180
Other off-balance-sheet commitments						
Corporate Banking	6,655	178		178	20	6,854
Total	6,655	178		178	20	6,854
Notes and bonds						
Other Operations	12,219	20		20		12,239
Insurance	2,321	195		195	6	2,522
Total	14,540	215		215	6	14,761
Total exposures within the scope of accounting for expected credit losses	48,636	2,162	422	2,584	472	51,692

* The amount of exposures within the scope of accounting has been specified as a result of of the new division of segments.

Loss allowance by stage 31 December 2018

On-balance-sheet exposures and related off-balance-sheet limits*	Stage 1	Stage 2		Stage 3		Total loss allowance
		Not more than 30 DPD	More than 30 DPD	Total		
EUR million						
Receivables from customers						
Corporate Banking	-25	-25	-3	-28	-206	-259
Total	-25	-25	-3	-28	-206	-259
Off-balance-sheet commitments**						
Corporate Banking	-2	-1		-1	0	-4
Total	-2	-1		-1	0	-4
Notes and bonds***						
Other Operations	-3	0		0		-3
Insurance	-2	-2		-2	-2	-6
Total	-4	-2		-2	-2	-9
Total	-31	-29	-3	-32	-208	-272

* Loss allowance 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.

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 2018	Stage 1	Stage 2		Stage 3	Total
		Not more than 30 DPD	More than 30 DPD		
Receivables from customers; on-balance-sheet and off-balance-sheet items					
Corporate Banking	34,096	1,947	422	2,191	466 36,931
Loss allowance					
Corporate Banking	-27	-26	-3	-30	-207 -263
Coverage ratio, %					
Corporate Banking	-0.08%	-1.36%	-0.74%	-1.35%	-44.32% -0.71%
Receivables from customers; total on-balance-sheet and off-balance-sheet items					
	34,096	1,947	422	2,369	466 36,931
Total loss allowance	-27	-26	-3	-30	-207 -263
Total coverage ratio, %	-0.08%	-1.36%	-0.74%	-1.25%	-44.32% -0.71%
Carrying amount, notes and bonds					
Other Operations	12,219	20		20	12,239
Insurance	2,321	195		195	6 2,522
Loss allowance					
Other Operations	-3	0		0	-3
Insurance	-2	-2		-2	-2 -6
Coverage ratio, %					
Other Operations	-0.02%	-0.85%		-0.85%	-0.02%
Insurance	-0.08%	-1.13%		-1.13%	-33.79% -0.24%
Total notes and bonds	14,540	215		215	6 14,761
Total loss allowance	-4	-2		-2	-2 -9
Total coverage ratio, %	-0.03%	-1.10%		-1.10%	-33.79% -0.06%

Changes in loss allowance during financial year

The table below shows the change in loss allowance by impairment stage during 2019 in respect of the effect of the following factors:
 Note 1, section 5.4.1 describes impairment stages.

Receivables from customers and off-balance-sheet items, EUR million	Stage 1	Stage 2	Stage 3	Total
	12 months	Lifetime	Lifetime	
Loss allowance 1 January 2019	27	30	207	263
Transfers from Stage 1 to Stage 2	-1	9		8
Transfers from Stage 1 to Stage 3	-4		7	3
Transfers from Stage 2 to Stage 1	0	-3		-3
Transfers from Stage 2 to Stage 3		-7	9	2
Transfers from Stage 3 to Stage 2		0	-2	-2
Transfers from Stage 3 to Stage 1	0		-1	-1
Increases due to origination and acquisition	8	4	6	19
Decreases due to derecognition	-4	-4	-7	-14
Changes in risk parameters (net)	0	-4	40	37
Decrease in allowance account due to write-offs			-2	-2
Net change in expected credit losses	0	-4	51	47
Loss allowance 31 December 2019	27	26	257	310

Transfers from Stage 1 to Stage 3 compare the current reporting-date Stage 3 of a financial asset at the beginning of the year. However, around 90% of these transfers to Stage 3 through Stage 2. The agreement may transfer directly to Stage 3 due to external payment default.

Notes and bonds, EUR million	Stage 1	Stage 2	Stage 3	Total
	12 months	Lifetime	Lifetime	
Loss allowance 1 January 2019	4	2	2	9
Transfers from Stage 1 to Stage 2	0	1		1
Transfers from Stage 1 to Stage 3	0		1	1
Transfers from Stage 2 to Stage 1	0	-1		-1
Transfers from Stage 3 to Stage 1	0		0	0
Increases due to origination and acquisition	1	0	0	1
Decreases due to derecognition	-2	-1	0	-3
Changes in risk parameters (net)	-1	0	0	0
Changes due to update in the methodology for estimation (net)	0			0
Net change in expected credit losses	0	-1	1	-1
Loss allowance 31 December 2019	4	1	3	8

Changes in loss allowance during 2018

The table below shows the change in loss allowance by impairment stage during 2018 in respect of the effect of the following factors:

Receivables from customers and off-balance-sheet items, EUR million	Stage 1	Stage 2	Stage 3	Total
	12 months	Lifetime	Lifetime	
Loss allowance 1 January 2018	18	32	223	273
Transfers from Stage 1 to Stage 2	-1	5		4
Transfers from Stage 1 to Stage 3	0		2	2
Transfers from Stage 2 to Stage 1	1	-4		-3
Transfers from Stage 2 to Stage 3		-2	4	2
Transfers from Stage 3 to Stage 2		1	-4	-4
Transfers from Stage 3 to Stage 1	0		-2	-2
Increases due to origination and acquisition	8	2	6	17
Decreases due to derecognition	-2	-5	-8	-16
Changes in risk parameters (net)	3	2	16	22
Changes due to update in the methodology for estimation (net)				
Decrease in allowance account due to write-offs	0		-30	-30
Net change in expected credit losses	9	-2	-16	-10
Loss allowance 31 December 2018	27	30	207	263

In June 2018, forborne exposures were included as the qualitative criterion of a significant increase in credit risk, which slightly increased transfers from Stage 1 to Stage 2.

Transfers from Stage 1 to State 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 85% (see the default capture rate below) have been reported in Stage 2 during 2018, 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 2018 with a delay of three months.

Risk parameters included in the LGD (loss given default) model have been calibrated during the financial year, for example, by reducing the recovery rate by -10 percentage points and removing it altogether from corporate exposures in bankruptcy. This is shown in an increase in loss allowance.

Notes and bonds, EUR million	Stage 1	Stage 2	Stage 3	Total
	12 months	Lifetime	Lifetime	
Loss allowance 1 January 2018	3	0	0	4
Transfers from Stage 1 to Stage 2	0	0		0
Transfers from Stage 1 to Stage 3	0		1	1
Transfers from Stage 2 to Stage 1	0	0		0
Transfers from Stage 2 to Stage 3				
Transfers from Stage 3 to Stage 2		0	0	0
Transfers from Stage 3 to Stage 1	0		0	0
Increases due to origination and acquisition	1	2	1	4
Decreases due to derecognition	-1	0		-1
Changes in risk parameters (net)	0			0
Changes due to update in the methodology for estimation (net)	1			1
Decrease in allowance account due to write-offs				
Other adjustments				
Net change in expected credit losses	1	2	2	5
Loss allowance 31 December 2018	4	2	2	9

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 1 comprises ratings 1 and 1.5 etc. The private customer rating A comprises A+, A and A- etc. Note 2, section 4.3 describes OP Financial Group's ratings.

31 December 2019

EUR million	Balance sheet exposures			Off-balance-sheet exposure, gross			Net exposure after collateral			Loss allowance		
	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	805			570			1,375			0		
2	2,397	8		1,725	7		3,679	15		0	0	
3	4,724	80		2,877	81		5,547	162		1	0	
4	3,694	203		1,560	42		3,118	180		1	0	
5	3,483	59		1,688	32		3,381	63		2	0	
6	4,037	221		1,623	63		2,888	0		4	1	
7	2,663	254		885	109		2,158	230		7	3	
8	1,378	379		651	1,254		1,541	1,419		9	7	
9	4	135		3	35		7	81		0	6	
10	0	79			55			48		0	4	
11	0		276	2		128	0		245	0		183
12			93			3			93			69
A	26	0		44	0		68	0		0	0	
B	376	2		36	1		401	3		0	0	
C	975	2		12	1		968	3		0	0	
D	522	17		9	2		515	19		1	0	
E	17	253		0	2		16	247		0	5	
F			15			0			15			5
Total	25,103	1,693	384	11,686	1,685	130	25,664	2,469	354	27	26	258

31 December 2018

EUR million Rating	Balance sheet exposures			Off-balance-sheet exposure, gross			Net exposure after collateral			Loss allowance		
	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	1,460	6		474	8		311	6		1	0	
2	2,018	5		837	9		2,029	4		1	0	
3	3,519	39		2,198	36		3,121	30		1	0	
4	4,004	142		1,991	138		3,745	117		2	0	
5	3,080	82		2,004	59		2,578	65		3	0	
6	3,358	198		1,298	117		2,182	123		4	1	
7	2,440	295		1,114	118		1,830	177		7	3	
8	1,055	290		786	190		594	168		7	6	
9		157			91			65			6	
10		84			3			43			9	
11			208			33			180			111
12			140			0			132			91
A	28	0		24	0		5	0		0	0	
B	423	5		47	2		145	4		0	0	
C	1,072	7		13	1		450	4		0	0	
D	550	31		7	2		268	21		1	0	
E		198			2			114			5	
F			13			0			8			4
NA					9							
Total	23,006	1,540	360	10,792	784	33	17,259	942	320	27	30	207

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 private 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.

OP Corporate Bank 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 13 (13) million on 31 December 2019.

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 5.4.1).

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 90% (85) on 31 December 2019. The higher the rate is, the better the SICR model can capture a significant increase in credit risk. Contracts in Stage 2 accounted for 8% (8) of the entire non-default loan portfolio.

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 2019–2048 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 January 2019.

Economic variable	Scenario	Average (%)	Minimum (%)	Maksimum (%)
GDP growth	Downside	0.5	-1.5	1.4
	Baseline	1.4	0.5	1.5
	Upside	2.0	1.4	2.5
Unemployment rate	Downside	8.7	6.5	9.0
	Baseline	6.9	6.5	7.0
	Upside	5.2	5.0	6.5
Investment growth %	Downside	0.5	-2.3	1.5
	Baseline	1.4	0.4	1.9
	Upside	2.3	1.5	4.8
House price index	Downside	1.0	-2.5	1.5
	Baseline	2.6	0.5	3.0
	Upside	3.8	0.5	4.0
12-month Euribor	Downside	0.6	-0.9	1.3
	Baseline	1.6	-0.3	2.3
	Upside	2.7	-0.3	3.3

On 31 December 2019, the probability weights of the scenarios were Downside 20%, Baseline 60% and Upside 20%.

The table below shows a summary of the values of the five most important macroeconomic variables for 2018–2046 used in the models (average, minimum and maximum) for three scenarios that have been used in the measurement of expected credit losses. These values were used for all product groups.

Economic variable	Scenario	Average (%)	Minimum (%)	Maksimum (%)
GDP growth	Downside	0.6	-0.7	2.5
	Baseline	1.5	1.3	2.5
	Upside	2.2	2.0	3.8
Unemployment rate	Downside	8.8	7.6	9.0
	Baseline	7.0	7.0	7.6
	Upside	5.3	5.0	7.6
Investment growth %	Downside	0.7	-0.9	4.0
	Baseline	1.7	1.5	4.0
	Upside	2.6	2.0	7.0
House price index	Downside	1.1	-2.0	1.5
	Baseline	2.8	1.0	3.0
	Upside	4.1	1.0	5.5
12-month Euribor	Downside	1.2	-0.2	1.8
	Baseline	2.0	-0.1	2.5
	Upside	2.9	-0.1	3.3

On 1 January 2018, 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 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 loss allowance regarding significant receivables under various scenarios by impairment stage on 31 December 2019.

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	25	27	25	23
Stage 2	26	27	26	24
Stage 3	247	247	247	247
Total	298	301	298	295

The table below shows loss allowance regarding significant receivables under various scenarios by impairment stage on 31 December 2018.

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	25	27	25	22
Stage 2	29	32	29	27
Stage 3	207	207	207	207
Total	261	266	261	256

As a rule, loss allowance is the largest under the downside scenario. Private customer loans are mainly variable rate loans, so an increase in interest rates has a major effect on PD parameters. This is why loss allowance of private customers in Stage 1 is the highest under the upside scenario because the 12-month Euribor rate has the strongest effect on it through the PD change. Loss allowance of private customers in Stage 2 contracts, however, is the highest under the downside scenario, which is due to developments in the lifetime LGD parameter. All corporate customer risk parameters affect in a parallel way in such a way that loss allowance is clearly 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, investment growth rate and GDP development. Changes used in sensitivity analyses include a 1% increase in the 12-month Euribor rate, a 6% decrease in investment growth and a 3.5% 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. First of all, the interest rate and related forecasts in the modelling period of 2008–2016 are clearly lower and GDP and the investment growth rate plus their forecasts are considerably higher, i.e. the economic situation is good in view of history. 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 of standard deviation.



The sensitivity analysis covers only Stage 1 and 2 contracts. The sensitivity analysis does not take account of the transfers between Stage 1 and 2 as a result of SICR. Changes in the lifetime PD stressed scenarios are included only in PD estimates based on the loss allowance formula and the effects of PD changes are not taking into account through SICR in the sensitivity analysis.

The table below show the sensitivity of change in the loss allowance of the groups household and corporate customers on 31 December 2019, when the economic situation weakens due to changes in the combined effects of interest rates, investment growth rate and GDP:

Group Stage	Loss allowance	Loss allowance sensitivity analysis*	Proportional change
Households			
Stage 1	2	2	7.1%
Stage 2	5	6	6.6%
Corporate customers			
Stage 1	23	36	60.4%
Stage 2	20	30	45.4%
Total	50	74	46.8%

* 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

The table below show the sensitivity of change in the loss allowance of the groups household and corporate customers on 31 December 2018, when the economic situation weakens due to changes in the combined effects of interest rates, investment growth rate and GDP:

Group Stage	Loss allowance	Loss allowance sensitivity analysis*	Proportional change
Households			
Stage 1	2	2	7.0%
Stage 2	5	5	7.0%
Corporate customers			
Stage 1	24	34	41.0%
Stage 2	25	37	51.0%
Total	55	78	47.0%

* 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 the interest rate increases the amount of loss allowance in both private customers and corporate customers. A deterioration in the investment growth rate raises the amount of loss allowance in corporate customers, as well as through changes in PD and LGD. GDB 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 home 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 by over 50%. Changes are considerably smaller in private customers than in corporate customers because the estimates of their risk parameters are not so sensitive to economic conditions.

**Comparison of exposures in impairment stage 3 in the balance sheet with non-performing receivables**

The value of impairment stage 3 exposures are impaired financial assets due to credit risk. The table below shows the differences between this definition and the definition of non-performing exposures based on official regulations:

	Balance sheet exp- osure	Loss allo- wance
EUR million 31 December 2019		
Impairment stage 3	384	248
Difference between the definitions*	6	
Performing and forborne receivables (stage 2)	106	1
Other differences	-3	-3
Doubtful receivables (Note 48)	493	245

* Commission Implementing Regulation (EU) 2015/227 Annex 5 part 2: 155, 157, 176

	Balance sheet expo- sure	Loss allo- wance
EUR million 31 December 2018		
Impairment stage 3	360	206
Difference between the definitions*	-4	0
Performing and forborne receivables (stage 2)	53	6
Other differences	-55	-2
Doubtful receivables (Note 48)	354	210

* Commission Implementing Regulation (EU) 2015/227 Annex 5 part 2: 155, 157, 176



Note 46. Events after the balance sheet date

No significant events took place after the balance sheet date.

Notes to risk management

Note 2 covers risk management and capital adequacy management principles. Notes 48–55 present the risk exposure within Corporate Banking and Other Operations. Notes 56–67 present the risk exposure within Insurance. OP Corporate Bank Group's capital adequacy information under Pillar III is disclosed as part of the OP Amalgamation Capital Adequacy Report. OP Corporate Bank Group's capital base, minimum capital requirements, derivative contracts and counterparty risk are presented in Notes 68–72.

Note 47. OP Corporate Bank Group's exposure split by geographic region and exposure class

The majority of OP Corporate Bank 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 2019, EUR million

Geographic region	Exposure to central governments and central banks	Exposures to credit institutions	Exposures to corporates	Retail exposures	Equity investments *	Collateralised notes and bonds**	Other	Total
Finland	15,033	12,192	30,512	3,025	446	520	392	62,122
Baltic countries	438		2,642	1			9	3,091
Other Nordic countries	98	256	1,423	13	9	1,609	0	3,408
Germany	1,816	338	139	23	1	1,679	30	4,027
France	64	498	200	80	15	1,014		1,872
UK		652	39	48	19	378		1,136
Italy		3	37	7				47
Spain		35	13	0				48
Other EU countries	1,840	314	509	104	76****	945		3,787
Rest of Europe		50	101	3	13	5		172
USA		111	41	189	9	11		361
Russia		10	3	0				12
Asia		243	50	5		6		303
Other countries	32	143	93	16	340****	1,181	679	2,483
Total	19,321	14,845	35,803	3,514	928	7,348	1,111	82,870

* Also include EUR 27 million in bond funds.

** Consist of RMBS, ABS and Covered Bond investments.

*** Consist mainly of investments in European funds in Other EU countries and Emerging Markets and Global funds in Other countries.

Exposure split by geographic region 31 December 2018, EUR million

Geographic region	Exposure to central governments and central banks	Exposures to credit institutions	Exposures to corporates	Retail exposures	Equity investments *	Collateralised notes and bonds**	Other	Total
Finland	14,367	12,225	29,104	2,997	409	523	397	60,022
Baltic countries	271	0	2,121	1			6	2,399
Other Nordic countries	149	263	1,404	22	1	1,680	0	3,519
Germany	2,092	147	47	33	2	1,362		3,683
France	182	323	205	70	14	808		1,601
UK		696	84	88	18	415		1,300
Italy		6	24	5				35
Spain		27	9	0				36
Other EU countries	1,633	308	474	90	108***	1,054		3,667
Rest of Europe		102	107	1	15	5		231
USA		137	33	207	14	8		400
Russia		42	3					45
Asia		279	40	19				337
Other countries	31	65	209	30	266***	1,192	447	2,241
Total	18,725	14,620	33,864	3,564	847	7,048	850	79,517

* Also include EUR 40 million in bond funds.

** Consist of RMBS, ABS and Covered Bond investments.

*** Consist mainly of investments in European funds in Other EU countries and Emerging Markets and Global funds in Other countries.

Risk exposure by Corporate Banking and Other Operations

The classification by Statistics Finland is used in these notes, deviating partly from the classification used in the risk exposure section presented in the Report by the Board of Directors.

Note 48. Receivables from credit institutions and customers, and doubtful receivables

31 December 2019, EUR million	Not impaired (gross)	Loss allowance	Balance sheet value
Receivables from credit institutions and customers by sector			
Non-banking corporate sector	19,766	274	19,492
Financial institutions and insurance companies	9,986	1	9,986
Households	2,233	15	2,219
Non-profit organisations	342	3	339
Public sector entities	920	1	920
Total	33,249	294	32,955

31 December 2018, EUR million	Not impaired (gross)	Loss allowance	Balance sheet value
Receivables from credit institutions and customers by sector			
Non-banking corporate sector	18,338	241	18,097
Financial institutions and insurance companies	10,503	2	10,501
Households	1,966	10	1,956
Non-profit organisations	368	3	364
Public sector entities	1,162	3	1,159
Total	32,337	259	32,078

31 December 2019, EUR million	Not impaired (gross)	Capital arrears	Interest in arrears	Loss allowance
Doubtful receivables by sector				
Non-banking corporate sector	444	110	8	238
Financial institutions and insurance companies				
Households	33	3	0	5
Non-profit organisations	16	0	0	3
Public sector entities				
Total	493	114	8	245



31 December 2018, EUR million	Not impaired (gross)	Capital arrears	Interest in arrears	Loss allowance
Doubtful receivables by sector				
Non-banking corporate sector	315	71	7	203
Financial institutions and insurance companies	0	0		0
Households	28	2	0	5
Non-profit organisations	12	0		2
Public sector entities		0		
Total	354	73	7	210

Doubtful and forborne receivables

31 December 2019, EUR million	Performing receivables from credit institutions and customers (gross)	Non-performing receivables from credit institutions and customers (gross)	Receivables from credit institutions and customers, total (gross)	Loss allowance	Receivables from credit institutions and customers (net)
Over 90 days past due		126	126	110	16
Unlikely to be paid		241	241	124	117
Forborne loans	106	20	126	12	115
Total	106	387	493	245	247

Doubtful and forborne receivables

31 December 2018, EUR million	Performing receivables from credit institutions and customers (gross)	Non-performing receivables from credit institutions and customers (gross)	Receivables from credit institutions and customers, total (gross)	Loss allowance	Receivables from credit institutions and customers (net)
Over 90 days past due		86	86	83	3
Unlikely to be paid		194	194	115	79
Forborne loans	53	22	75	12	62
Total	53	301	354	210	145

The Group reports on the remaining principal as the amount of a receivable that is more than 90 days past due whose interest or principal amount has been overdue and outstanding for over three months. Contracts with the lowest credit ratings (F for private customers and 11–12 for others) are reported as unlikely to be paid. Forborne receivables include receivables that have been renegotiated due to the customer's financial difficulties. The loan terms and conditions of renegotiated receivables have been eased due to the customer's financial difficulties for example by transferring to interest only terms for a period of 6–12 months. Forborne receivables are in ECL measurement at stage two or three.

Key ratio, %	2019	2018
Loss allowance, % of doubtful receivables	49.8 %	59.1 %

Financial assets to which impairment is applied and payment related to them is past due

31 December 2019, EUR million	Days				Total
	Less than 30	30–90	Over 90–180	Over 180	
Receivables past due	297	41	18	24	379

31 December 2018, EUR million	Days				Total
	Less than 30	30–90	Over 90–180	Over 180	
Receivables past due	99	33	4	22	159

Note 49. Credit losses and impairments

Credit losses and impairments

EUR million	2013	2014	2015	2016	2017	2018	2019
Gross credit losses and impairments	-82	-75	-69	-83	-49	-13	-51
Reversals	45	49	40	46	36	1	1
Net credit losses and impairments	-37	-25	-29	-37	-12	-13	-51

Note 50. Collateral received by type of collateral

EUR million	31 Dec 2019	%	31 Dec 2018	%
Object of financing as collateral	2,983	28.1	2,659	26.5
Property or lease mortgage on office or industrial property	2,716	25.6	2,542	25.3
Public-sector guarantees	2,237	21.1	2,342	23.3
Shares and participations, other	1,000	9.4	1,011	10.1
Property or lease mortgage on residential property	375	3.5	352	3.5
Other collateral	350	3.3	299	3.0
Shares in housing corporations, and housing associations and property companies in residential use	329	3.1	274	2.7
Business mortgage	289	2.7	265	2.6
Factoring	213	2.0	192	1.9
Bank guarantee	126	1.2	113	1.1
Total	10,618	100.0	10,051	100.0

Received collateral by type of collateral has been calculated on the basis of the values of collateral held by the bank allocated to liabilities. The collateral's fair value is used as the basis for calculating the collateral value which is derived from the fair value on the basis of valuation percentages, based on conservative estimates, by type of collateral.

Note 51. Funding structure

EUR million	31 Dec 2019	%	31 Dec 2018	%
Liabilities to credit institutions	15,334	27.9	15,575	28.9
Liabilities to customers				
Deposits	11,103	20.2	11,531	21.4
Other	4,400	8.0	4,890	9.1
Debt securities issued to the public				
Certificates of deposit and ECPs	9,716	17.7	10,266	19.1
Bonds	11,854	21.5	10,071	18.7
Subordinated bonds (SNP)	1,156	2.1		
Subordinated liabilities	1,474	2.7	1,482	2.8
Total	55,036	100.0	53,816	100.0

Note 52. Maturity of financial assets and liabilities by residual term to maturity

31 December 2019, EUR million	Less than 3 months	3–12 months	1–5 years	5–10 years	More than 10 years	Total
Liquid assets	11,910					11,910
Receivables from credit institutions	3,667	2,346	3,043	70		9,126
Receivables from customers	4,723	3,617	12,238	1,585	1,666	23,829
Investment assets						
Financial assets held for trading	357	150	158	75	1	741
Financial assets designated as at fair value through profit or loss		2	10			12
Financial assets at fair value through other comprehensive income	904	989	5,821	5,226		12,940
Total assets	21,560	7,105	21,271	6,956	1,667	58,559
Liabilities to credit institutions	2,496	567	5,937	6,334		15,334
Liabilities to customers	14,644	307	121	431		15,503
Debt securities issued to the public	7,497	5,477	7,363	2,058	330	22,726
Subordinated liabilities	50	374	782	182	85	1,474
Total liabilities	24,687	6,726	14,203	9,004	415	55,036
Guarantees	59	147	191	0	152	550
Other guarantee liabilities	290	608	406	30	548	1,882
Loan commitments	5,146					5,146
Commitments related to short-term trade transactions	102	117	96			315
Other	501	1	2	195		699
Total off-balance-sheet commitments	6,098	874	695	226	700	8,593
31 December 2018, EUR million	Less than 3 months	3–12 months	1–5 years	5–10 years	More than 10 years	Total
Liquid assets	12,218					12,218
Receivables from credit institutions	4,313	2,326	2,936	151		9,726
Receivables from customers	3,925	2,739	11,989	2,112	1,586	22,351
Investment assets						
Financial assets held for trading	167	145	146	37	5	501
Financial assets designated as at fair value through profit or loss			12			12
Financial assets at fair value through other comprehensive income	229	535	7,068	4,407		12,239
Total assets	20,852	5,745	22,151	6,707	1,591	57,047
Liabilities to credit institutions	2,344	456	7,120	5,655		15,575
Liabilities to customers	14,837	814	303	468		16,422
Debt securities issued to the public	7,406	4,234	6,990	1,357	350	20,338
Subordinated liabilities		140	1,077	179	85	1,482
Total liabilities	24,587	5,644	15,490	7,660	435	53,816

Guarantees	90	122	389	1	44	647
Other guarantee liabilities	267	426	459	29	486	1,668
Loan commitments	5,257					5,257
Commitments related to short-term trade transactions	66	127	72			265
Other	505	2	1	204		712
Total off-balance-sheet commitments	6,185	678	922	234	531	8,549

Financial assets at fair value through profit or loss consist of notes and bonds which may be sold anytime. Notes and bonds included in available-for-sale financial assets may be sold whenever necessary. Notes and bonds included in financial assets at fair value through profit or loss and those included in available-for-sale financial assets are, however, presented within the sub-category determined on the basis of the remaining term to maturity in the table. Nominal amounts of debt are presented under categories by maturity. Financial liabilities held for trading are presented under the shortest maturity category. In its financial risk management, OP Corporate Bank Group uses forward exchange contracts and interest-rate and currency swaps. Since their net effect on the financial risk in euro countervalue is insignificant, they are not specifically presented.

Debt repayable on demand, included in the shortest maturity category, totalled EUR 12.2 billion (12.2).

Note 53. Liquidity buffer

The liquidity buffer is presented under the Other Operations segment.

Liquidity buffer by maturity and credit rating on 31 December 2019, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Pro-portion, %
Aaa*	12,909	1,950	2,264	2,329	1,400		20,852	83.4
Aa1–Aa3	274	382	509	428	440	0	2,033	8.1
A1–A3	6	5	21	8	0		40	0.2
Baa1–Baa3	4	48	106	94	22	1	275	1.1
Ba1 or lower	0	22	76	22	16		136	0.5
Internally rated**	1,108	282	224	37	11		1,661	6.6
Total	14,300	2,689	3,200	2,918	1,889	1	24,996	100.0

* incl. deposits with the central bank

** PD \leq 0.40%

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 2018, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Pro-portion, %
Aaa*	12,499	2,254	2,088	1,383	1,018		19,243	84.6
Aa1–Aa3	38	529	520	661	376	0	2,125	9.3
A1–A3	23	23	9	4		2	62	0.3
Baa1–Baa3	18	56	60	110	19	3	265	1.2
Ba1 or lower	5	34	11	61	15		127	0.6
Internally rated**	400	81	310	123			914	4.0
Total	12,983	2,978	2,998	2,342	1,428	5	22,735	100.0

* incl. deposits with the central bank

** PD \leq 0.40%

The liquidity buffer's (excl. deposits with the central bank) residual term to maturity averages 4.2 years.

Note 54. Maturities of financial assets and liabilities by maturity or repricing

31 December 2019, EUR million	1 month or less	>1-3 months	>3-12 months	>1-2 years	>2-5 years	>5 years	Total
Cash and cash equivalents	11,910						11,910
Receivables from credit institutions	3,214	2,861	2,668	289	76	19	9,126
Receivables from customers	5,563	8,180	6,232	394	2,070	1,390	23,829
Investment assets							
Financial assets held for trading	159	198	150	19	139	76	741
Financial assets designated as at fair value through profit or loss			2	10			12
Financial assets at fair value through other comprehensive income	960	565	906	608	4,675	5,226	12,940
Total assets	21,807	11,805	9,957	1,320	6,959	6,711	58,559
Liabilities to credit institutions	4,898	3,376	1,331	180	1,479	4,070	15,334
Liabilities recognised at fair value through profit or loss	0				12	0	12
Liabilities to customers	13,563	1,273	667				15,503
Debt securities issued to the public	4,012	6,362	5,643	1,074	3,501	2,135	22,726
Subordinated liabilities	82	506	51	193	542	100	1,474
Total liabilities	22,554	11,517	7,692	1,447	5,533	6,305	55,048

Debt repayable on demand totalled EUR 12.2 billion, consisting mainly of public deposits.



31 December 2018, EUR million	1 month or less	>1-3 months	>3-12 months	>1-2 years	>2-5 years	>5 years	Total
Cash and cash equivalents	12,218						12,218
Receivables from credit institutions	4,386	2,730	2,257	170	148	35	9,726
Receivables from customers	6,191	6,920	5,656	381	1,901	1,303	22,351
Investment assets							
Financial assets held for trading	51	131	151	23	103	42	501
Financial assets designated as at fair value through profit or loss				1	10		12
Financial assets at fair value through other comprehensive income	630	342	439	1,690	4,731	4,407	12,239
Total assets	23,475	10,123	8,503	2,266	6,893	5,787	57,047
Liabilities to credit institutions	2,270	3,154	1,396	3,183	2,019	3,552	15,575
Liabilities to customers	14,028	1,427	791	176			16,422
Debt securities issued to the public	2,915	6,765	5,347	595	3,292	1,423	20,338
Subordinated liabilities	79	513	51		739	100	1,482
Total liabilities	19,293	11,859	7,586	3,954	6,049	5,075	53,816

Debt repayable on demand totalled EUR 12.2 billion, consisting mainly of public deposits.

Note 55. Sensitivity analysis of interest rate and market risk

Interest rate risk associated with balance sheet

Currency EUR million	-200bp		+200bp	
	2019	2018	2019	2018
EUR	29	33	-32	-33
GBP	-1	-1	1	1
USD	0	1	0	-1
Other	13	1	14	1

Risks of GBP and USD are expressed in euro equivalents. Euro-denominated risks of other currencies have been added up as intrinsic values. Interest rate risk is calculated daily as the volatility of the present value of balance sheet cash flows to the parallel 2 percentage point change of the yield curve.

Sensitivity analysis of market risk

EUR million		2019	2018
Interest rate volatility*	10bp	3	1
Currency volatility*	10 pps	0	0
Credit risk premium**	10bp	-53	-55

* Trading portfolio

** Long-term investment assets

*Risk exposure by Insurance***Note 56. Non-life Insurance risk-bearing capacity**

Non-life Insurance must fulfil all capital adequacy requirements set by regulatory authorities mainly at company level. Based on EU directives, a minimum solvency margin requirement and a minimum solvency capital requirement apply to all non-life insurance companies.

The ratio of the capital base to solvency capital is described as the solvency ratio that reflects the company's opportunity to cover unexpected risks. The solvency figures are unaudited.

Insurance company solvency, EUR million	31 Dec 2019	31 Dec 2018
Eligible capital	1,008	818
Solvency capital requirement (SCR)		
Market risk	457	421
Underwriting risk	564	281
Counterparty risk	38	36
Operational risk	45	45
Diversification benefits and loss absorbency	-405	-162
Total	699	621
Buffer for SCR	309	197
SCR ratio, %	144%	132%
SCR ratio, % excluding transitional provisions	144%	132%

Note 57. 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 2019, EUR million	Change in risk parameter	Effect on share- holders' equity, EUR million	Effect on combined ratio
Insurance portfolio or insurance premium revenue*	1,478	Up by 1%	15	Up by 1.0 pps
Claims incurred*	1,196	Up by 1%	-12	Down by 0.8 pps
Large claim, over EUR 5 million		1 loss Up	-5	Down by 0.3 pps
Personnel costs*	112	by 8% Up	-9	Down by 0.6 pps
Expenses by function*/**	212	by 4% Up by	-8	Down by 0.6 pps
Inflation for collective liability	778	0.25 pps	-5	Down by 0.4 pps
Life expectancy for discounted insurance liabilities	2,024	Up 1 year	-48	Down by 3.1 pps
Discount rate for discounted insurance liabilities	2,024	Down by 0.1 pp	-28	Down by 1.8 pps

* Moving 12-month

** Expenses by function in Non-life Insurance excluding expenses for investment management and expenses for other services rendered.

Note 58. 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
2019	11	9	6	12
2018	10	10	8	10

* EML = Estimated Maximum Loss per object of insurance

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
2019	4	4	7	2
2018	4	3	6	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.

EUR million	Gross		Net*	
	2019	2018	2019	2018
Decennial insurance	1,852	1,802	1,852	1,802

* For insurance company's own account after reinsurers' share but before counter guarantee

Note 59. Trend in large claims

Number of detected large claims by year of detection for 2015–2019

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.

Gross amount				Property and business interruption	Liability and legal expenses	Long term
Number of claims exceeding EUR 2 million	Statutory lines	Other accident and health	Hull and cargo			
2015	1			5		
2016				5		
2017				7		
2018				17	3	
2019	2			9	3	
Total claims, EUR million					222	
Gross amount, total claims, EUR million						
2015–2019	6			193	23	
Net amount				Property and business interruption	Liability and legal expenses	Long term
Number of claims exceeding EUR 2 million	Statutory lines	Other accident and health	Hull and cargo			
2015	1			5		
2016				5		
2017				7		
2018				15	3	
2019	2			9	3	
Total claims, EUR million					163	
Net amount, total claims, EUR million						
2015–2019	6			137	23	

Note 60. Insurance 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.

2019, EUR million	Gross IP revenue	Net IP revenue	Net CR*	Net** CR*
Statutory lines	443	442	123%	90%
Other accident and health	286	286	91%	91%
Hull and cargo	308	307	97%	97%
Property and business interruption	390	357	91%	91%
Liability and legal expenses	88	84	91%	91%
Long-term	4	3	75%	75%
Total	1,520	1,478	102%	92%

2018, EUR million	Gross IP revenue	Net IP revenue	Net CR*	Net** CR*
Statutory lines	442	440	89%	89%
Other accident and health	272	272	94%	94%
Hull and cargo	302	301	95%	95%
Property and business interruption	398	365	90%	90%
Liability and legal expenses	89	84	97%	97%
Long-term	4	3	60%	60%
Total	1,507	1,465	92%	92%

* 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 is excluded from the calculation.

** One-off changes affecting the balance on technical account have been eliminated.

Note 61. Information on the nature of insurance liabilities

Information on the nature of liabilities	2019	2018
Net liabilities due to insurance contracts (EUR million)		
Latent occupational diseases	10	13
Other	3,118	3,040
Total (before transfers)	3,128	3,053
Duration of debt (years)		
Discounted insurance liabilities	15.2	14.4
Undiscounted insurance liabilities	2.2	2.2
Total	10.5	9.9
Discounted net debt (EUR million)		
Known provision for claims for annuities	1,620	1,552
Collective liability	368	338
Provision for unearned premiums	40	41
Total	2,029	1,932

Note 62. Insurance liabilities by estimated maturity

31 December 2019, EUR million	0–1 yr	1–5 yrs	5–10 yrs	10–15 yrs	over 15 yrs	Total
Provision for unearned premiums*	417	118	23	7	11	576
Provision for unpaid claims						
Undiscounted	294	219	60	12	4	590
Discounted	95	427	365	297	778	1,962
Total insurance liabilities**	807	763	449	316	794	3,128

* Includes EUR 40 million in discounted liability.

**Excluding the value of derivatives hedging the interest rate risk associated with insurance liabilities.

31 December 2018, EUR million	0–1 yr	1–5 yrs	5–10 yrs	10–15 yrs	over 15 yrs	Total
Provision for unearned premiums*	406	117	22	6	10	561
Provision for unpaid claims						
Undiscounted	296	213	58	11	4	584
Discounted	97	473	358	285	694	1,908
Total insurance liabilities**	799	804	438	302	708	3,053

* Includes EUR 41 million in discounted liability.

**Excluding the value of derivatives hedging the interest rate risk associated with insurance liabilities.

Note 63. Non-life Insurance asset allocation

Investment asset portfolio allocation	31 December 2019		31 December 2018	
	Fair value, EUR million*	%	Fair value, EUR million*	%
Money market total	547	14	173	5
Money market instruments and deposits**	541	14	167	4
Derivative instruments***	6	0	5	0
Total bonds and bond funds	2,644	67	2,857	77
Governments	447	11	498	13
Investment Grade	1,669	42	1,895	51
Emerging markets and High Yield	253	6	243	7
Structured investments****	275	7	222	6
Total equities	426	11	360	10
Finland	116	3	60	2
Developed markets	172	4	147	4
Emerging markets	67	2	76	2
Fixed assets and unlisted equities	6	0	1	0
Private equity investments	65	2	76	2
Total alternative investments	35	1	28	1
Hedge funds	35	1	28	1
Total property investments	300	8	312	8
Direct property investments	159	4	157	4
Indirect property investments	141	4	155	4
Total	3,952	100	3,730	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, loan funds and illiquid bonds.

Liite 64. 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 57. Effects of changes in investments and insurance liabilities offset one another.

Non-life Insurance	Portfolio at fair value, EUR million	Risk parameter	Change	Effect on solvency capital, EUR million	
	31 Dec 2019			31 Dec 2019	31 Dec 2018
Bonds and bond funds*	3,191	Interest rate	1 pp	85	115
Equities**	390	Market value	10%	35	39
Capital investments and unquoted equities	71	Market value	10%	7	8
Real property	300	Market value	10%	30	31
Currency	69	Currency value	10%	15	19
Credit risk premium***	3,191	Credit spread	0.1 pp	36	34
Derivatives	6	Volatility	10 pps	1	4

* 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.

Note 65. 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 liabilities have on the interest-rate risk, because only some insurance liabilities have been discounted using an administrative interest rate (Note 29).

Fair value by duration or repricing date, EUR million*	31 Dec 2019	31 Dec 2018
0–1 year	730	421
>1–3 years	631	673
>3–5 years	498	781
>5–7 years	440	432
>7–10 years	172	353
>10 years	110	161
Total	2,582	2,821
Modified duration	4.0	4.3
Effective interest rate, %	1.6	1.7

* Includes money-market investments and deposits, bonds, convertible bonds and bond funds.

Fixed-income portfolio by maturity and credit rating on 31 December 2019*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Pro- portion, %
Aaa	2	45	57	49	28	79	261	10.1
Aa1–Aa3	520	148	28	24	12	0	732	28.3
A1–A3	76	179	114	145	61	10	584	22.6
Baa1–Baa3	81	216	231	199	53	15	794	30.8
Ba1 or lower	46	41	36	9	6	7	145	5.6
Internally rated	5	1	32	15	13	0	66	2.6
Total	730	631	498	440	172	110	2,582	100.0

Fixed-income portfolio by maturity and credit rating on 31 December 2018*, EUR million

Year(s)	0–1	1–3	3–5	5–7	7–10	10–	Total	Pro- portion, %
Aaa	3	62	378	45	110	85	682	24.2
Aa1–Aa3	200	94	55	49	47	8	453	16.0
A1–A3	77	181	144	109	55	48	613	21.7
Baa1–Baa3	112	296	177	186	126	18	915	32.4
Ba1 or lower	31	34	25	14	9	2	114	4.0
Internally rated	0	6	3	29	6		45	1.6
Total	421	673	781	432	353	161	2,821	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 Non-life Insurance fixed-income portfolio is Moody's A2.

The term to maturity of the Non-life Insurance fixed-income portfolio averages 3.6 years (calculated on the basis of the call date and the maturity date).

Note 66. Currency risk associated with Non-life Insurance investments

Foreign currency exposure, EUR million	31 Dec 2019	31 Dec 2018
USD	51	86
SEK	0	4
JPY	0	0
GBP	1	1
Other	23	57
Total*	76	147

* The currency exposure was 1.9% (3.9) of the investment portfolio. It is calculated as the sum total of individual currencies' intrinsic values.

Note 67. Counterparty risk associated with Non-life Insurance investments

Credit rating, consistent with Moody's, EUR million	31 December 2019		31 December 2018	
	Invest- ment*	Insurance**	Invest- ment*	Insurance**
Aaa	261		682	
Aa1–Aa3	732	16	453	24
A1–A3	584	50	613	38
Baa1–Baa3	794		915	0
Ba1 or lower	145	3,948	114	
Internally rated	66	43	45	43
Total	2,582	109	2,821	106

* Include money-market investments and deposits, bonds and bond funds.

** Includes the reinsurers' share of insurance liabilities, and receivables from reinsurers.

Capital adequacy

Notes 68–72 disclose a summary of information on the capital adequacy of the consolidation group, as specified in the Capital Requirements Regulation of the European Parliament and of the Council (Pillar III disclosures). Given that this information is based on the consolidated capital adequacy, it is not directly comparable with other information disclosed on OP Corporate Bank Group. Complete Pillar III information can be found in the OP Amalgamation Capital Adequacy Report.

The consolidation group that forms the basis of OP Corporate Bank plc's capital adequacy comprises OP Corporate Bank Group companies excluding insurance companies and their subsidiaries.

The Group has applied the Internal Ratings Based Approach (IRBA) to retail, credit institution and corporate exposures and equity investments. The Standardised Approach (SA) is used for other exposure categories.

In OP Financial Group's view, the most significant open changes in the regulatory and supervisory environment affecting capital adequacy for credit institutions include obligations, if any, imposed by the supervisor due to ECB's targeted review of internal (IRBA) models (TRIM), and obligations imposed by the supervisor due to the new definition of default.

The process based on the new definition of default recognises defaulted customers earlier, for example, based on information in external credit registers or in retail customers by extending the default to cover all exposures of an individual obligor. This new definition is expected to mean a larger number of default observations and to weaken credit risk parameters. OP Financial Group will apply a so-called two-step approach. The first step involves the change of the definition of default, which is planned to take place in March 2020. The second step to be taken later involves the calibration of credit risk parameters. The supervisory obligation related to the adoption of the new definition of default is expected to weaken OP Financial Group's CET1 ratio by 0.7 percentage points in the first step. Growth in the expected credit losses (ECL) caused by the change in the definition of default has been taken into account in the effect on capital adequacy. The growth is estimated to be less than 5% of the total amount of the ECL on 31 December 2019.

The effects of the ECB's targeted review of internal (IRBA) models (TRIM) on corporate exposures are still open. More detailed information on the effects is expected in the first half of 2020.

Note 68. Capital base

EUR million	31 Dec 2019	31 Dec 2018
OP Corporate Bank Group's equity capital	4 374	4 147
Elimination of insurance companies' effect in equity capital	-202	-6
Fair value reserve, cash flow hedging	0	0
Common Equity Tier 1 (CET1) before deductions	4 171	4 141
Intangible assets	-51	-63
Excess funding of pension liability and valuation adjustments	-26	-29
Dividend distribution proposed by Board of Directors		-173
Shortfall of ECL minus expected losses	-112	-105
Common Equity Tier 1 (CET1)	3 982	3 772
Subordinated loans to which transitional provisions applies	82	90
Additional Tier 1 capital (AT1)	82	90
Tier 1 capital (T1)	4 064	3 862
Debenture loans	811	944
Excess of ECL minus expected losses	26	47
Tier 2 capital (T2)	837	990
Total capital base	4 900	4 852

The CET1 capital totalled EUR 4.0 billion (3.8) on 31 December 2019. Insurance business result is not included in CET1 capital.

OP Corporate Bank Group has applied transitional provisions regarding old capital instruments to subordinated loans. In the calculation of capital adequacy and the leverage ratio, the Group has not applied the IFRS 9 transitional provision.

Note 69. Minimum capital requirement

OP Corporate Bank has applied the Internal Ratings Based Approach (IRBA) to retail, credit institution and corporate exposures and equity investments. The Standardised Approach (SA) is used for other exposure categories. Investments in OP Corporate Bank Group's insurance companies have been deducted from the capital base. OP Corporate Bank has used the Foundation Internal Ratings Based Approach (FIRBA) to measure capital requirement for corporate and credit institution exposures. This approach uses internal credit ratings to determine a customer's probability of default (PD), whereas loss given default (LDG) and credit conversion factor (CF) are standard estimates supplied by the authorities. OP Corporate Bank has used the Internal Ratings Based Approach (IRBA) to measure capital requirement for retail exposures. This approach uses internal credit ratings to determine a customer's PD, and LGD and CF are estimated internally.

It is possible to use various methods to measure capital adequacy requirement for equity investments. In the PD/LGD method, investments' risk-weighted exposure is calculated using PD, based on internal credit rating, and the official LGD. According to the Simple Risk Weight Approach, investments' risk-weighted exposure amount derives from multiplying each investment by the risk-weight determined by the type of investment.

OP Corporate Bank has used the Standardised Approach to measure capital requirement for operational risks and market risks.

EUR million	31 December 2019		31 December 2018	
	Capital require- ment*	Risk- weighted assets	Capital require- ment*	Risk- weighted assets
Credit and counterparty risk	1,900	23,753	1,777	22,216
Standardised Approach (SA)	215	2,687	197	2,458
Exposures to central government and central banks	5	59	5	62
Exposures to public sector entities	2	19	2	23
Exposures to multilateral development banks			0	0
Exposures to institutions	1	8	1	6
Exposures to corporates	203	2,540	184	2,299
Retail exposures	1	8	0	6
Exposures secured by mortgages on immovable property			2	29
Exposures in default	1	14	1	11
Equity exposures	1	8		
Other items	2	31	2	22
Internal Ratings Based Approach (IRB)	1,685	21,066	1,581	19,758
Exposures to institutions	82	1,023	87	1,083
Exposures to corporates	1,132	14,148	1,056	13,198
Retail exposures	138	1,725	113	1,416
Exposures secured by mortgages on immovable property	1	15	4	50
Other retail exposures	137	1,710	109	1,365
Equity investments	302	3,772	298	3,725
PD/LGD method	295	3,688	295	3,688
Basic Indicator Approach	7	83	3	37
Private equity investments	2	20	2	23
Other	5	64	1	14
Securitisation positions	4	46	4	46
Other non-credit obligations	28	353	23	291
Clearing/settlement risk	0	0		
Market risk (Standardised Approach)	105	1,309	106	1,319
Notes and bonds	105	1,308	105	1,308
Equities	0	0	0	0
Commodities	0	1	1	11
Operational risk (Standardised Approach)	111	1,387	103	1,285
Risk associated with exposure value adjustment	15	191	14	175
Other risks	1	11		
Total risk	2,132	26,651	2,000	24,996

* Capital requirement = Risk-weighted assets * 0.08

On 31 December 2019, the risk exposure amount (REA) totalled EUR 26.7 billion (25.0), or 6.6% higher than on 31 December 2018. The average credit risk weights remained unchanged and, in particular, the corporate loan portfolio increased from its 2018-end level.

The risk weight of equity investments includes EUR 3.7 billion in insurance holdings within OP Financial Group.

EUR 59 million (62) of Other exposures represent deferred tax assets that are treated with a risk weight of 250% instead of a deduction from Common Equity Tier 1 capital.

Capital requirement for counterparty risk amounts to EUR 40 million (37).

Note 70. Capital ratios

	31 Dec 2019	31 Dec 2018
Ratios, %		
CET1 ratio	14.9	15.1
Tier 1 ratio	15.2	15.5
Capital adequacy ratio	18.4	19.4
Ratios without the effects of transitional provisions, %		
CET1 ratio	14.9	15.1
Tier 1 ratio	14.9	15.1
Capital adequacy ratio	18.1	19.1
Capital requirement, EUR million		
Capital base	4,900	4,852
Capital requirement	2,824	2,642
Buffer for capital requirements	2,077	2,210

The capital requirement comprises the minimum requirement of 8%, the capital conservation buffer of 2.5% and the institution-specific capital conservation buffer for foreign exposures.

Note 71. Corporate exposure by sector

31 December 2019, EUR million	Exposure amount	RWA	Past due exposures	Impaired exposures	Impairment loss	Exposure as percentage
Trade	4,371	1,894	7	2,044	7	12.0
Services	3,944	2,408	28	2,326	16	10.8
Energy	3,877	1,114	38	2,455	34	10.7
Operating of other real estate	2,936	1,812	9	2,051	6	8.1
Financial and insurance activities	2,864	1,294	4	1,729	1	7.9
Other manufacturing	2,522	1,441	12	584	29	6.9
Manufacture of machinery and equipment (incl. maintenance)	2,294	697	10	566	7	6.3
Renting and operation of residential real estate	2,221	597	33	1,214	11	6.1
Construction	2,166	1,163	120	717	38	6.0
Transportation and storage	1,559	916	17	959	6	4.3
Forest industry	1,385	660	119	769	89	3.8
Agriculture, forestry and fishing	1,346	700	6	925	4	3.7
Information and communication	1,235	453	11	406	8	3.4
Metal industry	975	803	22	425	9	2.7
Food industry	697	394	6	340	6	1.9
Buying and selling of own real estate	603	272	0	316	0	1.7
Water supply and waste management	353	156	0	183	0	1.0
Manufacture of chemicals and chemical products	273	106	0	86	0	0.7
Mining and quarrying	217	116	25	80	21	0.6
Total	36,377	17,149	473	18,289	301	100.0

31 December 2018, EUR million	Exposure amount	RWA	Past due exposures	Impaired exposures	Impairment loss	Exposure as percentage
Trade	4,032	1,909	2	2,169	8	11.6
Energy	3,933	1,223	38	3,113	34	11.3
Services	3,532	2,168	4	2,401	6	10.2
Financial and insurance activities	2,638	1,151	0	1,766	3	7.6
Other manufacturing	2,583	1,234	22	1,234	8	7.4
Operating of other real estate	2,516	1,416	1	2,097	6	7.3
Renting and operation of residential real estate	2,215	633	11	1,584	5	6.4
Manufacture of machinery and equipment (incl. maintenance)	2,181	616	19	1,204	9	6.3
Construction	2,004	1,159	30	1,200	15	5.8
Transportation and storage	1,427	811	12	1,035	6	4.1
Forest industry	1,311	629	124	1,003	91	3.8
Agriculture, forestry and fishing	1,042	530	5	572	3	3.0
Information and communication	973	377	6	639	4	2.8
Food industry	921	465	6	672	7	2.7
Metal industry	912	636	41	587	17	2.6
Buying and selling of own real estate	818	375	0	630	0	2.4
Other sectors	599	325	3	81	8	1.7
Manufacture of chemicals and chemical products	393	170		268	0	1.1
Water supply and waste management	337	151	0	242	0	1.0
Mining and quarrying	314	110	27	277	21	0.9
Total	34,681	16,089	353	22,774	252	100.0

Corporate exposures in this Note also include SMEs with retail exposures. This standard industrial classification is based on the latest TOL 2008 classification issued by Statistics Finland.

Past due exposures in the Standardised Approach are exposures whose interest or capital are over 90 days overdue. In the FIRB Approach, past due exposures are exposures to customers at default belonging to rating categories 11–12 or F.

Note 72. Derivative contracts and counterparty risk

Credit risk arising from derivative contracts is defined as a credit equivalent based on the daily market valuation of derivative contracts.

The size of customer limits are defined on the basis of assets included in derivative contracts and the estimated validity of the contracts.

Counterparty risk associated with derivative contracts arises from receivables which OP Financial Group may have from its counterparties in case they default. OP Financial Group measures counterparty risk using a fair value model, whereby the value of liability comprises the contract market value and the expected potential future credit risk. The exposure amount based on the fair value model is used in the calculation of regulatory capital requirement and of economic capital.

OP Financial Group manages counterparty risks associated with derivative contracts through master agreements enabling netting related to bankruptcies, through collateral and optional early termination. With respect to master agreements, there exist written statements issued by an external legal expert of the legal validity of netting in each derivative counterparty's national legislation. OP Financial Group uses netting for counterparty exposure arising from derivative contracts in both capital adequacy measurement and the monitoring of credit risk limits. Derivative contracts are also increasingly novated to a central counterparty.

The Group confirms corporate counterparty exposure limits once a year and in this connection also checks the status of collateral applying to the limits for derivative transactions.

Credit risk arising from bank counterparties is 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 cash or securities in security for the receivable. Matching between counterparties are performed on a daily basis. In respect of guarantees and collateral securities, the Group applies the same practice as in credit risks.

If S&P had downgraded OP Financial Group's credit rating from AA- to A on 31 December 2019, an additional collateral worth EUR 55 million would have been required. If the credit rating had been downgraded in 2018, additional collateral of EUR 59 million would have been required.

Capital adequacy requirement due to counterparty risk may arise from items related to financing operations and the trading book. Capital adequacy requirement due to counterparty risk is calculated, for example, on OTC derivatives and sale and repurchase agreements.

Counterparty risk contract types, 31 Dec 2019, EUR million	Gross positive fair value	Benefits from netting	Present netted credit risk	Collateral held	Net credit risk
Derivative contracts	0	0	0	0	0
Total	5,835	1,890	3,945	707	3,239

Counterparty risk contract types, 31 Dec 2018, EUR million	Gross exposure	Benefits from netting	Present netted credit risk	Collateral held	Net credit risk
Derivative contracts	4,207	1,337	2,870	490	2,380
Total	4,207	1,337	2,870	490	2,380

Parent Company Financial Statements, FAS

Financial Statements

Income statement

EUR million	2019	2018
Interest income	371	408
Net lease income	25	24
Interest expenses	-104	-156
Net interest income	292	277
Income from equity investments	0	203
From subsidiaries		195
From other companies	0	8
Commissions and fees	131	128
Commission expenses	-129	-111
Net income from securities and foreign exchange trading	135	162
Net income from securities trading	103	128
Net income from foreign exchange trading	32	33
Net income from financial assets recognised at fair value through fair value reserve	7	21
Net income from hedge accounting	1	0
Net income from investment property	0	0
Other operating income	34	26
Administrative expenses	-173	-158
Personnel costs	-56	-56
Wages and salaries	-48	-51
Social expenses	-7	-5
Pension costs	-5	-3
Other social expenses	-2	-2
Other administrative expenses	-117	-102
Depreciation/amortisation and write-downs on tangible and intangible assets	-14	-18
Other operating expenses	-44	-42
Expected credit losses on financial assets recognised at amortised cost	-50	-23
Operating profit	191	466
Appropriations	-11	-165
Income taxes	-36	-23
Taxes for the financial year	-34	-22
Taxes for previous financial years	1	0
Change in deferred taxes	-3	-2
Profit for the financial year	144	278

Balance sheet

Assets

EUR million	31 Dec. 2019	31 Dec. 2018
Cash and cash equivalents	11,910	12,217
Notes and bonds eligible for refinancing with central banks	11,726	11,429
Other	11,726	11,429
Receivables from credit institutions	9,126	9,722
Repayable on demand	987	1,112
Other	8,139	8,610
Receivables from the public and public sector entities	22,249	20,851
Other	22,249	20,851
Lease assets	1,555	1,478
Notes and bonds	2,068	1,368
From public sector entities	677	48
From other	1,391	1,320
Shares and participations	20	12
Shares and participations in subsidiaries	1,028	1,025
Derivative contracts	4,852	3,604
Intangible assets	34	45
Tangible assets	4	4
Investment property and shares and participations in investment property	0	0
Other property and shares and participations in property companies	2	2
Other tangible assets	2	2
Other assets	514	771
Deferred income and advances paid	155	202
Deferred tax assets	11	15
Total assets	65,252	62,743

**Liabilities**

EUR million	31 Dec. 2019	31 Dec. 2018
Liabilities		
Liabilities to credit institutions	15,334	15,575
Central banks	2,000	4,006
Credit institutions	13,334	11,568
Repayable on demand	1,430	1,029
Other	11,903	10,540
Liabilities to the public and public sector entities	16,013	16,531
Deposits	11,750	11,777
Repayable on demand	11,380	11,407
Other	370	370
Other liabilities	4,264	4,754
Repayable on demand	3	15
Other	4,261	4,740
Debt securities issued to the public	22,860	20,420
Bonds	13,144	10,154
Other	9,716	10,266
Derivative contracts and other liabilities held for trading	3,865	3,254
Other liabilities	1,593	1,359
Other liabilities	1,593	1,359
Deferred expenses and advances received	155	148
Subordinated liabilities	1,339	1,347
Subordinated loans	87	88
Other	1,252	1,259
Total liabilities	61,158	58,635
Appropriations	1,471	1,460
Depreciation difference	276	244
Taxation-based provisions	1,195	1,215
Shareholders' equity		
Share capital or cooperative capital	428	428
Share capital	428	428
Share premium account	524	524
Other restricted reserves	160	157
Reserve fund	164	164
Fair value reserve	-4	-7
Cash flow hedging	0	0
Fair value measurement	-4	-7
Non-restricted reserves	331	331
Reserve for invested non-restricted equity	308	308
Other reserves	23	23
Retained earnings	1,036	931
Profit for the financial year	144	278
Total shareholders' equity	2,623	2,649
Total liabilities and shareholders' equity	65,252	62,743

EUR million	31 Dec. 2019	31 Dec. 2018
Off-balance-sheet commitments	8,767	8,359
Commitments given to a third party on behalf of customers	3,123	2,593
Guarantees and pledges	2,808	2,328
Other	315	265
Irrevocable commitments given on behalf of customers	5,644	5,766
Securities repurchase commitments	4	5
Other	5,640	5,761

Cash flow statement

EUR million	31 Dec. 2019	31 Dec. 2018
Cash flow from operating activities		
Profit for the financial year	144	278
Adjustments to profit for the financial year	216	-21
Increase (-) or decrease (+) in operating assets	-1,445	-2,589
Notes and bonds eligible for refinancing with central banks	76	-353
Receivables from financial institutions	471	-67
Receivables from the public and public sector entities	-1,538	-2,280
Lease assets	25	13
Notes and bonds	-687	77
Shares and participations	-9	-2
Derivative contracts	-216	-86
Other assets	433	107
Increase (+) or decrease (-) in operating liabilities	-654	-1,235
Liabilities to credit institutions and central banks	-414	1,470
Liabilities to the public and public sector entities	-518	-2,518
Derivative contracts and other liabilities held for trading	251	-11
Other liabilities	26	-176
Income tax paid	-21	-57
Dividends received	0	203
A. Net cash from operating activities	-1,761	-3,421
Cash flow from investing activities		
Disposal of subsidiaries and associates	-3	0
Purchase of tangible and intangible assets	-2	-5
Proceeds from sale of tangible and intangible assets	-1	1
B. Net cash used in investing activities	-5	-3
Cash flow from financing activities		
Increases in subordinated liabilities		
Decreases in subordinated liabilities	0	-50
Increases in debt securities issued to the public	27,588	27,005
Decreases in debt securities issued to the public	-25,743	-23,480
Dividends paid and interest on cooperative capital	-173	-211
C. Net cash used in financing activities	1,672	3,263
D. Effect of foreign exchange rate changes on cash and cash equivalents	-338	-75
Cash and cash equivalents transferred due to combination	-432	-236
Cash and cash equivalents at year-start	13,330	13,565
Cash and cash equivalents at year-end	12,898	13,330
Change in cash and cash equivalents	-432	-236
Interest received	1,261	1,224
Interest paid	1,056	1,010



EUR million	31 Dec. 2019	31 Dec. 2018
Adjustments to profit for the financial year		
Non-cash items		
Change in fair value for trading	-1	2
Unrealised net gains on foreign exchange operations	338	75
Change in fair value of investment assets	-4	-23
Depreciation/amortisation, change in depreciation/amortisation difference and voluntary provisions	25	182
Impairment losses on receivables	50	24
Other	-192	-280
Items presented outside cash flow from operating activities		
Capital gains, share of cash flow from investing activities	0	0
Total adjustments	216	-21
Cash and cash equivalents		
Liquid assets	11,910	12,217
Receivables from credit institutions payable on demand	987	1,112
Total	12,898	13,330

Parent Company's (OP Corporate Bank plc) Accounting Policies

1. General information

OP Corporate Bank plc is a Finnish credit institution whose business divisions comprise Corporate Customers and Group Treasury. Other Operations includes administrative functions.

OP Corporate Bank plc is part of OP Financial Group which currently consists of some 147 cooperative banks and their central cooperative, OP Cooperative, and other member credit institutions. OP Financial Group's member credit institutions comprise OP Corporate Bank plc, Helsinki Area Cooperative Bank, OP Card Company Plc and OP Cooperative's member cooperative banks.

OP Corporate Bank plc's parent company is OP Cooperative and OP Corporate Bank's consolidated accounts are included in its consolidated financial statements. Copies of the financial statements of OP Cooperative are available at the following address: Gebhardinaukio 1, FI-00510 Helsinki. OP Financial Group's financial statements are available at www.op.fi or the company's registered office at Gebhardinaukio 1, FI-00510 Helsinki. The accounts of OP Corporate Bank plc are also consolidated into those of OP Corporate Bank Group. A copy of OP Corporate Bank's consolidated financial statements is available at www.op.fi or the Company's registered office Gebhardinaukio 1, FI-00510 Helsinki.

In accordance with the Act on the Amalgamation of Deposit Banks, the member credit institutions, OP Corporate Bank plc included, and OP Cooperative are ultimately jointly and severally liable for each other's debts and commitments. If a member credit institution's own capital is depleted to such a low level owing to losses that the criteria, specified in the Act, for being placed in liquidation are fulfilled, OP Cooperative has the right to collect from its member credit institutions extra contributions on the basis of the combined balance sheets previously adopted.

OP Corporate Bank plc is domiciled in Helsinki and the address of its registered office is Gebhardinaukio 1, FI-00510 Helsinki. The postal address of its registered office is P.O. Box 308, FI-00013 OP.

2. Basis of preparation

OP Corporate Bank plc's financial statements based on national regulation are prepared and presented according to the Act on Credit Institutions, the Ministry of Finance Decree on the Financial Statements and Consolidated Financial Statements of a Credit Institution and Investment Firm, the Accounting Act and the set of the Financial Supervisory Authority's regulations and guidelines governing financial sector accounting, financial statements and the report by the board of directors. In addition, the central cooperative of the amalgamation of cooperative banks, OP Cooperative, issues instructions for compliance with unified accounting policies and the preparation of the financial statements.

OP Corporate Bank plc's financial statements are presented in millions of euros and were prepared at historical cost, with the exception of financial assets at fair value through profit or loss, financial assets recognised at fair value through the fair value reserve, hedged items in fair value hedging (for hedged risk) and derivative instruments measured at fair value.

The preparation of financial statements requires the management to make assessments and estimates and exercise its judgement in the process of applying the accounting policies.

Interest income and expenses of held-for-trading notes and bonds and derivatives previously presented in net interest income have been presented in net income from securities trading and foreign exchange trading since 1 January 2019. The change has been made retrospectively. Net interest totalling EUR 5 million was transferred from net interest income for Q1-4/2019 to net income from securities trading and foreign exchange trading. The change also involved specifying the presentation of items within net interest income.

Accrued interest on held-for-trading notes and bonds and derivatives previously presented in other accrued income and prepaid expenses and accrued expenses and deferred income has been presented under derivative contracts items in the balance sheet since 1 January 2019. At the same time, OP Corporate Bank specified the netting procedure of these contracts' interest. The change has been made retrospectively. As a result of the change, receivables in the deferred income and advances paid in the balance sheet of 31 December 2018 decreased by EUR 141 million and derivative contracts increased by EUR 141 million. On the balance sheet, accrued expenses and deferred income and advances received decreased by EUR 214 and derivative contracts increased by EUR 214 million.

3. Foreign currency translation

OP Corporate Bank plc's financial statements are prepared in euros, which is the presentation currency. 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 income from foreign exchange trading in the income statement.

4. Financial instruments

4.1 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.

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. Markets are 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, 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 or a shorter period taking account of the product's structure and counterparty. 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 Corporate Bank plc's balance sheet.

4.2 Financial assets and liabilities

4.2.1 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, the central cooperative consolidated shall estimate 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 office 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.

The central cooperative consolidated 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, the central cooperative consolidated 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, OP Corporate Bank plc 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).

4.2.2 Initial recognition and measurement

At initial recognition, OP Corporate Bank plc 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 the fair value reserve. This results in accounting loss recognition for newly originated or newly purchased financial assets in the income statement.

4.3 Classification and subsequent measurement of financial assets

OP Corporate Bank plc classifies financial assets into the following categories:

- Fair value through profit or loss (FVTPL)
- Recognised at fair value through fair value reserve (FVOCI)
- Amortised cost.

4.3.1 Loans and notes and bonds

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

- a) OP Corporate Bank plc's business model for managing the financial assets
- b) the contractual cash flow characteristics of the financial asset.

On the basis of these factors, OP Corporate Bank plc classifies loans and notes and bonds into the following three measurement categories:

- 1) Financial assets measured at amortised cost shall be 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 the fair value reserve 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 give rise on specified dates that 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 income.
- 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 through fair value reserve. Gains and losses are recognised in net investment income.

Business model

A business model refers to how OP Corporate Bank plc manages its financial assets in order to generate cash flows. OP Corporate Bank plc'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 Corporate Bank plc 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 Corporate Bank plc holds corporate loans it has granted to collect contractual cash flows. For example, the objective of the business model of OP Corporate Bank plc'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 Corporate Bank plc's operations. OP Cooperative's Executive Management Team decides on changes in the business model. The business model changes in case OP Corporate Bank plc 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.

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 Corporate Bank plc's business model is other than trading, OP Corporate Bank plc 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 Corporate Bank plc's financial assets are basic lending arrangements.

All loans to private customers and some corporate loans granted by OP Corporate Bank plc 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 par amount and accrued (but unpaid) contractual interest, which may include reasonable additional compensation for the early termination of the contract.

OP Corporate Bank uses Bloomberg's 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 the Group reviews the cash flow characteristics using OP's 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 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 the central cooperative consolidated 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.

4.3.2 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 equity investments.

Equity instruments are subsequently measured at fair value through profit or loss.

4.3.3 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. In such a case, a concession resulting from weaker repayment capacity has to be given to the loan terms – such as a repayment holiday – for a limited period. 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. Modifications in payment terms are subject to regular monitoring and reporting to the management as an indicator anticipating customers' solvency.

If modifications to the loan terms are significant or the loan is renegotiated, OP Corporate Bank plc 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 Corporate Bank plc 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 Corporate Bank plc 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.

4.4 Impairment

Expected credit losses are calculated on all balance sheet items amortised at cost and those recognised at fair value through the fair value reserve (instruments other than equity instruments) and on off-balance-sheet loan commitments and financial guarantee contracts. Expected credit losses are recognised at each reporting date, reflecting:

- a) an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes
- b) the time value of money and
- c) 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.

4.4.1 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: defaulted contracts for which a lifetime ECL is also calculated.

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

Definition of default

In the IFRS 9 based calculation, OP Corporate Bank plc applies the same definition of default as in internal credit risk models (IRB). OP Corporate Bank plc assesses default using its internal rating system based on payment behaviour. Default as definition for private customers is applied on a contract-by-contract basis whereas corporate customers are reviewed in terms of a group of connected clients. A customer is classified as a default customer when it is probable that the customer will not pay his loan obligations in full without OP Corporate Bank plc resorting to measures (e.g. realisation of collateral) or no later than when payment related to financial assets is more than 90 days past due.

The definition of default is based on Article 178 of Regulation No. 575/2013 (CRR) of the European Parliament and of the Council.

The customer's default ends when it no longer meets the criteria for the definition of default. After that, the payment behavioural category will be restored with a delay of 6 months.

Significant increase in credit risk

The expected credit losses are 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 whether the credit risk has increased significantly. Forbearance is regarded as a qualitative criterion. Other qualitative factors consist of various credit risk indicators (e.g. breach of covenants) to be taken into account in credit rating models or in the assessment of the payment behavioural category.

OP Corporate Bank plc has included relative and absolute thresholds for the determination of significant quantitative increases in credit risk considering all reasonable 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 private customers 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 borrower 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 borrower grades.

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 or forbearance has been granted on the loan.

In the assessment of a significant increase in credit risk, OP Corporate Bank plc 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 Corporate Bank plc 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.

4.4.2 Measurement methods

Expected credit losses are mainly measured on a system basis using the PD/LGD method on a contract-specific basis for all private 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.

4.4.2.1 PD/LGD method

Expected credit losses are calculated 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. 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 private customers and corporate customers. The PD models are substantially affected by the contract's credit rating, loan age (private customers) as well as the model's sub-segment, which is determined for corporate customers on the basis the rating model and for private customers on the basis of the product type. In addition, PD estimates are dependent on macroeconomic factors and their forecasts in each scenario.

The lifetime LGD consists of the following three components: 1) cure rate, 2) collateral return and 3) non-collateral return. The values of the different components depend substantially on the product type, industry (companies) and the type of collateral. 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 borrower grade, averaging some 15 years.

Forward-looking information

The calculation model includes forward-looking information and macroeconomic scenarios. OP Corporate Bank plc's economists update macroeconomic scenarios on a quarterly basis and the scenarios are the same that OP Corporate Bank plc uses otherwise in its financial annual planning. Macroeconomic forecasts span five years and have been extrapolated for up to 30 years ahead using a production function. The macroeconomic factors used are: GDP growth, unemployment rate, investment growth rate, inflation rate, change in income level and 12-month Euribor rate. In addition, the house price index is used in LGD models. Three scenarios are used: baseline, upside and downside. Scenarios also include probability weights.

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 Corporate Bank plc 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 Corporate Bank plc's best view of potential scenarios and outcomes.

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

For the largest corporate exposures in stage 3 within the R rating model, the ECL is calculated as an expert assessment using the cash flow based customer-specific ECL method. Such expert assessment 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 assessment 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.

4.4.3. Impairment of notes and bonds

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

OP Corporate Bank plc avails itself of two separate models in the calculation of the expected credit loss on notes and bonds, with the primary model being the Bloomberg tool. For the bonds that the Bloomberg tool does not support on each ECL measurement date, the Group uses OP's own tool based on credit rating information.

4.4.3.1 Bloomberg tool

Expected credit losses are calculated using the formula $PD \times LGD \times EAD$ for all portfolios per purchase lot and they reflect expectations of future credit losses at the reporting date.

In the case of listed companies, the central cooperative consolidated uses the Merton distance-to-default (DD) model as the basis for probability of default (PD), whose outcome will be converted into the PD value based on the model's historical outcome.

The figure is adjusted with indicators from companies' financial statements data describing the strength of the balance sheet, liquidity risk and earnings power. These indicators have, in turn, been normalised according to the estimated effect of off-balance-sheet items.

In the case of private companies, PD modelling is based on financial indicators collected from their financial statements and on the average risk modelled for the sector.

The definition of default is consistent with that required by international regulators, covering bankruptcy, non-payment, distressed exchanges and government bail-out.

The cure rate in the LGD model is based on historical realised recovery rates of default bonds. The realised cure rate is defined as trading price of the defaulted bond. It takes account of payment rank, issuer's creditworthiness, nature of the industry, credit cycle, type of collateral, region etc.

4.4.3.2 Model 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. The central cooperative consolidated primarily uses the averages of external credit rating and secondarily internal credit rating, 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 correspondence 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 and these are not separately assessed by 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.

4.4.3.3 Classification of notes and bonds into impairment stages

In both calculation models, a significant increase in credit risk is identified by means of consistent criteria as in transfers to stage 3.

Investments whose 12-month PD has doubled in such a way that the change is at least 0.2%, 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.

4.4.4 Impairment of off-balance-sheet items

Several products provided by OP Corporate Bank plc 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 Corporate Bank plc 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 Corporate Bank plc 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 Corporate Bank plc'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 central cooperative consolidated 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 Corporate Bank plc has a contractual ability to demand repayment and cancel the undrawn commitment but it does not limit OP Corporate Bank plc's exposure to credit losses during the contractual notice period.

4.4.5 Recognition of expected credit losses

OP Corporate Bank plc 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 Corporate Bank plc 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.

4.4.6 Write-off

A write-off constitutes a derecognition event. When the central cooperative consolidated has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof, it 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. Payments received after the derecognition are recognised as an adjustment to impairment losses on receivables.

4.5 Cash and cash equivalents

Cash and cash equivalents consist of cash and receivables from credit institutions repayable on demand.

4.6 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. Liabilities held for trading also include obligations to deliver securities the counterparty which have been sold but which are not owned at the time of selling (short selling).

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

OP Corporate Bank plc 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 Corporate Bank plc 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 residual term of the modified liability. OP Corporate Bank plc has not made any exchanges of financial liabilities for the existing financial liabilities.

4.7 Netting

Financial assets and liabilities are offset in the balance sheet if OP Corporate Bank plc 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. OTC interest rate derivatives for central counterparty clearing are offset in the balance sheet, which are cleared in the daily clearing process with London Clearing House or ICE Clear Europe. The settled-to-market (STM) approach is used as a settlement accounting method.

4.8 Derivative contracts

Derivatives are divided into hedging and non-hedging contracts. Both hedging and non-hedging derivatives are recognised at fair value in the balance sheet. Accrued interest on non-hedging interest rate swaps is recognised in interest income and interest carried forward corresponding to them in deferred income and deferred expenses. Changes in the fair value of non-hedging interest-rate, loan, currency, equity and

commodity derivatives are recognised under Net income from foreign exchange trading in the income statement. Positive fair value changes and premiums paid for derivative contracts are recognised as assets under Derivative contracts while negative fair value changes and premiums received from derivative contracts are recognised under Derivative contracts and other liabilities held for trading.

The fair value of OTC interest rate derivatives for central counterparty clearing is cleared in cash on a daily basis. In the balance sheet, these cleared derivatives are netted and shown as a net change in cash and cash equivalents. 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.

Risk Management 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, the Group's Parent Company, OP Corporate Bank plc, can hedge against interest rate risk, currency risk and price risk by applying fair value hedge or cash flow hedge. Cash flow hedging refers to hedging against changes in future cash flows and fair value hedging refers to hedging against changes in the fair value of the hedged asset.

OP Corporate Bank plc enters into derivative contracts which are in fact used to hedge against financial risks but which do not fulfil these criteria.

4.9 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. The relationship between hedging and hedged instruments is formally documented, containing information on risk management principles, 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 highly 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%.

4.9.1 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 Corporate Bank applies the fair value portfolio hedging model to hedging interest rate corridor loans. OP Corporate Bank uses interest rate options, forward exchange contracts and interest-rate and currency swaps (OTC swaps) as hedging instruments.

Changes in the fair value of derivative contracts that are documented as hedging the fair value and are highly effective hedges 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 and hedged instrument are recorded under "Net interest income".

In fair value hedge accounting, changes in the fair value of the hedging instrument and the hedged item are recorded in the income statement under net interest income and net income from securities trading. 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.

4.9.2 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 hedging is used to hedge the future interest flows of the loans 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.

5. Lease assets

Leased out assets and lease assets' advance payments are recognised at non-depreciated cost and presented under Lease assets in the balance sheet. As a rule, lease assets are depreciated according to the annuity depreciation method.

Lease income from leased out assets based on lease contracts less planned depreciation on the lease assets are recognised under Net lease income. In addition, the item includes impairment losses on lease assets, capital gains and losses on the disposal of lease assets, commissions charged from customers and other income and expenses directly attributable to lease contracts. Other income and expenses due to leases are included in the income statement item that corresponds to the nature of the income or expense item.

6. Intangible assets

Intangible assets are stated at cost less amortisation and any write-downs. These assets are amortised over their estimated useful lives, which is 2–10 years for computer software and licences and 5 years in general for other intangible assets. The useful lives of assets are reviewed on each balance sheet date.

Development expenditure is capitalised if it is expected to generate income during several financial years. Capitalised development expenditure is amortised as planned over its useful life. If the useful life cannot be assessed reliably, development expenditure will be amortised over a maximum of ten years. Research costs are recognised as expenses for the financial year.

Planned amortisation and write-downs on intangible assets are recognised under Depreciation/amortisation and write-downs on tangible and intangible assets in the income statement.

7. Tangible assets

7.1 Investment property

Investment property is land and/or building or part thereof held to earn rental income and/or for capital appreciation. Property, a minor part of which (less than five per cent of the area) is used by the owner company or its personnel, is also accounted for as investment property.

Investment property is stated at cost less planned depreciation and write-downs. Land and shares and holdings in property companies can be subject to revaluation if their probable selling price on the balance sheet date is permanently higher than the original acquisition cost. Expenses incurred after the original acquisition will be capitalised only if it is probable that the resulting economic benefit from the property will be higher than initially estimated.

If the probable selling price of investment property is permanently lower than the carrying amount, the difference between the carrying amount and probable selling price is depreciated during the financial year when the write-down is detected.

The fair value of business, office and industrial premises classified as investment property holdings and presented in the related note to the financial statements is primarily determined using the income approach based on direct capitalisation. The fair value of investment property under construction can be presented only if its fair value can be determined reliably. The fair value of land, water and forest areas and residential buildings is primarily determined using the market approach. Recognition of write-downs is based on their consistency and materiality.

Income, expenses, capital gains and losses, planned depreciation and write-downs related to investment property

are recognised under Net income from investment property in the income statement.

7.2 Other property holdings

Other property holdings refer to property in own use as an office, storage or other such facility, or for the personnel's accommodation, recreation or other such purpose, as well as shares in housing companies that entitle holding in these facilities. Also, property in own use comprises partly-leased properties in direct ownership of which the leased share cannot be sold separately and in which the company occupies more than 5% of the floor space. The shares in an ordinary property company are considered to be in one's own use if over five per cent of the premises owned by the company is in its use.

When determining the balance sheet value of property in the company's own use, the starting point is the value of the asset in terms of expected income of ordinary operations. Buildings are recognised on the balance sheet at cost less depreciation according to plan. Holdings in property companies and land, water and forest areas are stated at cost. Property modernisation costs are capitalised and charged to expenses according to planned depreciation.

In respect of property in own use, the company assesses as part of all financial statements whether there is any indication of an impaired property. Such indication includes a significant reduction in the market value, evidence of non-marketability or physical damage. If the income probably generated in the future by property in own use is expected to be permanently lower than its acquisition cost not depreciated, the resulting difference will be write-down and charged to expenses.

Appreciation may be involved in real property and its counterpart is recognised in the revaluation reserve. Appreciation is not subject to depreciation. Property modernisation costs are capitalised and charged to expenses according to planned depreciation.

Income from and capital gains on property in the company's own use are recognised under Other operating income and expenses and expenses and capital losses under Other operating expenses in the income statement. Planned depreciation and write-downs are recognised under Depreciation/amortisation and write-downs on tangible and intangible assets in the income statement.

7.3 Other tangible assets

Tangible assets are stated at cost less accumulated depreciation and any write-downs. These assets are depreciated on a straight-line basis over their estimated useful lives. Planned depreciation is not applicable to land and shares in property companies.

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.

The estimated useful lives are mainly as follows:

Buildings	30–50 years
Machinery and equipment	4–10 years
IT equipment	3–5 years
Cars	6 years
Other tangible assets	5–10 years

The asset's 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.

Assets' planned depreciation and write-downs are recognised under Depreciation/amortisation and write-downs on tangible and intangible assets in the income statement. Income from and capital gains on property in the company's own use are recognised under Other operating income and expenses and capital losses under Other operating expenses in the income statement.

8. Employee benefits

8.1 Pension benefits

The statutory pension cover for OP Corporate Bank plc's employees has been managed through contributions to Ilmarinen Mutual Pension Insurance Company and supplementary pension cover through OP Bank Group Pension Foundation. The Pension Foundation has been closed to new employees since 1 July 1991. Expenses arising from pension plans are recognised under Personnel costs in the income statement. Pension liabilities are fully covered.

The Representative Assembly of OP Bank Group Pension Fund, which manages statutory earnings-related pension for OP Corporate Bank plc, decided in 2018 to transfer the management of its pension liability to Ilmarinen Mutual Pension Insurance Company. The transfer was completed at the end of 2018. The refund of surplus solvency capital is presented in the 2018 income statement in pension costs under personnel costs.

8.2 Long-term management remuneration

OP Corporate Bank plc has a short-term and long-term management remuneration scheme in place. Those included in the schemes may receive bonuses either in cash only or as a combination of cash and a reference instrument decided by OP Cooperative's Supervisory Board or a Remuneration Committee it has appointed. Bonuses will be paid for work performed during the so-called performance and vesting period. The maximum amount of the remuneration schemes 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.

8.3 Personnel fund

OP Corporate Bank plc belongs to OP Financial Group's OP Personnel Fund, into which bonuses are paid on the basis of pre-agreed principles, depending on the achievement of targets. Bonuses transferred to the Fund are recognised under Wages and salaries in the income statement and the counterpart as Deferred expenses in the balance sheet.

9. Statutory provisions

A statutory provision is recognised for an obligation in the income statement and balance sheet 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.

10. Charges of financial authorities

OP Corporate Bank plc 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 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.

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.

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 will determine the contribution for OP Financial Group but will charge the amount directly from the former Deposit Guarantee Fund.

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.

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.

European Central Bank's supervisory fee

OP Financial Group, OP Corporate Bank plc included, is supervised by the European Central Bank (ECB). The ECB supervisory fee is determined based on the bank's importance and risk profile. The ECB imposes the supervisory fee on OP Financial Group's central cooperative which shares the fee among OP Financial Group's member banks.

11. Subordinated loans

Hybrid capital instruments are recorded as a separate balance-sheet item under Subordinated liabilities. In capital adequacy measurement, these instruments are included in Tier 1 capital. Interest on these instruments may be paid only within the limits of distributable funds.

12. Appropriations

The depreciation difference under appropriations in the balance sheet includes the accumulated difference between depreciation made and planned depreciation. Tax-based provisions contain voluntary appropriations made which are appropriations permitted by tax law. Such a provision is e.g. the loan loss provision permitted for deposit banks by the Business Income Tax Act. According to this Act, a deposit bank may deduct a loan loss provision made during the tax year, the amount of which accounts for a maximum of 0.6% of the total amount of receivables at the end of the tax year.

The total amount of non-reversed loan loss provisions made during the tax year and earlier may account for a maximum of 5% of the total amount of receivables at the end of the tax year.

An increase and decrease in depreciation made and planned depreciation as well as tax-based provisions are recognised under appropriations in the income statement. Appropriations in the income statement and balance sheet also include deferred tax liabilities.

13. Income tax

Income taxes shown in the income statement include current tax, based on the taxable income of OP Corporate Bank plc, income tax for prior financial years and deferred tax expense or income.

Deferred tax liabilities are recognised for all temporary differences between the book value and taxable value of assets and liabilities. Deferred tax assets are calculated on tax-deductible temporary differences between the book value 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.

OP Corporate Bank plc offsets deferred tax assets and liabilities. Deferred tax assets and liabilities are measured at the tax rate that is expected to apply to the period when the asset is realised or the liability is settled, based on tax rates enacted or substantively enacted by the balance sheet date. If deferred tax originates from balance sheet items not recognised in the income statement, any change in deferred tax is recognised in shareholders' equity, not in the income statement.

14. Revenue recognition

Interest income and expenses for interest-bearing assets and liabilities are recognised using the effective interest method. 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.

Commission income and expenses for services are recognised when the service is rendered. For one-off commissions covering several years that may have to be refunded at a later date, only the portion of their revenue related to the period is recognised. Dividends are primarily recognised when they are approved by the General Meeting of Shareholders by the distributing entity.

15. Off-balance-sheet commitments

Off-balance-sheet commitments include commitments made for a third party on behalf of customers, such as guarantees and various guarantee engagements, and irrevocable commitments made for customers, such as binding supplementary loan arrangements, loan commitments, standby credit facilities and underwritings.

Commitments made for a third party on behalf of customers are recognised as off-balance-sheet commitments to the amount to which guarantee corresponds at most from time to time. Irrevocable commitments made for customers are recognised to the maximum amount which may have to be paid on the basis of them.

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Notes concerning an entity under the Group's control

Note 1. Interest income and expenses

EUR million	2019	2018
Interest income		
Receivables from credit institutions	27	36
Receivables from the public and public sector entities	361	332
Notes and bonds	81	91
Derivative contracts	-103	-53
Trading items	6	57
Hedge accounting	-109	-110
of which cash flow hedge	0	3
Other	5	2
Total	371	408
Of which interest income from impaired receivables	0	1
Of which interest income of financial assets recognised in stage 3	0	0
Interest expenses		
Liabilities to credit institutions	157	139
Liabilities to the public and public sector entities	4	-3
Debt securities issued to the public	171	146
Derivative contracts and other liabilities held for trading	-279	-174
Subordinated liabilities	46	46
Other	5	2
Total	104	156

Interest income received from Group and associated companies and interest expenses paid to them

EUR million	2019		2018	
	Subsidiaries	Associates	Subsidiaries	Associates
Interest income	8		13	
Interest expenses	6		5	

Note 2. Net lease income

EUR million	2019	2018
Lease income	343	317
Planned depreciation	-316	-291
Capital gains and losses (net) on the disposal of lease assets	0	1
Commissions and fees	2	2
Other direct income	0	0
Other direct expenses	-4	-4
Total	25	24

Note 3. Income from equity investments

EUR million	2019	2018
Financial assets at fair value through profit or loss	0	8
Subsidiaries		195
Total	0	203

Note 4. Commissions and fees

EUR million	2019	2018
Commissions and fees		
Lending	40	41
Deposits	2	1
Payment transfers	24	22
Asset management	12	13
Legal services	0	0
Securities brokerage	21	16
Securities issuance	6	7
Guarantees	12	13
Other	14	14
Total	131	128
Commission expenses		
Service fees paid	2	2
Securities brokerage and issuance	6	5
Refunds of fees for shares	4	4
Other	117	101
Total	129	111

Note 5. Net income from securities and foreign exchange trading

Net income from securities and foreign exchange trading 2019

EUR million	Interest income and expenses	Capital gains and losses	Due to fair value changes	Other income	Total
Notes and bonds	-23	1	1		-20
Shares and participations		2			2
Other		1	-4		-4
Derivative contracts	17		174	-67	125
Liabilities held for trading	0	0	0		0
Total net income from securities trading	-5	4	171	-67	103
Net income from foreign exchange trading					32
Total net income from securities and foreign exchange trading					135

Net income from securities and foreign exchange trading 2018

EUR million	Interest income and expenses	Capital gains and losses	Due to fair value changes	Other income	Total
Notes and bonds	-17	-3	-2		-22
Shares and participations		16			16
Other		-2	1		-1
Derivative contracts	12		68	55	136
Liabilities held for trading	0	0	0		0
Total net income from securities trading	-5	10	68	55	128
Net income from foreign exchange trading					33
Total net income from securities and foreign exchange trading					162

Note 6. Net income from financial assets recognised at fair value through fair value reserve

EUR million	2019	2018
Notes and bonds		
Capital gains and losses	3	-2
Transferred from fair value reserve during the financial year	4	23
Total	7	21
Total net income from financial assets recognised at fair value through fair value reserve	7	21

Note 7. Net income from hedge accounting

EUR million	2019	2018
Net income from hedging instruments	12	4
Net income from hedged items	-11	-4
Total	1	0

Note 8. Net income from investment property

EUR million	2019	2018
Other income	0	0
Total	0	0

Note 9. Other operating income

EUR million	2019	2018
Rental income from property in own use		0
Income from central banking services	5	4
Other	29	22
Total	34	26

Note 10. Depreciation/amortisation and write-downs on tangible and intangible assets

EUR million	2019	2018
Planned depreciation	13	14
Write-down	0	4
Total	14	18

Note 11. Other operating expenses

EUR million	2019	2018
Rental expenses	1	2
Expenses for property in own use	0	0
Other	43	40
Total	44	42

OP Financial Group's internal service charges have been transferred to other expenses.

Note 12. Expected credit losses on financial assets recognised at amortised cost, on off-balance-sheet commitments, and expected credit losses on other financial assets as well as impairment losses

31 Dec 2019, EUR million	Gross	Reversals	Entered in income statement
Expected credit losses on financial assets recognised at amortised cost and on off-balance-sheet items			
Receivables from the public and public sector entities	1	46	47
Final loan losses	4		4
Recoveries of eliminated receivables	-1		-1
Total	4	46	50
Total expected credit losses and impairment losses	4	46	50

31 Dec 2018, EUR million	Gross	Reversals	Entered in income statement
Expected credit losses on financial assets recognised at amortised cost and on off-balance-sheet items			
Receivables from the public and public sector entities	2	0	2
Final loan losses	21		21
Recoveries of eliminated receivables	0		0
Total	23	0	23
Total expected credit losses and impairment losses	23	0	23

Note 13. Income, operating profit or loss and assets and liabilities by Division

31 Dec 2019, EUR million	Corporate customers	Other	Total
Income*	645	-45	600
Operating profit	276	-66	210
Assets	30,549	34,703	65,252
Liabilities	17,252	43,922	61,158
Personnel	654	55	709

31 Dec 2018, EUR million	Corporate customers	Other	Total
Income*	613	204	817
Operating profit	302	164	466
Assets	23,118	39,625	62,743
Liabilities	12,816	45,818	58,635
Personnel	641	52	693

* Income consists of the following items in the income statement: interest income, income from equity investments, commissions and fees, net income from securities and foreign exchange trading, net income from available-for-sale assets, net income from hedge accounting, net income from investment property and other operating income.

Notes to the Balance Sheet

Note 14. Receivables from credit institutions

EUR million	31 Dec 2019	31 Dec 2018
Repayable on demand		
Deposits	887	1,054
Other	101	58
Total	987	1,112
Other than those repayable on demand		
From OP Financial Group institutions	5,556	5,605
Other	2,582	3,005
Total	8,139	8,610
Total receivables from credit institutions	9,126	9,722

OP Corporate Bank plc has only receivables repayable on demand from central bank.

Note 15. Receivables from the public and public sector entities

EUR million	31 Dec 2019	Loss allowance on 31 Dec 2019	Loss allowance on 31 Dec 2018	Loss allowance on 31 Dec 2018
Receivables from the public and public sector entities by sector				
Non-banking corporate sector and housing corporations	14,946	-262	13,998	-233
Financial institutions and insurance companies	814	0	711	0
Public sector entities	429	0	701	0
Non-profit organisations serving households	325	-3	348	-11
Households	2,183	-12	1,945	-3
Foreign	3,552	-11	3,147	-8
Total	22,249	-288	20,851	-255
of which subordinated receivables	11		11	

The balance-sheet item includes EUR 0.00 million in loans for which interest income is not recognised (0.00).

Doubtful receivables are presented in the Group's note "Receivables from credit institutions and customers, and doubtful receivables".

Note 16. Asset leased out under finance leases

EUR million	31 Dec 2019	31 Dec 2018
Advance payments	37	33
Machinery and equipment	1,080	984
Real property and buildings	396	415
Other assets	41	45
Total	1,555	1,478

Note 17. Notes and bonds

Notes and bonds eligible for refinancing with central banks and other notes and bonds 31 December 2019

EUR million	Eligible for refinancing with central banks	Other notes and bonds	Total	Of which subordinated
Financial assets at fair value through profit or loss	140	713	854	42
Of which financial assets held for trading	140	701	842	30
Financial assets measured at fair value through other comprehensive income	11,585	1,355	12,940	
Total	11,726	2,068	13,794	42

Notes and bonds eligible for refinancing with central banks and other notes and bonds 31 December 2018

EUR million	Eligible for refinancing with central banks	Other notes and bonds	Total	Of which subordinated
Financial assets at fair value through profit or loss	108	451	558	43
Of which financial assets held for trading	108	439	547	32
Financial assets measured at fair value through other comprehensive income	11,321	918	12,239	
Total	11,429	1,368	12,797	43

Publicly-quoted and other notes and bonds 31 December 2019

EUR million	Publicly quoted	Other	Total
Financial assets at fair value through profit or loss	335	519	854
Of which financial assets held for trading	323	519	842
Financial assets measured at fair value through other comprehensive income	12,181	759	12,940
Total	12,516	1,278	13,794

Publicly-quoted and other notes and bonds 31 December 2018

EUR million	Publicly quoted	Other	Total
Financial assets at fair value through profit or loss	244	314	558
Of which financial assets held for trading	233	314	547
Financial assets measured at fair value through other comprehensive income	12,056	183	12,239
Total	12,300	497	12,797

Notes and bonds by type, EUR million	31 Dec 2019	Loss allowance on		Loss allowance on	
		31 Dec 2018	31 Dec 2018	31 Dec 2018	31 Dec 2018
Financial assets at fair value through profit or loss					
Local authority papers	57			17	
Commercial papers	412			273	
Certificates of deposit	10			0	
Other bonds	374			268	
Total	854			558	
Financial assets at fair value through other comprehensive income					
Local authority papers	588				
Certificates of deposit	0			0	
Convertible bonds					
Other bonds	12,352	3	12,239		3
Total	12,940	3	12,239		3

By 31 December 2019, all OP Corporate Bank plc's notes and bonds accrued interest recognised in accounting.

Note 18. Loss allowance

EUR million	Receivables from customers and off-balance-sheet commitments			
	Stage 1	Stage 2	Stage 3	Total
	12 months	lifetime	lifetime	
Loss allowance on 1 January 2019	3	0		3
Transfers from Stage 1 to Stage 2	0	1		1
Transfers from Stage 1 to Stage 3				
Transfers from Stage 2 to Stage 1	0	0		0
Transfers from Stage 2 to Stage 3				
Transfers from Stage 3 to Stage 2				
Transfers from Stage 3 to Stage 1				
Increases due to origination and acquisition	0			0
Decreases due to derecognition	-1			-1
Changes in risk parameters	0			0
Changes due to update in the methodology for estimation	0			0
Allowances due to recognised write-offs				
Other adjustmentst				
Total net result effect	0	1		0
Loss allowance on 31 Dec. 2019	2	1		3

EUR million	Receivables from customers and off-balance-sheet commitments			
	Stage 1	Stage 2	Stage 3	Total
	12 months	lifetime	lifetime	
Loss allowance on 1 January 2018	1	0		2
Transfers from Stage 1 to Stage 2	0	0		0
Transfers from Stage 1 to Stage 3				
Transfers from Stage 2 to Stage 1	0	0		0
Transfers from Stage 2 to Stage 3				
Transfers from Stage 3 to Stage 2				
Transfers from Stage 3 to Stage 1				
Increases due to origination and acquisition	1	0		1
Decreases due to derecognition	-1	0		-1
Changes in risk parameters	0			0
Changes due to update in the methodology for estimation	0			0
Allowances due to recognised write-offs				
Other adjustmentst				
Total net result effect	1	0		1
Loss allowance on 31 Dec. 2018	3	0		3

Note 19. Shares and participations

31 Dec 2019, EUR million	Publicly quoted	Other	Total
Shares and participations			
Financial assets at fair value through profit or loss		20	20
Of which financial assets held for trading		20	20
Financial assets measured at fair value through other comprehensive income		0	0
Shares and participations in Group companies		1,028	1,028
Total		1,048	1,048

31 Dec 2018, EUR million	Publicly quoted	Other	Total
Shares and participations			
Financial assets at fair value through profit or loss		12	12
Of which financial assets held for trading		12	12
Financial assets measured at fair value through other comprehensive income		0	0
Shares and participations in Group companies		1,025	1,025
Total		1,037	1,037

EUR million	31 Dec. 2019	31 Dec. 2018
Shares and participations by sector		
Non-banking corporate sector and housing corporations	7	4
Financial institutions and insurance companies	1,021	1,021
Foreign entities	21	12
Total	1,048	1,037

Note 20. Derivative contracts

Derivative contracts for hedging purposes – fair value hedge in 2019

EUR million	Nominal values/residual term to maturity			Total	Fair values	
	<1 year	1–5 years	>5 years		Positive	Negative
Interest rate derivatives	4,577	13,388	11,158	29,123	56	48
Interest rate swaps	4,577	13,388	11,158	29,123	56	48
Currency derivatives	2,609	1,448	654	4,711	166	130
Interest rate and currency swaps	2,609	1,448	654	4,711	166	130

Derivative contracts for hedging purposes – cash flow hedge in 2019

EUR million	Nominal values/residual term to maturity			Total	Fair values	
	<1 year	1–5 years	>5 years		Positive	Negative
Interest rate derivatives	0			0		
Interest rate swaps	0			0		
Currency derivatives	7,374			7,374	241	17
Forward exchange agreements	7,374			7,374	241	17

Derivative contracts held for trading in 2019

EUR million	Nominal values/residual term to maturity			Total	Fair values	
	<1 year	1–5 years	>5 years		Positive	Negative
Interest rate derivatives	43,982	73,862	74,087	191,930	3,515	2,836
Futures and forwards	1,134	938		2,072	0	0
Options	20,795	29,267	19,754	69,817	586	519
Called	10,142	14,623	11,996	36,761	410	278
Put	10,653	14,644	7,758	33,056	176	240
Interest rate swaps	22,053	43,657	54,333	120,042	2,929	2,317
Currency derivatives	35,349	5,506	1,760	42,615	801	779
Futures and forwards	33,848	305	0	34,154	230	221
Options	591	53		644	2	2
Called	301	26		326	1	1
Put	291	27		318	1	1
Interest rate and currency swaps	909	5,149	1,760	7,818	606	603
Equity derivatives	191	307	18	515	54	24
Options	1	2		2	0	
Called	1	2		2	0	0
Other swap contracts	190	306	18	514	54	24
Other derivatives	214	191	0	405	18	18
Futures and forwards	3	3		5		0
Options						
Called	0			0		
Put	0			0		
Other swap contracts	153	14		167	14	13
Credit derivatives	59	174	0	233	4	4

The underlying value for interest rate derivative contracts is the nominal value, for currency derivative contracts the euro-denominated stated value of the purchased currency on the balance sheet date, and for equity derivative contracts the probable value of equities on the balance sheet date. The values are expressed in gross amounts. Accrued interest is presented in deferred income and deferred expenses.

Derivative contracts for hedging purposes – fair value hedge in 2018

EUR million	Nominal values/residual term to maturity			Total	Fair values	
	<1 year	1–5 years	>5 years		Positive	Negative
Interest rate derivatives	2,539	17,454	9,679	29,671	45	30
Interest rate swaps	2,539	17,454	9,679	29,671	45	30
Currency derivatives	422	1,799	475	2,696	91	179
Interest rate and currency swaps	422	1,799	475	2,696	91	179

Derivative contracts for hedging purposes – cash flow hedge in 2018

EUR million	Nominal values/residual term to maturity			Total	Fair values	
	<1 year	1–5 years	>5 years		Positive	Negative
Interest rate derivatives	100			100		
Interest rate swaps	100			100		
Currency derivatives	6,843			6,843	35	39
Forward exchange agreements	6,843			6,843	35	39

Derivative contracts held for trading in 2018

EUR million	Nominal values/residual term to maturity			Total	Fair values	
	<1 year	1–5 years	>5 years		Positive	Negative
Interest rate derivatives	41,512	77,030	69,471	188,013	2,362	1,851
Futures and forward contracts	3,850	3,280		7,129		
Options	16,571	31,172	16,171	63,913	475	298
Called	8,713	14,772	9,750	33,234	330	131
Put	7,858	16,400	6,421	30,679	145	167
Interest rate swaps	21,091	42,579	53,300	116,971	1,887	1,553
Currency derivatives	21,776	4,986	2,930	29,691	892	904
Futures and forwards	18,044	631	2	18,676	136	137
Options	1,033	86		1,119	4	5
Called	496	41		537	3	2
Put	537	45		582	1	3
Interest rate and currency swaps	2,699	4,269	2,928	9,896	751	761
Equity derivatives	131			490	30	20
Options		3		3		
Called		3		3		
Other swap contracts	131	349	8	487	30	20
Other derivatives	94	201	2	299	8	17
Futures and forwards	16	1		18		4
Options				2		
Called	1			1		
Put	1			1		
Other swap contracts	63	10		73	4	4
Credit derivatives	15	189	2	206	4	9

The underlying value for interest rate derivative contracts is the nominal value, for currency derivative contracts the euro-denominated stated value of the purchased currency on the balance sheet date, and for equity derivative contracts the probable value of equities on the balance sheet date. The values are expressed in gross amounts. Accrued interest is presented in deferred income and deferred expenses.

Derivative contracts are presented in gross amounts in this note. Netting would reduce the credit equivalent of OP Corporate Bank plc's derivative contracts by EUR 6,934 million (4,330).

Note 21. Intangible assets and tangible assets and changes during the financial year

Intangible assets

EUR million	31 Dec 2019	31 Dec 2018
IT costs	27	40
Other intangible assets	7	6
Total	34	45

Tangible assets

31 Dec. 2019, EUR million	In own use	investment property	
		Book value	Fair value
Property holdings			
Land and water		0	0
Buildings	0		
Shares and holdings in property companies	2	2	3
Total	2	2	3

Tangible assets

31 Dec. 2018, EUR million	In own use	Investment property	
		Book value	Fair value
Property holdings			
Land and water		0	0
Buildings	0		
Shares and holdings in property companies	2	2	3
Total	2	2	3

Other tangible assets

2

Changes in intangible and tangible assets during the financial year

EUR million	Goodwill	Other intangible assets	Investment property	Property in own use	Other tangible assets
Acquisition cost 1 January 2019	12	166	1	3	49
+ increases during the year		1		0	0
- decreases during the year		-70		0	-47
- planned depreciation/amortisation		-13		0	0
-/+ impairment losses and their reversals		0		0	
+ accumulated depreciation/amortisation and write-downs on adjustments and transfers 1		71			47
- accumulated depreciation/amortisation 1 January	-12	-117		-1	-48
- accumulated impairment 1 January		-4	-1	0	
+/- financial year revaluations and their reversals					
Book value 31 December 2019	0	34	0	2	2

EUR million	Goodwill	Other intangible assets	Investment property	Property in own use	Other tangible assets
Acquisition cost 1 January 2018	12	162	1	3	50
+ increases during the year		5		0	0
- decreases during the year				0	-1
- planned depreciation/amortisation		-14		0	0
-/+ impairment losses and their reversals				0	
+ accumulated depreciation/amortisation and write-downs on adjustments and transfers 1					0
- accumulated depreciation/amortisation 1 January	-12	-104		-1	-48
- accumulated impairment 1 January			-1	0	
+/- financial year revaluations and their reversals		-4			
Book value 31 December 2018	0	45	0	2	2

Note 22. Other assets

EUR million	31 Dec 2019	31 Dec 2018
Accounts receivable from securities	6	20
Payment transfer receivables	16	16
Derivative contracts	6	6
Margin receivables related to derivative contracts	1	3
Accounts receivable	7	199
Emissions allowances	3	21
Other	474	507
Total	514	771

"Other" under Other assets includes EUR 432 million (458) in CSA collateral receivables.

Note 23. Deferred income and advances paid

EUR million	31 Dec 2019	31 Dec 2018
Interest		
Interest receivables	125	159
Interest advances paid	0	2
Total	125	161
Other		
Other advances paid	1	0
Other deferred income	29	40
Total	30	40
Total deferred income and advances paid	155	202

Note 24. Deferred tax assets and liabilities

31 Dec 2019, EUR million	Deferred tax assets	Deferred tax liabilities	Net
From timing differences	11	0	11
From other temporary differences	2	2	0
Total	13	2	11
31 Dec 2018, EUR million	Deferred tax assets	Deferred tax liabilities	Net
From timing differences	14	0	14
From other temporary differences	2	2	1
Total	17	2	15

Deferred tax assets and liabilities arising from other temporary differences comprise deferred tax assets and liabilities based on revaluations of available-for-sale financial assets recognised in the fair value reserve under equity and of derivatives designated as cash flow hedges.

Revaluations 31 December 2019

The balance sheet does not include any revaluation (-).

Appropriations

31 Dec 2019, EUR million	Balance sheet value	Deferred tax liability	Net
Depreciation difference	276	55	220
Taxation-based provisions	1,195	239	956
Total	1,471	294	1,177

31 Dec 2018, EUR million	Balance sheet value	Deferred tax liability	Net
Depreciation difference	244	49	196
Taxation-based provisions	1,215	243	972
Total	1,460	292	1,168

Depreciation difference and voluntary provisions have been entered in the balance sheet to the amount of non-deducted deferred tax.

Note 25. Debt securities issued to the public

EUR million	Book value 31 Dec 2019	Nominal value 31 Dec 2019	Book value 31 Dec 2018	Nominal value 31 Dec 2018
Certificates of deposit			105	105
Bonds	13,144	13,150	10,154	10,145
Other	9,716	9,733	10,162	10,173
Total	22,860	22,883	20,420	20,423

Note 26. Other liabilities

EUR million	31 Dec. 2019	31 Dec. 2018
Payment transfer liabilities	805	824
Accounts payable on securities	12	21
Margin liabilities related to derivative contracts		
Other	776	514
Total	1,593	1,359

Other' includes EUR 707 million (490) in CSA collateral liabilities.

Note 27. Statutory provisions

EUR million	Reorganisation	Total
1 Jan 2019 Increase in provisions	11	11
31 Dec. 2019	11	11

EUR million	Reorganisation	Total
1 Jan 2018 Increase in provisions	6	6
31 Dec. 2018	6	6

The reorganisation provision derives from expenses arising from personnel reduction.

Note 28. Deferred expenses and advances received

EUR million	31 Dec 2019	31 Dec 2018
Interest		
Interest liabilities	120	119
Interest advances received	4	4
Total	124	123
Other		
Other advance payments received		
Vacation pay liabilities	8	8
Tax liabilities		
Other deferred expenses	23	18
Total	31	26
Total deferred expenses and advances received	155	148

Note 29. Subordinated liabilities

EUR million	Book value	Nominal value	Book value	Nominal value
	31 Dec 2019	31 Dec 2019	31 Dec 2018	31 Dec 2018
Subordinated loans	87	90	88	90
Debenture loans	1,252	1,209	1,259	1,210
Total	1,339	1,299	1,347	1,300

Perpetual loans and debentures

1. A debenture loan of CHF 100 million (euro equivalent 92 million), which is a ten-year bullet loan, will mature on 14 July 2021. The loan carries a fixed interest rate of 3.375% p.a.
2. A debenture loan of EUR 100 million, which is a ten-year bullet loan, will mature on 14 September 2021. The loan carries a fixed interest rate of 5.25% p.a.
3. A debenture loan of EUR 500 million, which is a 10-year bullet loan, will mature on 28 February 2022. 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 5.75% p.a.
4. Debenture loan of JPY 10 billion (euro equivalent 82 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%.
5. Debenture loan of SEK 3,500 million (euro equivalent 335 million), which is a ten-year non-call 5 loan. The loan may be called in on 25 August 2020, matures on 25 August 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 Stibor + 1.60%.
6. Debenture loan of 100 million euros, 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.

Loans were issued in international capital markets.

In addition, OP Corporate Bank plc has issued a fixed debenture loan of EUR 0.8 million related to OP Financial Group management remuneration.

Subordinated loans

Subordinated loans included in Tier 1 capital

1) Subordinated loan of EUR 50 million

This is a perpetual loan without interest-rate step-ups, but with an 8% interest rate cap. The loan was issued on 31 March 2005 and its interest rate for the first year was 6.5% and thereafter CMS 10 years + 0.1%. Interest payments are made annually on 11 April. If interest cannot be paid for a given interest period, the obligation to pay interest for the period in question will lapse. The loan can be called in on the interest due date as of 11 April 2010 at the earliest, subject to authorisation by the Financial Supervisory Authority. The loan's entire principal must be repaid in one instalment.

2) Subordinated loan of EUR 40 million

This perpetual loan carries a variable interest rate based on 3-month Euribor + 1.25% payable quarterly on 28 February, 30 May, 30 August and 30 November. If interest cannot be paid for a given interest period, the obligation to pay interest for the period in question will lapse. Subject to authorisation by the Financial Supervisory Authority, the loan may be called in on the due date of interest payment of 30 November 2010. The entire loan principal must be repaid in one instalment.

Loan 1 is included in hybrid instruments.

OP Corporate Bank plc has no violations 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 30. Shareholders' equity

EUR million	Shareholder's equity		Shareholder's equity	
	1 Jan 2019	Increases	Decreases	31 Dec 2019
Total shareholders' equity	2,649			2,623
Share capital	428			428
Share premium account	524			524
Other restricted reserves	157			160
Reserve fund	164			164
Fair value reserve	-7		3	-4
Fair value measurement	-7		3	-4
Cash flow hedge	0		0	0
Non-restricted funds	331			331
Reserve for invested non-restricted equity	308			308
Other funds	23			23
Retained earnings or losses after adjustments	931		0	1,036
Profit or loss for the financial year	0	144		144

Changes in fair value reserve

EUR million	At year-start		At year-end	
	1 Jan 2019	Increases	Decreases	31 Dec 2019
Notes and bonds	-7	9	6	-4
Deferred tax	2		1	1
Shares and participations	0	0		0
Deferred tax				
Other	0	0	0	0
Cash flow hedge	0	0	0	0
Deferred tax	0	0		0
Total	-7	9	6	-4

EUR million	Shareholder's equity 1 Jan 2018	IFRS 9 1 Jan 2018	Increases	Decreases	Shareholder's equity 31 Dec 2018
Total shareholders' equity	2,698				2,649
Share capital	428				428
Share premium account	524				524
Other restricted reserves	242				157
Reserve fund	164				164
Fair value reserve	79	-2		84	-7
Fair value measurement	77	-2		82	-7
Cash flow hedge	2			2	0
Non-restricted funds	331				331
Reserve for invested non-restricted equity	308				308
Other funds	23				23
Retained earnings or losses after adjustments	1,172	-31		211	931
Profit or loss for the financial year			278		278

Changes in fair value reserve

EUR million	At year-start 1 Jan 2018	IFRS 9 1 Jan 2018	Increases	Decreases	Transferred to income statement	At year-end 31 Dec 2018
Notes and bonds	75	0	3	105	23	-7
Deferred tax	-19	0	21			2
Shares and participations	2	-2				0
Deferred tax	0	0	0			0
Other	2		1	3		0
Cash flow hedge	3		1	3		0
Deferred tax	-1		0			0
Total	79	-2	25	108	23	-7

Note 31. Restricted and non-restricted equity and distributable funds

EUR million	31 Dec 2019	31 Dec 2018
Shareholders' equity		
Restricted equity	1,111	1,109
Non-restricted equity	1,512	1,540
Total shareholders' equity	2,623	2,649

EUR million	31 Dec 2019	31 Dec 2018
Distributable funds		
Non-restricted equity	1,512	1,540
Capitalised development expenditure	-34	-45
Total distributable funds	1,477	1,495

Note 32. Financial assets and liabilities by residual term to maturity

31 Dec 2019, EUR million	Less than 3 months	3–12 months	1–5 years	5–10 years	Over 10 years
Notes and bonds eligible for refinancing with central banks	341	860	5,269	5,255	1
Receivables from credit institutions	3,666	2,346	3,043	70	
Receivables from the public and public sector entities	5,390	3,269	11,077	1,023	1,490
Notes and bonds	923	302	778	65	
Total assets	10,320	6,777	20,167	6,413	1,491

Liabilities to credit institutions and central banks	2,496	567	5,937	6,334	
Liabilities to the public and public sector entities	15,290	171	121	431	
Debt securities issued to the public	7,502	5,511	7,440	2,076	330
Subordinated liabilities		375	781	182	
Total liabilities	25,289	6,625	14,280	9,023	330

31 Dec 2018, EUR million	Less than 3 months	3–12 months	1–5 years	5–10 years	Over 10 years
Notes and bonds eligible for refinancing with central banks	158	412	6,542	4,314	2
Receivables from credit institutions	4,311	2,327	2,936	148	
Receivables from the public and public sector entities	3,746	2,571	11,306	1,988	1,240
Notes and bonds	240	275	715	136	3
Total assets	8,456	5,584	21,499	6,586	1,245

Liabilities to credit institutions and central banks	2,344	456	7,120	5,637	19
Liabilities to the public and public sector entities	15,082	814	167	468	
Debt securities issued to the public	7,412	4,251	7,044	1,364	350
Subordinated liabilities		90	1,077	179	
Total liabilities	24,838	5,611	15,408	7,648	369

Deposits other than fixed-term deposits are included in the maturity class 'less than 3 months'.

Note 33. Classification of assets and liabilities

31 Dec 2019, EUR million	Amortised cost	At fair value through profit or loss*	Available for sale	Hedging derivatives	Carrying amount total
Cash and balances with central banks	11,910				11,910
banks	9,126				9,126
Derivative contracts		4,384		468	4,852
Receivables from customers	23,804				23,804
Notes and bonds		854	12,940		13,794
Shares and participations		20	1,028		1,048
Other receivables	718	0			718
Total assets	45,558	5,258	13,968	468	65,252

31 Dec 2019, EUR million	Amortised cost	At fair value through profit or loss*	Available for sale	Hedging derivatives	Carrying amount total
Liabilities to credit institutions			15,334		15,334
Financial liabilities held for trading (excl. derivatives)		12			12
Derivative contracts		3,653		199	3,852
Liabilities to customers			16,013		16,013
Debt instruments issued to the public			22,860		22,860
Subordinated liabilities			1,339		1,339
Other liabilities			3,219		3,219
Total liabilities		3,665	58,764	199	62,629

31 Dec 2018, EUR million	Amortised cost	At fair value through profit or loss*	Available for sale	Hedging derivatives	Carrying amount total
Cash and balances with central banks	12,217				12,217
banks	9,722				9,722
Derivative contracts		3,276		187	3,463
Receivables from customers	22,329				22,329
Notes and bonds		558	12,239		12,797
Shares and participations		12	1,025		1,037
Other receivables	1,178	0			1,178
Total assets	45,446	3,846	13,264	187	62,743

31 Dec 2018, EUR million	Amortised cost	At fair value through profit or loss*	Available for sale	Hedging derivatives	Carrying amount total
Liabilities to credit institutions			15,575		15,575
Financial liabilities held for trading (excl. derivatives)		0			0
Derivative contracts		2,776		264	3,040
Liabilities to customers			16,531		16,531
Debt instruments issued to the public			20,420		20,420
Subordinated liabilities			1,347		1,347
Other liabilities			3,181		3,181
Total liabilities		2,776	57,054	264	60,094

* Items recognised at fair value through profit or loss include financial assets held for trading, which must be measured at fair value through profit or loss and investment property.

Debt securities issued to the public are carried at amortised cost. On 31 December 2019, the fair value of these debt instruments was EUR 232 million (102) higher than their carrying amount, based on information available in markets and employing commonly used valuation techniques. Subordinated liabilities are carried at amortised cost. Their fair values are higher than the amortised cost, but determining reliable fair values involves uncertainty.

Note 34. Financial instruments measured at fair value, grouped by valuation technique

Financial instruments measured at fair value in the balance sheet, 31 Dec. 2019, EUR million	Level 1	Level 2	Level 3	Total
Assets				
Recognised at fair value through profit or loss	179	187	496	861
Derivative contracts	1	74	4,777	4,852
Recognised at fair value through fair value reserve	10,781	2,329	859	13,968
Total assets	10,960	7,293	1,428	19,681
Liabilities				
Derivative contracts	1	3,819	32	3,852
Total liabilities	1	3,819	32	3,852

Financial instruments measured at fair value in the balance sheet, 31 Dec. 2018, EUR million	Level 1	Level 2	Level 3	Total
Assets				
Recognised at fair value through profit or loss	88	169	302	559
Derivative contracts	0	3,406	57	3,463
Financial assets measured at fair value through other comprehensive income	9,762	3,339	163	13,264
Total assets	9,850	6,914	522	17,286
Liabilities				
Derivative contracts	10	2,987	44	3,040
Total liabilities	10	2,987	44	3,040

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 exchange-traded derivatives. The fair value of these instruments is determined on the basis of 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. The fair value hierarchy level at OP Corporate Bank plc includes OTC derivatives, quoted debt instruments issued by companies, governments and financial institutions which have not been included in Level 1, repo agreements, and securities lent or borrowed.

Level 3: Valuation techniques using unobservable inputs

Valuation techniques whose input parameters involve special 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. In many cases, the Level 3 fair value is based on pricing information from a third party.

EUR million	31 Dec. 2019	31 Dec. 2018
Net income for the financial year from Level 3		
Realised net income		696
Unrealised net income		29
Total net income	724	-161

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 Pohjola, 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 which the Group had to extrapolate the market data used in their value measurement.

Note 35. Assets and liabilities denominated in euros and foreign currencies

31 Dec. 2019, EUR million	Euros	Foreign currencies	Of which	
			Subsidiaries	Associates
Receivables from credit institutions	8,992	134		
Receivables from the public and public sector entities	21,508	741	784	
Notes and bonds	13,458	336		
Derivative contracts	4,620	232	2	
Other assets	15,198	33	1,037	
Total assets	63,777	1,475	1,824	
Liabilities to credit institutions and central banks	14,899	434		
Liabilities to the public and public sector entities	15,430	584	646	0
Debt securities issued to the public	11,747	11,113	34	
Derivative contracts and liabilities held for trading	3,709	156	6	
Subordinated liabilities	830	509		
Other liabilities	1,745	3	0	
Total liabilities	48,359	12,798	686	0

31 Dec. 2018, EUR million	Euros	Foreign currencies	Of which	
			Subsidiaries	Associates
Receivables from credit institutions	9,602	120		
Receivables from the public and public sector entities	20,243	608	679	
Notes and bonds	12,269	528		
Derivative contracts	3,343	119	1	
Other assets	15,815	95	1,221	
Total assets	61,272	1,471	1,901	
Liabilities to credit institutions and central banks	14,896	679		
Liabilities to the public and public sector entities	15,690	841	246	0
Debt securities issued to the public	11,788	8,632	34	
Derivative contracts and liabilities held for trading	2,944	96	4	
Subordinated liabilities	837	510		
Other liabilities	1,653	68	1	
Total liabilities	47,809	10,825	285	0

Other notes

Note 36. Variable remuneration

Personnel fund

OP Corporate Bank belongs to OP Financial Group's personnel fund. Payment of profit-based bonuses to OP Financial Group's Personnel Fund in 2019 was based on the achievement of the following targets: OP Financial Group's EBT with a weight 60%, use of digital services with a weight of 20%, service encounter NPS with a weight of 15% and brand NPS with a weight of 5%. Profit-based bonuses for 2019 transferred to the Fund account for some 2,3% (1,7) of the combined salaries and wages earned by the Fund's members. The bonuses recognised in 2019 totalled EUR 0,9 million (0,5).

Remuneration schemes

OP Financial Group's short-term and long-term remuneration schemes are in compliance with regulation in the financial sector and are based on OP Financial Group's strategic targets and targets based on the annual plan. OP Financial Group's remuneration principles take account of the Group's risk exposure and risk management methods. The performance metrics targets have been set at a level that does not encourage excessive risk-taking. The maximum amount of bonuses is limited in all schemes. Bonus payment involves conditions related to OP Financial Group's capital adequacy and liquidity requirement as well as a company's profitability and an employee's employment or executive contract.

Long-term remuneration scheme

Remuneration in the long-term management remuneration scheme is based on the achievement of OP Financial Group's strategic targets set by OP Cooperative's Supervisory Board. Executives and separately defined key employees, appointed by the company's Board of Directors, are included in the remuneration scheme. The scheme consists of consecutive three-year performance periods. The same metrics apply to both the long-term management remuneration scheme and the personnel fund.

The bonus for the performance period of 2014–2016 will be paid in three equal instalments by the end of each June from 2018 to 2020. Bonuses for the performance period of 2017–2019 will be paid in four equal instalments between 2020 and 2023. The bonuses will be paid in cash unless deferral procedures under regulation are applied to the person.

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. A liability recognised under the scheme amounted to EUR –0.6 million (0.4) on 31 December 2019.

In June 2019, the Supervisory Board of OP Cooperative decided not to initiate a new performance period for the long-term management remuneration scheme in 2020. OP Financial Group's variable remuneration comprises short-term remuneration and the personnel fund. Group-level strategic goals and targets will be taken into account in the metrics of short-term remuneration and the personnel fund.

Short-term remuneration schemes

The short-term remuneration performance period is 6 or 12 months. Short-term remuneration schemes are based on targets set for each company, function, team and person derived from annual planning, covering all personnel of OP Financial Group. A factor applies to the bonus created through the achievement of the targets achieved in the central cooperative that is based on OP Financial Group's EBT. The bonuses will be paid in cash unless deferral procedures under regulation are applied to the person.

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.

A liability recognised under the scheme amounted to EUR 5.1 million (4.8) on 31 December 2019.

Deferred payment of variable remuneration

The Act on Credit Institutions (610/2014) prescribes 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.

The deferment of variable remuneration payment and variable bonuses paid in cash other than on a fifty-fifty basis apply to the identified staff of OP Financial Group or its company if their variable remuneration for a 12-month performance period exceeds EUR 50,000 – the maximum recommended by the Financial Supervisory Authority. The remuneration of the identified staff is reviewed up to the EUR 50,000 deferment limit as a whole, considering both long- and short-term remuneration. If the euro maximum for deferment is exceeded, some bonus will be paid immediately, while the rest is deferred. and the deferred bonus will be paid in equal instalments within the next three or five years. In such a deferment situation, 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 Supervisory Board or the Remuneration Committee appointed by the Supervisory Board. The bonus tied to the reference instrument will be paid to its beneficiary after a one-year

Expenses charged for variable remuneration *

EUR million	2019	2018
Personnel fund	1	1
Short-term schemes	5	5
Long-term schemes		
Scheme for 2014–2016	-1	0
Scheme for 2017–2019	-1	0
Total	5	6

* Excluding social expenses

Note 37. Collateral given

EUR million	31 Dec. 2019	31 Dec. 2018
Given on behalf of own debts and commitments		
Other	3,493	5,775
Total assets pledged as collateral	3,493	5,775
Secured derivative liabilities	1,034	887
Other secured liabilities	2,029	4,032
Total secured liabilities*	3,063	4,919

* In addition, bonds with a book value of EUR 6.4 billion have been pledged in the central bank, of which EUR 1.5 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.

Other collateral given on own behalf consists of collateral required for the maintenance of liquidity.

Note 38. Pension liabilities

EUR million	31 Dec 2019	31 Dec 2018
Direct liabilities from pension commitments	3	3

The employees' statutory pension cover has been managed through contributions to Ilmarinen Mutual Pension Insurance Company and supplementary pension cover through OP Bank Group Pension Foundation or insurance companies. Expenses arising from pension plans are recognised under Personnel costs in the income statement. Pension liabilities are fully covered.

Note 39. Finance lease and other lease liabilities

Material contract terms and conditions regarding termination and redemption

OP Corporate Bank plc has no significant lease or other rental liabilities. The contracts primarily cover personnel car leases with a maturity of three years.

Note 40. Off-balance-sheet commitments

EUR million	On behalf of subsidiaries	On behalf of affiliates	On behalf of others	Total
Off-balance-sheet commitments 31 December 2019				
Commitments given to a third party on behalf of customers			3,123	3,123
Guarantees and pledges			2,808	
Other			315	
Irrevocable commitments given on behalf of customers			5,644	5,644
Loan commitments			5,146	
Other			498	
Off-balance-sheet commitments 31 December 2018				
Commitments given to a third party on behalf of customers			2,593	2,593
Guarantees and pledges			2,328	
Other			265	
Irrevocable commitments given on behalf of customers			5,766	5,766
Loan commitments			5,257	
Other			509	

Note 41. Other contingent liabilities and commitments at the year-end

On 31 December 2019, OP Corporate Bank plc's commitments to private equity funds amounted to EUR 4.3 (4.7) million and relate to those presented in Note 40.

Client assets related to brokerage amounted to EUR -0.4 (4.3) million included in 'Liabilities to the public and public sector entities'.

Accounts payable related to brokerage totalled EUR 91.2 (126.1) million and accounts receivable EUR 90.9 (121.8) million.

Note 42. Personnel and members of administrative bodies, and related parties

Average personnel in 2019	Average no.	Change during the year
Permanent full-time personnel	622	15
Permanent part-time personnel	14	-16
Fixed-term personnel	71	22
Total	707	21

Remuneration paid to members of administrative bodies in 2019	Wages and salaries, EUR million
Members of the Board of Directors, President and CEO, and Deputy CEO	
Katja Keitaanniemi	0
	0

In 2019, the members of the Board of Directors did not receive from OP Corporate Bank Group subsidiaries any monthly fees or attendance allowances or share-based bonuses.

Salaries and bonuses paid to President and CEO Katja Keitaanniemi in the financial year 2019 EUR 413 160.

The period of notice applicable under the President and CEO's executive contract is six months. According to this contract, the company must pay the President and CEO severance pay equalling his/her 6-month total salary, in addition to compensation for loss of office, if the company dismisses him/her or he/she has to resign or terminate the contract due to a reason attributable to the company. In case the executive contract terminates due to reasons attributable to the company, the President and CEO will be entitled to bonuses under the short- and long-term remuneration schemes for the year of contract termination, provided that the schemes' performance criteria and the criteria for payment under the schemes' terms and conditions are fulfilled. Based on the decision by the company's Board of Directors, OP Corporate Bank adheres to OP Financial Group's long-term management remuneration scheme. OP Financial Group's shared management incentive scheme consists of consecutive three-year performance periods. The President and CEO and other persons confirmed by the Board of Directors are included in the scheme. Bonuses under the scheme for 2017–2019 will be paid between 2020 and 2023.

The President and CEO is covered by TyEL (the Finnish Employees Pensions Act) which provides pension benefits based on the years of employment and earnings as prescribed in the Act. The retirement age is 63–68 years, depending on his choice. A retirement age of 63 years applies to the President and CEO under the executive contract. The supplementary pension plan for the President and CEO has been arranged through OP Life Assurance Company Ltd. No pension obligations apply to Board members. This also applies to former Board members.

Loans, guarantees and collateral granted to members of the administrative bodies on 31 December 2019

As at 31 December 2019 and 31 December 2018, OP Corporate Bank plc had not granted loans or guarantees to members of the Board of Directors.

Pension commitments

Members of the administrative and supervisory bodies are not covered by any pension commitments. Furthermore, no pension commitments have been made for previous members of these bodies.

Auditors' remuneration, EUR	2019	2018
Audit	130.168	130.168
Orders	1240	
Tax consultation	8.297	8.297
Other services	103.609	103.609
Total	242.074	242.074

Non-audit services provided by KPMG Oy Ab totalled EUR 330,920 (111,906).

Related parties

OP Corporate Bank plc's related parties include members and deputy members of the Board of Directors, President and CEO and his deputy as well as their spouses or persons living in a marital-type relationship and underage children. The related parties also include OP Cooperative which owns 100% of OP Corporate Bank plc. Related party transactions consist of paid salaries and fees as well as ordinary business transactions with OP Financial Group entities.

Transactions based on ownership, EUR million	2019	2018
Loans and other receivables	0	0
Deposits and other debts	-427	-427
Net interest income	-1	0
Dividend income	0	0
Net commissions and fees	0	0
Net other operating income	16	14

No significant expected credit losses have been recognised on the items.

Note 43. Holdings in other companies

Subsidiaries, 31 December 2019	Holding, %	Equity capital	Profit or loss for the financial year
Pohjola Insurance Ltd Helsinki	100	530	217
A-Insurance Ltd Helsinki	100	77	9
Pohjola Hospital Ltd. Helsinki	100	11	3
OP Custody Ltd. Helsinki	100	3	1
Kaivokadun PL-hallinto Oy Helsinki	100	3	1
OP Finance AS Estonia	100	11	2
OP Finance SIA Latvia	100	14	2
UAB OP Finance Lithuania	100	19	5

Associate's data as per 31 December 2019. OP Corporate Bank plc has no shareholdings in companies in which it would have unlimited liability.

Note 44. Information by country

OP Corporate Bank plc has branches engaged in banking in Estonia, Latvia and Lithuania. In addition, it has subsidiaries in Estonia, Latvia and Lithuania engaged in finance-company operations. In Estonia OP Insurance Ltd has a non-life insurance subsidiary with a branch in both Latvia and Lithuania.

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
OP Finance AS	Subsidiary	Estonia
OP Finance SIA	Subsidiary	Latvia
UAB OP Finance	Subsidiary	Lithuania

Financial information, EUR million	Estonia	Latvia	Lithuania	31 Dec. 2019
				Total
Total operating income	13	14	21	47
Total EBIT	3	4	13	20
Total current tax	0	0	2	2
Total personnel in man-years	35	27	38	100

Financial information, EUR million	Estonia	Latvia	Lithuania	31 Dec. 2018
				Total
Total operating income	11	10	16	36
Total EBIT	4	3	7	14
Total current tax	0	0	1	1
Total personnel in man-years	127	75	92	294

Note 45. Trustee Services

OP Corporate Bank plc provides the general public with investment services. OP Corporate Bank plc provides the general public with investment services. On November 2019, the securities custody business transferred from OP Corporate Bank to OP Custody when OP Corporate Bank custody clients and their custodies transferred to OP Custody. OP Custody Ltd is a company owned by OP Corporate Bank plc, and the company has an investment firm and custodian licence. OP Corporate Bank plc holds no assets based on discretionary investment management or on another agreement.

Notes concerning an entity under the Group's control

OP Corporate Bank plc's parent company is OP Cooperative and OP Corporate Bank Group's consolidated accounts are included in its consolidated financial statements. Copies of the financial statements of OP Cooperative are available at the following address: Gebhardinaukio 1, FI-00510 Helsinki, Finland.

The accounts of OP Corporate Bank plc are consolidated into those of OP Corporate Bank Group. Copies of OP Corporate Bank Group's consolidated financial statements are available at www.op.com or the company's registered office, Gebhardinaukio 1, FI-00510 Helsinki, Finland.



Signatures for the Financial Statements and Report by the Board of Directors

Helsinki, 4 February 2020

Timo Ritakallio
Chair

Vesa Aho

Olli-Pekka Saario

Pasi Sorri

Jarmo Viitanen

Katja Keitaanniemi
President and CEO

Auditors' note

We have today issued an auditor's report on the audit performed.

Helsinki, 12 February 2020

KPMG Oy Ab
Audit firm

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 Annual General Meeting of OP Corporate Bank plc

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of OP Corporate Bank Plc (business identity code 0199920-7) for the year ended on 31 December 2019. The financial statements comprise the consolidated balance sheet, income statement, statement of comprehensive income, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies, as well as the parent company's balance sheet, income statement, cash flow statement and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position, financial performance and cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report submitted to the Board of Directors.

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 the parent company and of the group companies 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 the parent company and group companies 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 11 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 (notes 1, 4, 12, 18 and 45 to the consolidated financial statements)

- | | |
|--|---|
| <ul style="list-style-type: none">— Receivables from customers, totalling EUR 23.8 billion, are the most significant item on OP Corporate Bank's consolidated balance sheet representing 34.5 percent of the total assets. Interest income accruing on receivables was EUR 0.3 billion.— OP Corporate Bank has applied IFRS 9 <i>Financial Instruments</i> to accounting for impairment of receivables as from 1 January 2018.— The calculation of expected credit losses involves assumptions, estimates and management judgements, for example, in respect to the probability and amount of the expected credit losses as well as determining significant increases in credit risk.— Due to the significance of the carrying amount involved, complexity of the accounting methods and management judgement involved, receivables from customers are addressed as a key audit matter. | <ul style="list-style-type: none">— We evaluated compliance with the lending instructions and assessed principles and controls over recognition and monitoring of loan receivables and interest. We utilised data analyses in our audit focusing on the lending process and the loan portfolios.— We assessed the calculation methods and 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. Our IFRS and financial instrument specialists were involved in the audit.— Our audit procedures also comprised interest income analysis by reference to developments in loan receivables and interest rate margins.— Furthermore, we considered the appropriateness of the notes provided by OP Corporate Bank in respect of receivables and expected credit losses. |
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Investment assets and derivative contracts (notes 1, 2, 3, 7, 17, 19, 27 and 55 to the consolidated financial statements)

- The carrying value of investment assets totals EUR 17.2 billion mainly consisting of investments measured at fair value. The aggregate derivative assets are EUR 4.9 billion and derivative liabilities EUR 3.9 billion comprising contracts held for trading and hedging purposes. Derivatives are measured at fair value in preparing financial statements.
- The fair value of financial instruments is determined using either prices quoted in an active market or OP Corporate Bank'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.
- Investment assets and derivative positions comprise a diverse range of interest, currency, commodity and equity instruments and their fair value may fluctuate significantly depending on market conditions.
- Due to the significant balances associated with investment assets and derivative positions involved, and management judgement related to the measurement of illiquid investments, valuation 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 Corporate Bank, and tested accounting for and valuation of investment assets and derivative contracts by using data analyses, among other things.
- In respect of derivative contracts, we considered the appropriateness of the accounting treatment in relation to the requirements set under IFRS.
- As part of our year-end audit procedures, we compared the fair values used in the valuation of investment assets and derivatives with market quotations and other external price references.
- We also assessed the impairment principles applied and techniques used by OP Corporate Bank in respect of investments.
- Finally, we considered the appropriateness of the notes on investment assets and derivative contracts.

Insurance liabilities (notes 1, 5 and 29 to the consolidated financial statements)

- Measurement of insurance liabilities, amounting to EUR 3.2 billion on OP Corporate Bank's consolidated balance sheet, is based on various actuarial assumptions and calculation methods.
- Calculation of insurance liabilities is based on data processed in many IT systems and combination of that data. The databases
- 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 and compared the assumptions with industry development and market information, among other things.

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- are extensive and data volumes processed by the IT systems are substantial.
 - Interest rate risk associated with insurance liabilities is managed with derivatives and interest rate instruments, which are measured at fair value in the financial statements.
 - Due to the significant carrying value of insurance liabilities involved, and the complexity associated with the actuarial models used, insurance liabilities are addressed as a key audit matter.
 - We evaluated internal control over the accuracy of data used in calculating insurance liabilities and assessed the related controls.
 - We analysed the hedging principles of interest rate risk for insurance liabilities and the appropriateness of the accounting treatment of hedging derivative instruments. Moreover, we assessed the accounting treatment of both the decrease made in the discount rate in the non-life insurance companies during the financial year and changes in value of the related hedging derivatives.
 - Furthermore, we considered the appropriateness of the notes on insurance liabilities.

Control environment relating to financial reporting process and IT systems

- OP Corporate Bank has outsourced a significant part of its financial reporting process and information systems to the parent company OP Cooperative and its subsidiaries.
- 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.
- In respect of the accuracy of the consolidated financial statements of OP Corporate Bank, 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.
- Our audit procedures also concentrated on monitoring key data flows and transactions, change management, interfaces and outsourcing management.
- As the consolidated financial statements of OP Corporate Bank are based on a large number of data flows from numerous systems, the financial reporting IT environment is addressed as a key audit matter.
- 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, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland 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 the parent company's and the 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 the parent company or the group or cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of 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 judgment 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 the parent company's or the 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 the parent company's or the 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 the parent company or the 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 the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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 Annual General Meeting in 2002, and our appointment represents a total period of uninterrupted engagement of 18 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, 12 February 2020

KPMG OY AB

JUHA-PEKKA MYLÉN

Authorised Public Accountant, KHT