Bank Polski

Capital Adequacy and Other Information of the Powszechna Kasa Oszczędności Bank Polski Spółka Akcyjna Group Subject to Disclosure as at 31 December 2021

Introduction

The Report "Capital Adequacy and Other Information of the Powszechna Kasa Oszczędności Bank Polski Spółka Akcyjna Group Subject to Disclosure as at 31 December 2021", hereinafter referred to as the "Report", was prepared in accordance with Article 111a of the Act of 29 August 1997 – the Banking Law, hereinafter referred to as the "Banking Law"[1], Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms, hereinafter referred to as the "CRR", and the Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending the CRR, taking into account the implementing acts under the CRR, as well as Recommendation M on operational risk management in banks and Recommendation P on liquidity risk management in banks, issued by the Polish Financial Supervision Authority (Komisja Nadzoru Finansowego), hereinafter referred to as the "PFSA".

The disclosures also reflect the requirements set out in Commission Implementing Regulation (EU) No 2021/637 of 15 March 2021 laying down implementing technical standards with regard to public disclosures by institutions of the information referred to in Titles II and III of Part Eight of Regulation (EU) No 575/2013 of the European Parliament and of the Council (hereinafter referred to as the "Regulation 2021/637") and in the guidelines EBA/GL/2020/07 of 2 June 2020 on reporting and disclosure of exposures subject to measures applied in response to the COVID-19 pandemic (hereinafter: "EBA/GL/2020/07 Guidelines"), EBA/GL/2020/12 amending Guidelines EBA/GL2018/01 of 4 August 2017 on uniform disclosures under Article 473a of Regulation (EU) No 575/2013 on the transitional period for mitigating the impact of the introduction of IFRS 9 on own funds to ensure compliance with the CRR 'quick fix' in response to the COVID-19 pandemic.

Pursuant to Article 13(1) and Article 433a(1)(b) of the CRR, Powszechna Kasa Oszczędności Bank Polski Spółka Akcyjna hereinafter referred to as "PKO Bank Polski S.A." or the "Bank", being an EU parent institution and, within the meaning of Article 433a, a large institution, discloses the information regarding capital adequacy referred to in Part Eight of the CRR semi-annually, quarterly, in a separate document.

This Report has been prepared in accordance with the Bank's internal regulations concerning the information policy of PKO Bank Polski S.A. regarding capital adequacy and other information subject to disclosure (hereinafter: "The information policy of PKO Bank Polski S.A. regarding capital adequacy and other information subject to disclosure"). In accordance with Article 431(1) of the CRR, such information is disclosed on the Bank's website (www.pkobp.pl), and, in accordance with the Bank's internal regulations in this respect, it contains detailed information on capital adequacy, the method of its verification, approval and publication.

Pursuant to the Commission Delegated Regulation (EU) No 183/2014, the capital adequacy account reflects the credit risk adjustments recognized in the income statement, relating to the periods included in Tier 1 capital. In connection with the above, the Bank recognized specific credit risk adjustments as at 30 June 2021; appropriate adjustments were also recognized at the level of the Powszechna Kasa Oszczędności Bank Polski Spółka Akcyjna Group.

The Report covers the year 2021 and presents data as at 31 December 2021. It has been prepared in accordance with the regulations referred to in the above paragraph, which were in force as at 31 December 2021. The Report presents the consolidated data[2] of the Powszechna Kasa Oszczędności Bank Polski Spółka Akcyjna Group, hereinafter called the "Bank's Group". A part of the information contained in the Report concerns stand-alone data of PKO Bank Polski S.A. due to the significant effect of the Bank on the risk profile of the Bank's Group.

Unless otherwise stated, the figures presented in the Report are expressed in PLN million. Any differences in totals and percentages result from rounding amounts off to PLN million and rounding percentages off to one place after the decimal point.

The Report has been prepared taking into account all data available as at 31 December 2021. The Report addresses the requirements of the regulations described above insofar as they relate to the Bank and the Bank's Group. Lack of a reference to a particular article means that the related disclosures are not applicable. This Report was subject to an internal verification by the Bank's Internal Audit Department.

[1] The data concerns only those entities which are covered by prudential consolidation.

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1. Information on Bank and the Bank's Group

Pursuant to the CRR, prudential consolidation is used for capital adequacy purposes, which, unlike consolidation in compliance with International Financial Reporting Standards, covers only subsidiaries which meet the definition of an institution, a financial institution or an ancillary services undertaking.

In accordance with the CRR, for prudential consolidation purposes the Group comprises: PKO Bank Polski S.A., the PKO Leasing S.A. Group, PKO BP BANKOWY PTE S.A., PKO Towarzystwo Funduszy Inwestycyjnych S.A., the KREDOBANK S.A. Group, PKO Finance AB, PKO BP Finat sp. z o.o., PKO Bank Hipoteczny S.A., and the Bankowe Towarzystwo Kapitałowe S.A. Group.

Non-financial and insurance entities are not subject to prudential consolidation. Tables 1.1-1.3 present the differences in the scope of consolidation of the Bank's Group for the purposes of accounting and prudence regulations as at 31 December 2021.

The Bank's Group does not identify any subsidiaries which are not covered by prudential consolidation and whose own funds are lower than required. Furthermore, the Group does not apply the derogation mentioned in Article 7 of the CRR or the individual consolidation method defined in Article 9 of the CRR.

Table 1.1. Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories [template EU LI1]

		31.12.2021						
		a	b	c	d	e	f	g
				Carrying values of items				
		Carrying values as reported in published financial statements	Carrying values under scope of prudential consolidation	Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitisation framework	Subject to the market risk framework	Not subject to own funds requirements or subject to deduction from own funds
Breakdown by asset clases according to the balance sheet in the published financial statements								
1	Cash and balances with the Central Bank	11 587	11 587	11 587				
2	Amounts due from banks	9 010	8 914	1 715	7 199			
3	Hedging derivatives	933	933	933	933		653	
4	Other derivative instruments	10 903	10 903	10 903	10 903		10 903	
5	Securities	135 440	133 182	130 160			3 022	
6	Reverse repo transactions	-	-	-				
7	Loans and advances to customers	234 300	234 430	232 461		1 969		
8	Receivables in respect of insurance activities	911	-	-				
9	Property, plant and equipment transferred under operating lease	1 371	1 371	1 371				
10	Property, plant and equipment	3 108	2 931	2 931				
11	Non-current assets held for sale	18	18	18				
12	Intangible assets	3 463	3 289	3 289				2 553
13	Investments in associates and joint ventures	285	1 383	1 383				
14	Current income tax receivables	36	36	36				
15	Deferred income tax assets	4 116	4 101	3 365				736
16	Other assets	2 605	2 570	2 570				
TOTAL ASSETS		**418 086**	**415 648**	**402 722**	**19 035**	**1 969**	**14 578**	**3 289**
Breakdown by liability classes according to the balance sheet in the published financial statements								
1	Amounts due to the Central Bank	8	8					8
2	Amounts due to banks	3 821	3 821					3 821
3	Hedging derivatives	4 806	4 806		4 806		4 806	
4	Other derivative instruments	11 008	11 007		11 007		6 611	
5	Amounts due to customers	322 296	321 433					321 433
6	Repo transactions	-	49					49
7	Liabilities in respect of insurance activities	2 008	-					-
8	Loans and advances received	2 461	2 461					2 461
9	Debt securities in issue	23 872	24 114					24 114
10	Subordinated liabilities	2 716	2 716					2 716
11	Other liabilities	5 366	5 284					5 284
12	Current income tax liabilities	18	14					14
13	Deferred income tax provision	356	324					324
14	Provisions	1 657	1 651					1 651
TOTAL LIABILITIES		**380 393**	**377 688**	**-**	**15 813**	**-**	**11 417**	**361 875**

The carrying values shown under the regulatory model differ from the values recognized in the published financial statements as at and for the year ended 31 December 2021 due to the application of different scopes of consolidation.

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Table 1.2. Main sources of differences between regulatory exposure amounts and carrying values in financial statements [template EU LI2]

		31.12.2021				
		a	b	c	d	e
		Total	Items subject to			
			Credit risk framework	Securitisation framework	CCR framework	Market risk framework
1	**Assets carrying value amount under the scope of prudential consolidation (as per template LI1)**	412 359	402 722	1 969	19 035	14 578
2	**Liabilities carrying value amount under the scope of prudential consolidation (as per template LI1)**	15 813	-	-	15 813	11 417
3	**Total net amount under the scope of prudential consolidation**	396 546	402 722	1 969	3 222	3 161
4	**Off-balance-sheet amounts**	79 348	24 507	-	-	
5	Differences due to different netting rules, other than those already included in row 2	20 312	(564)	-	7 221	
6	Differences due to consideration of reserves	1 573	1 573	-	-	
7	Differences due to the use of credit risk mitigation techniques (CRMs)	(5 932)	(2 581)	-	(3 351)	
8	Differences due to credit conversion factors	(54 841)	-	-	-	
9	Differences due to Securitisation with risk transfer	(1 969)	-	(1 969)	-	
10	transitional adjustment relating to IFRS 9 in RWA	1 482	1 482	-	-	
11	difference in exposure value due to adjustments for insufficient coverage of NPEs	(22)	(22)	-	-	
12	Other differences	-	-	-	-	
13	**Exposure amounts considered for regulatory purposes**	436 497	427 117	-	7 092	2 288

Table 1.3. Outline of the differences in the scopes of consolidation (entity by entity) [template EU LI3]

No.[1]	31.12.2021							
	a	b	c	d	e	f	g	h
	Name of the entity	Method of accounting consolidation	Method of prudential consolidation					Description of the entity
			Full consolidation	Proportional consolidation	Equity method	Neither consolidated nor deducted	Deducted	
1	PKO Bank Polski S.A.	Parent company						Banking activities.
2	PKO Bank Hipoteczny S.A.	Full consolidation	X					Banking activities.
3	PKO Towarzystwo Funduszy Inwestycyjnych S.A.	Full consolidation	X					Creation and management of Open-and and Clodes-end Investment Funds and management of trading book.
4	PKO BP BANKOWY PTE S.A.	Full consolidation	X					Management of an open and voluntary pension fund.
5	PKO Leasing S.A.	Full consolidation	X					Leasing and provifing bank loans.
	PKO Agencja Ubezpieczeniowa sp. z o.o.	Full consolidation	X					Insurance brokerage.
	PKO Leasing Finanse sp. z o.o.	Full consolidation	X					Support services for the sale of post-leasing items.
	PKO Leasing Sverige AB	Full consolidation	X					Leasing.
	Prime Car Management S.A.	Full consolidation	X					Leasing and fleet management services.
	Futura Leasing S.A.	Full consolidation	X					Leasing and ancillary services in the field of storing and selling post-Leasing items.
	Masterlease sp. z o.o.	Full consolidation	X					Leasing.
	MasterRent24 sp. z o.o.	Full consolidation	X					Short-term rental of vehicles.
	ROOF Poland Leasing 2014 DAC[3]	Full consolidation	X					A special-purpose vehicles set up for the purpose of leasing receivables securitization.
	Polish Lease Prime 1 DAC[3]	Full consolidation	X					A special-purpose vehicles set up for the purpose of leasing receivables.
	PKO Faktoring S.A.	Full consolidation	X					Factoring.
6	PKO BP Finat sp. z o.o.	Full consolidation	X					Service activities, including transfer agent services and outsourcing of IT specialists. On the basis of the KNF authorization - services as a national payment institution.
7	PKO Życie Towarzystwo Ubezpieczeń S.A.	Full consolidation					X	Life insurance.
	Ubezpieczeniowe Usługi Finansowe sp. z o.o.	Full consolidation				X		Service activities.
8	PKO Towarzystwo Ubezpieczeń S.A.	Full consolidation					X	Other personal insurance and property insurance.
9	PKO Finance AB	Full consolidation	X					Financial services, including obtaining funds by issuing bonds and granting loans to companies from the PKO Bank Polski SA Group, including the Bank.
10	KREDOBANK S.A.	Full consolidation	X					Banking activities.
	„KREDOLEASING" sp. z o.o.	Full consolidation	X					Financial services, mainly leasing - at the end of 2021 the company is under organization.
11	Merkury - fiz an	Full consolidation				X		Placing funds collected from fund participants.
	„Zarząd Majątkiem Górczewska" sp. z o.o.	Full consolidation				X		Real estate management.
	Molina sp. z o.o.	Full consolidation				X		A general partner in limited joint-stock partnerships of the fund.

	Molina spółka z ograniczoną odpowiedzialnością 1 S.K.A.	Full consolidation				X		Buying and selling real estate for own account. Real estate management.
	Molina spółka z ograniczoną odpowiedzialnością 2 S.K.A.	Full consolidation				X		
	Molina spółka z ograniczoną odpowiedzialnością 4 S.K.A.	Full consolidation				X		
	Molina spółka z ograniczoną odpowiedzialnością 5 S.K.A. w likwidacji	Full consolidation				X		
	Molina spółka z ograniczoną odpowiedzialnością 6 S.K.A. w likwidacji	Full consolidation				X		
12	NEPTUN - fizan	Full consolidation				X		Placing funds collected from fund participants.
	Bankowe Towarzystwo Kapitałowe S.A.	Full consolidation	X					Service activities and portfolio management.
	„Inter-Risk Ukraina" spółka z dodatkową odpowiedzialnością	Full consolidation	X					Real estate development.
	Finansowa Kompania „Prywatne Inwestycje" sp. z o.o.	Full consolidation	X					Financial services.
	Finansowa Kompania „Idea Kapitał" sp. z o.o.	Full consolidation	X					Legal service of acquired pecuniary claims under credit agreements.
	Qualia sp. z o.o.	Full consolidation				X		After-sales service for development products.
	Sarnia Dolina sp. z o.o.	Full consolidation				X		Developement activities.
	„Sopot Zdrój" sp. z o.o.	Full consolidation				X		Real estate management.
13	PKO VC - fizan	Full consolidation				X		Placing funds collected from fund participants.

[1] The “numbered” entities other than PKO Bank Polski S.A. – the direct subsidiaries of PKO Bank Polski S.A.; other entities – indirect subsidiaries.
[2] The item “deducted” indicates the Bank’s capital exposures (other than the entities subject to prudential consolidation) taken into account in calculating deductions from the own funds of the Bank’s Group. In view of the fact that the total exposures to the Common Equity Tier 1 instruments of financial sector entities did not exceed the thresholds defined in the CRR, the Common Equity Tier 1 capital of the Bank’s Group for prudential consolidation as at 31 December 2021 was not reduced by the aforementioned exposures. These exposures, in accordance with the CRR requirements, were included in risk-weighted assets with a risk weight of 250%. The Bank’s Group does not have any exposures constituting deductions from Tier 2 capital, either.
[3] In accordance with IFRS 10, PKO Leasing S.A. controls the aforementioned company even though it does not have a capital investment in it.

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Table 1.4. Prudent valuation adjustments (PVA) [template EU PV1]

Category level AVA		31.12.2021									
		a	b	c	d	e	EU e1	EU e2	f	g	h
		Risk category					Category level AVA - Valuation uncertainty		Total category level post-diversification		
		Equity	Interest Rates	Foreign exchange	Credit	Commodities	Unearned credit spreads AVA	Investment and funding costs AVA		Of which: Total core approach in the trading book	Of which: Total core approach in the banking book
1	Market price uncertainty	0	20	1	-	0	3	-	24	1	23
2	Not applicable						-	-			
3	Close-out cost	0	25	1	-	0	3	-	29	1	28
4	Concentrated positions	34	353	-	-	-	Not applicable	Not applicable	387	99	288
5	Early termination	-	-	-	-	-	Not applicable	Not applicable	-	-	-
6	Model risk	-	-	0	-	-	1	5	7	1	6
7	Operational risk	-	-	-	-	-	Not applicable	Not applicable	-	-	-
8	Not applicable										
9	Not applicable										
10	Future administrative costs	0	2	0	-	0	Not applicable	Not applicable	2	0	2
11	Not applicable										
12	**Total Additional Valuation Adjustments (AVAs)**								449	102	347

There were no significant changes in the structure of the Bank's Group in 2021.

As regards the companies subject to prudential consolidation, Finansowa Kompania "Prywatne Inwestycje" sp. z o.o. purchased from KREDOBANK S.A.all shares in Finansowa Kompania "Idea Kapitał" sp. z o.o. (with its registered office in Ukraine) and a new company – KREDOLEASING sp. z o.o. (with its registered office in Ukraine), wholly owned by KREDOBANK S.A., joined the Bank's Group.

The Parent Company of the Bank's Group is PKO Bank Polski S.A. whose share in the consolidated total assets amounts to 86.31%.[3]

PKO Bank Hipoteczny S.A. is a specialist bank operating on the basis of the Act of 29 August 1997 on Mortgage Covered Bonds and Mortgage Banks. The Bank specializes in granting residential mortgage loans for individuals. The Bank also acquires receivables in respect of such loans from PKO Bank Polski S.A. PKO Bank Hipoteczny S.A. issues mortgage covered bonds which constitute one of the main sources of long-term financing for loans secured with real estate. The company operates in the territory of the Republic of Poland, with mortgage covered bonds being issued in Poland and on the European market.

The PKO Leasing S.A. Group (i.e. PKO Leasing S.A. and its subsidiaries) mainly provides leasing, factoring, fleet management and vehicle rental services. The companies in the aforementioned Group operate mainly in the territory of the Republic of Poland and in Sweden (PKO Leasing Sverige AB) and Ireland (Polish Lease Prime 1 DAC and ROOF Poland Leasing 2014 DAC, which was put in liquidation in 2021).

KREDOBANK S.A. carries out banking activities in the territory of Ukraine and is subject to Ukrainian banking supervision. KREDOBANK S.A. is a universal bank, focused on serving retail customers and small and medium enterprises operating mainly in the western part of Ukraine and in Kiev. At the same time, the bank strives to attract corporate customers with high creditworthiness.

The company's services comprise maintaining bank accounts for individuals and businesses, collecting deposits, lending, issuing warranties and guarantees, leasing, operations on the currency market and operations on the securities market.

The business activities of "KREDOLEASING" sp. z o.o., a subsidiary of KREDOBANK S.A., comprise providing financial services, including leasing, factoring and lending. The company was registered in August 2021, it received a licence for providing financial services, but it did not commence operations until the end of 2021.

The other entities listed in Table 1.3, which form part of the Bank's Group (under prudential consolidation), operate mainly in the territory of the Republic of Poland and in Ukraine (Finansowa Kompania "Prywatne Inwestycje" sp. z o.o. and "Inter-Risk Ukraina" spółka z dodatkową odpowiedzialnością [an additional liability company]) and in Sweden (PKO Finance AB).

Through its branches, PKO Bank Polski S.A. also operates in the Federal Republic of Germany (PKO Bank Polski S.A. Niederlassung Deutschland) and the Czech Republic (PKO BP S.A., the Czech Branch). In 2020, it also established a branch in the Slovak Republic (PKO BP S.A., pobočka zahraničnej banky), which started operations in March 2021.

Information about all of the Bank's subsidiaries, including the Bank's interests in the share capitals of the individual entities, is provided in the consolidated financial statements of the Bank's Group as at and for the year ended 31 December 2021, which were published on 24 February 2022 (Note 1 Activities of the Group).

Within the Bank's Group, there are certain restrictions (described below) on early repayment of liabilities by the subsidiaries[4] and with regard to the transfer of funds in the form of dividends:
1) the leasing receivables securitization plan carried out within the PKO Leasing S.A. Group cannot be terminated before the contractual deadline (no possibility of early repurchase of the receivables sold);
2) in accordance with the resolution of the Extraordinary General Shareholders' Meeting of KREDOBANK S.A. of 2009, a moratorium was introduced on dividend payments; the moratorium is valid until the relevant resolution is adopted on lifting it – in 2021, the moratorium on dividend payments remained in force;
3) the strategies or financial plans for the coming years of selected subsidiaries do not provide for dividend payments.

Furthermore, in making decisions on dividend payments or early repayment of liabilities, PKO Bank Polski S.A. and its subsidiaries follow the legal regulations (including the regulations regarding the amount of own funds and capital adequacy ratios) and the PFSA recommendations. The supervisory expectations regarding capital adequacy measures are described in more detail in the following chapters: "6. Capital buffers" and "9. Capital adequacy" of this Report.

[3] The share was calculated in relation to the consolidated total assets of the companies subject to prudential consolidation before consolidation adjustments and exemptions as at 31 December 2021.
[4] Other than the redemption of bonds or mortgage covered bonds at the request of the issuer before the maturity date.

2. Management system

2.1. Risk management

Risk management is one of the key internal processes, both in PKO Bank Polski S.A., including its foreign branches, and in the other entities of the Bank's Group. Risk management is aimed at ensuring the profitability of business activities while ensuring control over the risk level and maintaining it under the risk tolerance framework and the limits system adopted by the Bank and the Group in the changing macroeconomic and legal environment. The expected level of risk plays an important role in the planning process.

The objective of the risk management is to strive to maintain the level of risk within the accepted tolerance levels in order to:

1) protect shareholder value:
2) protect customer deposits;
3) support the Bank's Group in conducting effective activities;
4) provide the fullest possible information on risk in decision-making;
5) improve the processes and effectively establish risk management within the organizational culture of the Bank's Group.

Risk management in the Bank's Group is based, in particular, on the following principles:

1) the Bank's Group manages all identified types of risk;
2) the risk management process is adequate to the scale of operations and materiality, scale and complexity of a given risk, and it is tailored to new risk factors and sources of risk on an ongoing basis;
3) the risk management methods (especially models and their assumptions) and risk measurement or assessment systems are tailored to the scale and complexity of the risks, the current and planned operations and the operating environment, and are periodically verified and validated;
4) ESG risk is managed at the Bank as part of the management of other risks. Due to its specific nature, the ESG risk is a comprehensive risk affecting the individual risks that occur at the Bank rather than a separate type of risk; the ESG risk management takes into account the effect of ESG factors on the Bank's operations, its financial result and development and the effect of the Bank's operations on the society and the environment – the information on the approach to ESG risk management is provided in the consolidated financial statements of the Bank's Group as at and for the year ended 31 December 2021, which were published on 24 February 2022 (note 75 "ESG risk management");
5) the area of risk management remains organizationally independent from business activities;
6) risk management is integrated with the planning and controlling systems;
7) the risk levels (including ESG risk levels) are monitored and controlled on an ongoing basis;
8) the risk management process supports the implementation of the Bank's Strategy in compliance with the risk management strategy, in particular with respect to the level of risk tolerance.

The risk culture is described in Bank's risk management strategy along with the types of risk managed by the Bank and the risk appetite (strategic tolerance levels). The Bank's risk management strategy and internal procedures containing guidelines for handling irregularities and instances of exceeding risk thresholds are available to all employees in the internal regulations database and on the Bank's intranet portals addressing the management of the individual risks. Furthermore, the information on updates of these procedures is communicated regularly to the Bank's employees and appropriate training is provided in the case of the risks that affect all employees.

The risk management process in the Bank's Group consists of the following elements:

1) risk identification, which involves the identification of current and potential sources of risk and estimating the materiality of its potential impact on the Bank's and the Group's operations. As part of risk identification, the risks considered to be material in the operations of the Bank, the entities of the Bank's Group and at the Group as a whole are identified. The assessment of risk materiality and the analysis of the impact of individual risks on the business operations of the Bank and the Group entities are carried out at least once a year. In the event of new risk types arising, significant changes in the strategy and action plans of the Bank or the Bank's Group or in the external environment, a materiality assessment may be carried out more frequently. A materiality assessment is carried out by determining the degree of occurrence of individual factors affecting a given risk, determining whether the analysed risk is a material risk that has a material impact on profitability and the capital necessary to cover it, or whether it is subject to monitoring. As far as prudential consolidation is concerned, the following risks are considered material in the Bank's Group: credit risk, risk of mortgage loans in foreign currencies for households, foreign exchange risk, interest rate risk, liquidity risk (including financing risk), operational risk, business risk, risk of macroeconomic changes and model risk. For the risk types which have been recognized as material, the method of estimating internal capital is determined at the next stage. For the risk types recognized as being subject to monitoring at the Bank and the Bank's Group entities, the current values of materiality ratios are compared with the respective thresholds on a semi-annual and annual basis. The entities of the Bank's Group may consider other risks to be material for them, taking into account the specific nature and scale of their operations and the market on which a specific entity operates. The Bank verifies the materiality of such risks at the Bank's Group level. The entities of the Bank's Group participate in the assessment of materiality of the risks initiated by the Parent Company and assessed at the Bank's Group level;

2) risk measurement and assessment – risk measurement that includes determining risk measures adequate to the type and materiality of a risk, data availability, and the quantitative measurement of the risk by means of defined measures, as well as a risk assessment that consists of determining the volume or scope of the risk from the perspective of achieving risk management objectives. Risk measurement involves carrying out tasks related to measuring risks for pricing policy purposes as well as stress tests and reverse stress tests which are elements of reliable risk assessment. Stress tests are carried out to determine the expected impact of assumed events on the results of the Bank and the Bank's Group (e.g. profits or capital, etc.). On the other hand, a reverse stress test is a rigorous test of the ability of the Bank and the Bank's Group to survive. Moreover, the Bank also performs comprehensive stress tests (CSTs), which include analysing the impact of changes in the Bank's environment and functioning on the financial position of the Bank and the Bank's Group;

3) risk control – which consists of defining the tools used to diagnose or mitigate risk levels in the individual areas of operation of the Bank and the Bank's Group. Risk control involves determining risk controls tailored to the scale and complexity of the operations of the Bank and the Bank's Group, in particular in the form of monitored strategic tolerance limits for individual risk types, and if such limits are exceeded, management action is taken;

4) risk forecasting and monitoring – which consists of preparing risk level forecasts on a regular basis and monitoring deviations of the actual values from the forecasts or the assumed benchmarks (e.g. limits, thresholds, plans, prior period measurements, recommendations and guidance issued by

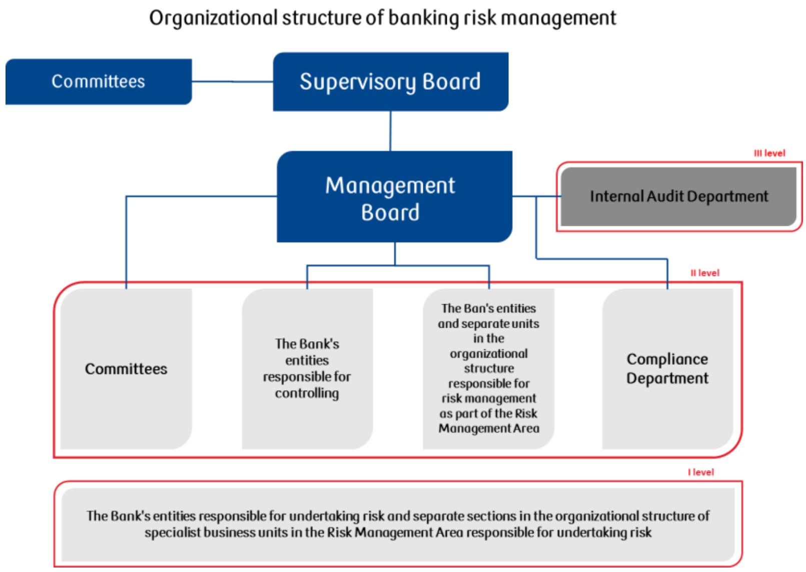
an external supervisory and control authority), as well as conducting specific, reverse and comprehensive stress tests. Risk level forecasts are verified. Risk is monitored at a frequency adequate to the materiality of a given risk type and its volatility.

5) risk reporting – which consists of informing the Bank's bodies regularly of the results of risk measurement or risk assessment, the activities undertaken and the recommended activities. The scope, frequency and the form of reporting are adjusted to the management level of the recipients. In the event of the Bank's potential liquidity problems, the Supervisory Board is informed immediately of the Bank's liquidity level, threats and the remedial measures being undertaken, as well as situations which require launching capital emergency actions and a recovery plan for the Bank or the Bank's Group and in the case of occurrence of material operational events or security incidents;

6) management actions – which consist, in particular, of issuing internal regulations that determine the process of managing individual risk types, define risk tolerance levels, establish limits and thresholds, issuing recommendations, making decisions, including decisions regarding the use of tools supporting risk management. The objective of management actions is to shape the risk management process and the risk levels.

Risk management in the Bank takes place in all units of the Bank.

Chart 2.1. Bank's risk management organisation



The risk management process is supervised by the Supervisory Board, which regularly receives information on the Bank's and the Group's risk profile and the most important actions taken in the area of risk management.

The Supervisory Board is supported by the following committees:

1) The Appointments and Remuneration Committee of the Supervisory Board (SBARC);
2) The Risk Committee of the Supervisory Board (SBRC);
3) The Audit Committee of the Supervisory Board (SBAC).

The SBARC supports the Supervisory Board in its statutory duties and tasks arising from the legal regulations, with regard to shaping and pursuing the Policy of Remuneration of the employees of the Bank and the PKO Bank Polski S.A. Group. Twelve meetings of the SBARC were held in 2021. The SBARC is described in more detail in Chapter "10. Remuneration policy" of this Report.

The Risk Committee of the Supervisory Board supports the Supervisory Board by, among other things, formulating opinions on the Bank's overall, current and future readiness to take risks, taking into account the risk profile of the Bank's Group entities, as expressed, in particular, in the strategic limits of tolerance for individual risk types, formulating opinions on solutions related to mitigating the operational risk, supporting the Supervisory Board in supervising the implementation of the risk management system in the Bank by the Management Board, in assessing the adequacy and effectiveness of the risk management system, as well as in supervising the implementation of the risk management strategy.

The Audit Committee of the Supervisory Board supports the Supervisory Board, in particular, by monitoring the financial reporting process and performing financial audit activities, as well as controlling the independence of the registered auditor and the audit firm. The SBAC also supports the Supervisory Board by monitoring the adequacy and effectiveness of the internal control system, including the adequacy and effectiveness of the control function, the compliance unit and the internal audit unit, as well as monitoring the effectiveness of the risk management system, in particular by analysing the information received from the Risk Committee.

In 2021, 8 meetings of the SBRC and 9 meetings of the SBAC were held.

In terms of risk management, the Management Board is responsible for strategic risk management, including supervision and monitoring of actions undertaken by the Bank regarding risk management, as well as the volume and profile of the risk associated with the operations of the Bank's Group entities. The Management Board makes major decisions affecting the risk profile of the Bank and adopts internal regulations concerning risk management.

In its risk management activities, the Management Board is supported by the following committees:

1) the Risk Committee (RC);
2) the Asset and Liability Committee (ALCO);
3) The Bank's Credit Committee (BCC);

4) the Operational risk Committee (ORC).

The RC monitors the integrity, adequacy and effectiveness of the risk management system, capital adequacy and the implementation of the risk management policies in compliance with the Bank's strategy; it also analyses and evaluates the application of the strategic risk tolerance limits defined in the Risk Management Strategy of PKO Bank Polski S.A. and the Bank's Group. The RC supports the Management Board in the risk management process by formulating recommendations and making decisions on capital adequacy and the effectiveness of the risk control system.

Eight meetings of the Risk Committee were held in 2021.

The ALCO manages the Bank's assets and liabilities by influencing the structure of the Bank's balance sheet and its off-balance sheet items in a manner conducive to achieving the optimum financial result. The Committee supports the Management Board in the activities of the Bank and the Bank's Group, related to shaping the balance sheet structure, capital adequacy management, profitability management, taking into account the specific nature of the operations and the generated risk, financial risk management, including market risk and liquidity risk, business risk and credit risk (both settlement and pre-settlement) of wholesale market transactions.

In 2021, the ALCO made decisions at 30 meetings.

The BCC issues opinions and makes credit decisions in respect of individual, quantitatively material credit exposures or issues recommendations in this respect for the Management Board, issues recommendations and makes decisions regarding the management of non-performing receivables, as well as decisions related to the approval of credit risk models and parameters and the results of validation of such models and accepts credit risk reports.

In 2021, the BCC made decisions at 76 meetings.

The ORC supports the Management Board in operational risk management by making decisions, in particular, concerning the AMA approach and operational risk management tools used in the Bank, as well as issuing recommendations and guidance regarding the activities related to operational risk management. The ORC formulates opinions and recommendations regarding operational risk management in the entities of the Bank's Group, which are forwarded as part of the Bank's corporate governance of those entities.

In 2021, the ORC made decisions using the electronic means and at 11 meetings.

The ALCO, BCC, ORC, RC, the Management Board, SBRC, SBAC and the Supervisory Board receive periodical reports concerning individual risk types and capital adequacy.

The Bank committees also make decisions, issue recommendations, guidance and opinions regarding the ESG risk within the scope of their tasks and powers.

The risk management systems operates on three independent, complementary levels:

1) the first level comprises organizational structures responsible for product management, sales of products and customer service, as well as other structures which carry out risk-generating operating tasks and which function based on internal regulations. This function is performed in all of the Bank's units and the Bank's Group entities. The Bank's units implement the relevant risk control mechanisms (especially limits) designed by the second level units and ensure compliance with such limits through appropriate controls. At the same time, the entities of the Bank's Group are obliged to comply with the principles of consistency and comparability of risk assessment and control in the Bank and the Bank's Group entities, taking into account the specific nature of an entity's business and the market in which it operates;
2) the second level comprises the activities of the compliance unit, as well as identification, measurement, assessment or control, monitoring and reporting material risk types and the identified threats and irregularities; those tasks are carried out by specialized organizational structures operating based on the Bank's internal regulations; the objective of those structures is to ensure that the operations carried out on the first level are properly designed in the Bank's internal regulations, and that they effectively mitigate risk, support risk measurement, assessment and analysis and the effectiveness of the operations. The second level supports actions undertaken in order to eliminate unfavourable deviations from the financial plan which affect the quantitative strategic risk tolerance limits. The function is performed in particular by the Risk Management Area, the Compliance Department, the Bank's units responsible for controlling and the relevant committees;
3) the third level comprises the internal audit which conducts independent audits of the elements of the Bank's management system, including the risk management system and the internal control system; the internal audit operates separately from the first and second levels and can support the activities carried out on these levels through consultations, but without the possibility of influencing the decisions made. The function is executed in accordance with the Bank's internal regulations governing the functioning of the internal control system.

The independence of the levels consists of remaining organizationally separate in the following areas:

1) the second level function as regards the development of system solutions is independent of the first level function;
2) the third level function is independent of the first and second level functions;
3) the compliance risk management function reports to the President of the Management Board.

In 2021, the Bank's units responsible for managing material risk and other risks identified in the Bank's operations, within the scope of their respective competences, were situated in: the Banking Risk Division, Corporate Receivables Department, Restructuring and Debt Collection Centre, Outsourcing and Sale of Receivables and Isolated Receivables Department, Retail Customer Credit Risk Centre and Corporate Customer Credit Risk Centre, which are supervised by the Vice-President of the Management Board responsible for the Risk Management Area, and in the Compliance Department supervised by the President of the Management Board.

The objective of the Banking Risk Division is to develop and implement systemic solutions for managing risks that have been identified as material, to manage capital adequacy, and to initiate and coordinate integrating activities in relation to risk management in the Bank's Group.

As far as risk management is concerned, the Banking Risk Division is responsible for, in particular:

1) identification of risk factors and sources of risk;
2) measuring, assessing,monitoring and reporting risk levels on a regular basis;
3) coordinating Strategy-related activities;
4) measuring and assessing capital adequacy;
5) preparing recommendations for the Management Board or the committees on the acceptable risk level;
6) developing and formulating opinions on the Bank's internal regulations concerning risk and capital adequacy management;
7) developing IT systems and applications designed to support risk and capital adequacy management;

8) coordinating the implementation of coherent risk management standards in the Bank's Group;
9) validating models used in risk management.[5]

The Corporate Receivables Department is responsible for, in particular:

1) managing the acquired non-performing receivables, as defined in the Bank's separate internal regulations, including developing and implementing the optimal method for recovering such receivables;
2) cooperating with the Bank's Group entities in assessing customer or transaction risk and developing a strategy for dealing with non-performing receivables from the same customers;
3) preparing proposals for outsourcing the collection or sale of non-performing receivables;
4) foreclosing property as a result of the collection of receivables;
5) reviewing and classifying the receivables managed by the Department and the off-balance sheet liabilities granted, and determining the amounts of impairment allowances related to the risk of the Bank's operations.

The Restructuring and Debt Collection Division is responsible for, in particular:

1) developing systemic solutions, including the Bank's internal regulations, applications and tools supporting the restructuring and debt collection process and the process of monitoring delays in repayment;
2) recovering receivables through their restructuring and collection, as well as improving the effectiveness of such activities;
3) foreclosing and managing property as a result of the collection of receivables;
4) intervention measures as part of monitoring delays in the repayment of amounts due from retail and corporate customers of the Retail and Corporate Market Area.

The Outsourcing and Sale of Receivables and Isolated Receivables Department is responsible for, in particular:

1) participating in identifying non-performing receivables which are saleable or outsourceable;
2) preparing proposals for taking measures related to the sale and outsourcing of non-performing receivables and monitoring the execution of related agreements;
3) outsourcing selected non-performing receivables;
4) selling selected non-performing receivables.

The Retail Customer Credit Risk Division is responsible for, in particular:

1) designing and shaping an effective credit risk assessment system related to financing customers served within the Retail and Corporate Market Area and International Banking, including credit risk assessment models, the Bank's internal regulations regarding credit risk assessment policies and methodologies as well as tools that support the processes;
2) assessing and taking credit risk within the powers granted, and monitoring the customer and transaction credit risk.

The Corporate Customer Credit Risk Division is responsible for, in particular:

1) assessing and taking credit risk within the powers granted and monitoring the customer and transaction credit risk;
2) improving and streamlining lending processes and the IT tools used in carrying out the tasks;
3) developing an effective corporate customer risk assessment system that ensures an adequate level of the cost of risk;
4) designing and shaping the credit policy assumptions for customers' credit portfolios, including industry-specific policies, and measuring the risk parameters of corporate portfolios;
5) managing the Bank's exposure concentration risk.

As far as risk management is concerned, the Compliance Department is responsible for, in particular:

1) managing compliance risk;
2) managing conduct risk;
3) managing reputation risk;
4) organizing and monitoring control function.

The Bank supervises the functioning of the individual entities of the Bank's Group. As part of its supervisory role, the Bank supervises the risk management systems and supports their development. In addition, the Bank takes into account the level of risk of the operations of the individual entities for the purposes of the risk monitoring and reporting system at the Bank's Group level.

The principles and methods for assessing the specific risks of the Bank's Group entities are defined in the internal regulations implemented by these entities. The Bank's Group entities create and update internal regulations concerning the management of specific risks in consultation with the Bank and taking into account the recommendations issued by the Bank and the Risk Management Strategy of PKO Bank Polski S.A. and the Bank's Group. The internal risk management regulations of the Bank's Group entities take account of:

1) the principle of consistency and comparability of the methods of assessing the individual risks at the Bank and its Group entities;
2) the structure of the Bank's Group and the relationships between the Group entities;
3) the specific nature and scale of activities of a given member of the Bank's Group and the market on which it operates;
4) the risks managed in the Bank's Group entities resulting from the specific nature of their activities.

At least once a year, the units of the Banking Risk Division and the Compliance Department review the Risk Management Strategy of PKO Bank Polski S.A. and the Bank's Group, including, in particular, the strategic risk tolerance limits, in order to tailor them to the current and forecast market conditions and the needs of the Bank and the Bank's Group. In justified cases resulting from significant changes in macroeconomic conditions or the results of the stress tests performed, a review may be conducted more frequently than once a year. Moreover, the risk management methods and the risk measurement or assessment systems are tailored to the scale and complexity of risk, the Bank's current and planned operations and its environment, and they are verified and validated periodically.

In the Bank's Group entities, risk management is supervised, in particular, by involving the units of the Risk Management Area and the Compliance Department, the Planning and Controlling Department or the relevant committees operating in the Bank in the process of formulating opinions on the transactions of the Bank's Group entities in accordance with the Bank's separate internal regulations. At least once a year, a list of the key entities of the

[5] The validation of models is under the direct supervision of the Vice-President of the Management Board responsible for the Risk Management Area.

Bank's Group having a significant impact on the risk profile of the Bank's Group is prepared. For those entities, the units of the Risk Management Area and the Compliance Department, in accordance with the Bank's separate internal regulations, formulate an opinion on the approach to strategic tolerance limits for the risks specific to a given entity and the method of reporting them.

The priority of the Bank's Group is to maintain its strong capital position, which includes effective capital adequacy management, supporting Polish enterprises, ensuring customer satisfaction, innovations, involvement in creating new market standards and counteracting cyber threats, while maintaining the priorities with regard to business effectiveness and effective cost control, an adequate level of own funds, and an appropriate assessment and level of risk.

To this end, the following steps were taken in 2021:

1) On 4 October 2021, PKO Bank Polski S.A. initiated the process of systemic solution to the problem of housing loans in Swiss francs (CHF) by offering settlement agreements to retail customers who have active CHF loans received for the purpose of satisfying their own housing needs. This solution is based on the proposal of the President of the Polish Financial Supervision Authority and consists of conversion of a CHF loan to a PLN loan on the terms that would apply had the loan been initially granted in PLN with interest based on WIBOR plus a historical margin applicable to such loans.
2) In 2021, the Bank's Group slightly reduced the portfolio of short-term bonds issued (mainly 3-6 month) from PLN 5.0 billion as at the end of 2020 to PLN 4.4 billion as at the end of 2021.
3) In 2021, the Bank's Group repaid its Treasury bonds in EUR and CHF as part of the EMTN programme.
4) Within the Bank's Group, the portfolios of mortgage loans originally granted by PKO Bank Polski S.A. are gradually transferred to PKO Bank Hipoteczny S.A. The value of the portfolio transferred in 2021 was approx. PLN 157 million.
5) The transactions conducted in 2021 within the Bank's Group with related entities and related parties of the Bank's Group did not have a significant effect on the Bank's risk profile.

2.2. Comprehensive stress tests and reverse stress tests

Comprehensive stress tests are complementary to stress tests specific to individual risks, and they take into account collectively identified risks, in particular the risks considered material from the perspective of the Bank or the Bank's Group. They include analysing the impact of changes in the macroeconomic environment or the functioning of the Bank's Group on the financial position of the Bank's Group, in particular: the income statement, the statement of financial position, own funds, capital adequacy (including own funds requirements), internal capital, capital adequacy measures, credit portfolio quality, and selected liquidity measures and indicators initiating Recovery Plans. Calculations are performed using the Bank's internal models, taking into account the macroeconomic assumptions adopted. The data is analysed with a high degree of detail, taking into account the segmentation into portfolios and product types.

Comprehensive stress tests include periodical tests and supervisory tests. Periodical tests are performed on an annual basis, over a three-year time horizon, in order to assess the risk of macroeconomic changes and to update the Recovery Plan. The stress scenarios used to assess the level of risk of macroeconomic changes assume a shock weakening of the economy compared with the baseline scenario, reflecting the historical cases of global financial crises. The stress scenarios for the purposes of the Recovery Plan, in accordance with the regulations of the Banking Law, are used to estimate the impact of harsh changes in the macroeconomic environment or the functioning of the Bank and the Bank's Group on the position of the Bank and the Bank's Group in crisis conditions and to verify the effectiveness of recovery measures.

Supervisory tests are conducted at the request of external supervisory authorities, over a time horizon set by the supervisory body, based on the macroeconomic and financial variables contained in the scenarios given by the supervisory authorities.

Comprehensive stress tests collectively cover the following risks:

1) credit and concentration risks;
2) market risk;
3) liquidity risk;
4) operational risk;
5) business risk;
6) excessive leverage risk.

Reverse stress tests (RSTs) complement the results of the comprehensive stress tests and are intended to assess the Bank's resilience to macroeconomic changes. As regards the risk of macroeconomic changes, RSTs are conducted in the form of a sensitivity analysis and consist of formulating potential, negative scenarios related to the Bank's liquidity or capital adequacy, and then finding events contributing to their materialization.

2.3. Internal control

The Bank has an internal control system in place, which forms part of the Bank's management system. The Bank's Management Board is responsible for the design, implementation and functioning of an adequate and effective internal control system. The Supervisory Board supervises the implementation and functioning of an adequate and effective internal control system and evaluates its adequacy and effectiveness, including the adequacy and effectiveness of the control function, the compliance unit, and the internal audit unit. The internal control system is evaluated on the basis of specific criteria, taking into account the information provided by the Bank's Management Board, the Audit Committee of the Supervisory Board, the compliance unit, and the internal audit unit, findings of the registered auditor and those resulting from the supervisory activities of the competent institutions, as well as other information and documents which are relevant to the adequacy and effectiveness of the internal control system. In this respect, the Supervisory Board is supported by the Supervisory Board Audit Committee which is responsible, in particular, for monitoring the effectiveness of the internal control system.

The objectives of the internal control system are to ensure:

1) efficiency and effectiveness of the Bank's operations;
2) reliability of the financial reporting;
3) compliance with the risk management principles at the Bank;
4) compliance of the Bank's activities with the generally binding legal regulations, internal regulations of the Bank, supervisory recommendations and market standards adopted Bank.

The internal control system is arranged at the Bank on three independent levels:

1) the first level consists of the Bank's organizational structures conducting operating activities, including in particular the sales of products and customer service, and the Bank's other organizational structures carrying out risk-generating operating tasks and functioning on the basis of the Bank's separate internal regulations;
2) the second level comprises the activities of:
   a) the compliance unit;
   b) the specialized organizational structures of the Bank responsible for identification, measurement, control, monitoring and reporting of risks, threats and irregularities in order to ensure that the activities implemented at the first level are properly designed and the second level structures effectively manage the risks and support the effectiveness of the Bank's operations;
3) the third level comprises the activities of the internal audit unit, which performs independent audits of elements of the Bank's management system, including the risk management system and the internal control system.

The said levels are independent, i.e.:
1) the second level is separate from the first level in creating systemic solutions;
2) the third level is separate from the first and the second level.

The internal control system at the Bank comprises:
1) the control function;
2) the compliance unit - Compliance Department;
3) the internal audit unit - Internal Audit Department.

The control function ensures compliance with controls relating, in particular, to risk management at the Bank; this function covers all of the Bank's units and the organizational positions in these units responsible for the performance of tasks allocated to the specific function.

The control function comprises:
1) controls;
2) independent monitoring of compliance with controls;
3) reporting within the control function.

The Bank determines and the Management Board approves the list of material processes which have a material impact on the achievement of the internal control system objectives and business objectives of the Bank and ensures periodical reviews of the processes in place at the Bank from the perspective of their materiality.

Controls are embedded in the processes taking place at the Bank and in the systems or applications which support these processes. These controls are tailored to the objectives of the internal control system, which are related to the processes in place at the Bank and their complexity, the risk of irregularities and the specific nature of the Bank's operations, and take into account the resources available to the Bank. These controls are subject to independent monitoring at all levels of the internal control system. Such independent monitoring of compliance with controls is performed:

1) horizontally – by a Bank unit within that unit or within another unit at the same level;
2) vertically — by the Bank units of the second level with respect to the first level units.

The Bank's units are responsible for performing specific activities associated with horizontal or vertical monitoring within the scope of their tasks and powers. Independent monitoring includes current verification and testing of the controls.

The compliance unit is an organizationally separate, independent unit which plays the key role in ensuring compliance and managing compliance risk understood as the risk of suffering legal sanctions, financial losses or reputation loss as a result of non-compliance on the part of the Bank, the Bank's employees or the entities acting on its behalf with the generally applicable laws, the Bank's internal regulations and the market standards adopted by the Bank.

The compliance unit is responsible for developing solutions aimed at ensuring compliance and compliance risk management, as well as identification, assessment, control, monitoring and reporting of this risk at the Bank.

Internal audit is an independent and objective assurance and advisory function which performs systematic and organized assessments of the individual areas of the Bank's operations and suggests steps to be taken to increase the quality and effectiveness of the Bank's operations.

The objective of the audit unit is:

1) as part of its assurance activities – to evaluate the adequacy and effectiveness of the risk management system and the internal control system at the first and second levels of the internal control system, taking into account the adequacy and effectiveness of the risk controls and control mechanisms selected for auditing;
2) as part of its advisory activities – adding value to and improving the processes in the Bank.

At the Bank, the following mechanisms are in place to ensure independence of the compliance unit and the internal audit unit:
1) approval of the Audit Charter and the rules for ensuring compliance and managing compliance risk by the Management Board of the Supervisory Board;
2) subordination of the compliance unit to the President of the Management Board;
3) functional subordination of the internal audit unit to the Audit Committee of the Supervisory Board and its administrative subordination to the President of the Management Board;
4) the internal audit unit, as a third level unit, not being subject to independent monitoring by the Bank's organizational units situated at the second level of the internal control system;
5) ensuring direct access to members of the Management Board and the Supervisory Board to directors of the said units;
6) participation of the directors of the said units in the meetings of the Management Board;
7) participation of the directors of the said units in the meetings of the Supervisory Board and the relevant Committees when their agenda includes issues relating to the internal control system or risk management;
8) appointing and dismissing the internal audit unit director and approving the amount of his/her salary;
9) appointing and dismissing the compliance unit director;

10) approving the amount of remuneration (including bonuses) of the compliance unit director by the Audit Committee of the Supervisory Board, taking into account the principle that the said remuneration may not differ from the remuneration of other persons performing key functions at the Bank and that it should not be directly dependent on the Bank's financial results;
11) notifying the PFSA of any changes of directors of the said units, including the reasons for those changes;
12) providing the employees of the aforementioned units with access to all necessary information (including confidential and sensitive information), rooms and IT systems (without the possibility of interference with the system's resources), as well as communication with the Bank's employees, to the extent they deem necessary to perform their tasks;
13) non-participation of the employees of the said units in the execution of day-to-day business tasks;
14) providing solutions for controlling the remuneration of the employees of the aforementioned units which guarantee their independence and objectivity in the performance of their tasks and which enable employing people with appropriate qualifications, experience and skills;
15) protecting employees of the said units from unjustified termination of their employment;
16) organizational separation of the aforementioned units and preventing the employees of these units from performing any duties other than those assigned to them;
17) ensuring financial resources necessary for the effective performance of duties and continuous improvement of the skills and qualifications of the employees of the said units;

Information on irregularities, results of assessments and other material issues identified by the individual components of the internal control system are presented in periodical reports addressed to the Management Board, the Supervisory Board Audit Committee, the Risk Committee or the Supervisory Board.

On the Bank's website (www.pkobp.pl), the Bank has placed a description of the internal control system which takes into consideration, in particular, a description of: the objectives of the internal control system; the roles of the Management Board, the Supervisory Board and the Audit Committee of the Supervisory Board; the three independent levels on which the internal control system is organized; the individual elements of the internal control system, i.e. the control function, the compliance unit, and the internal audit unit.

The entities belonging to the Bank's Group have internal control systems adapted to the specific nature of their operations. These entities develop and implement internal regulations defining, in particular, tasks relating to the control activities carried out within the internal control system and the division of responsibility for these tasks. The operation of the internal control systems in the companies depends on the size and scope of operations of the entities belonging to the Bank's Group. In most entities, there are separate organizational units or positions performing these functions, reporting directly to the Management Board of the given company or to the Supervisory Board. In the cases justified by an entity's operating profile and its organizational structure (small entities with a limited range of activities), control activities are performed by their managers, without a structurally separated internal control function or unit. The Bank takes into account the role of the Bank's Group entities in identifying the material processes with regard to their contribution to ensuring the achievement of the objectives of the Bank's internal control system.

2.4. Assessment of the members of the Management Board and Supervisory Board, information on the recruitment policy and the assessment of suitability

The members of the Bank's Management Board and Supervisory Board are subject to a suitability assessment in accordance with the regulations in place at the Bank, i.e.:

1) the Policy on the suitability of the members of the Management Board and key officers of the Bank and a suitability assessment in the Bank's Group companies (and the Principles and methods for suitability assessment of candidates for Management Board members and members of the Bank's Management Board).
2) The Policy for assessing the suitability of candidates for Supervisory Board members and members of the Bank's Supervisory Board.

The above-mentioned policies define the directions of actions taken with respect to the selection, appointment and succession planning of members of the Bank's Management Board and Supervisory Board and define the principles for assessing the suitability of these bodies. On the basis of these regulations, the Bank's Supervisory Board (with the participation of the Appointments and Remuneration Committee of the Supervisory Board, hereinafter: SBARC) makes decisions on the selection and suitability assessment of members of the Bank's Management Board, and the General Shareholders' Meeting (hereinafter: GSM) makes decisions on the selection and suitability assessment of candidates for and members of the Bank's Supervisory Board.

An assessment of the suitability of the members of the Bank's Management Board is carried out by the SBARC, by accepting a relevant assessment report, which is then approved by the Bank's Supervisory Board. The sources of data for the report include the information and documents submitted by candidates for members of the Management Board or persons already appointed to these positions. In making the assessment, the SBARC may be assisted by the Bank's unit responsible for human resources or an external consultant and use other sources of information. The report is forwarded to the Bank's Supervisory Board which, if it is required by the regulations and guidelines of the supervisory authorities, informs the PFSA of the results of the suitability assessments made.

Verification of suitability of the members and candidates for members of the Management Board takes the form of an individual and collective assessment. Such assessment is carried out as a preliminary assessment during the qualification procedure before appointing a Management Board member, and as a periodical assessment carried out once a year for persons already holding these positions. In other justified cases, in particular in the event of the occurrence of any circumstances affecting the individual or collective suitability assessment performed to date, an additional suitability assessment may be performed.

The GSM performs the individual suitability assessment of the individual candidates to and members of the Supervisory Board and the collective assessment of the whole Supervisory Board each time a new Supervisory Board member is appointed and once a year as part of the periodical assessment. The General Shareholders' Meeting may also perform an additional suitability assessment in other, justified situations, which affect the requirements addressed to the Supervisory Board or its individual members. Such additional assessments shall be initiated by the Bank.

The suitability assessment takes into account the criteria arising from the respective guidelines issued by a national or European supervisory authority and the requirements set out in the generally applicable laws, while focusing primarily on the assessment of qualifications understood as knowledge, experience and skills in the field of the relevant position, as well as in the field of supervision (the Supervisory Board), management (the Management Board), the structure of the Bank's Group and the related potential conflicts of interest, as well as sufficiently impeccable reputation. Additionally, the assessment involves the evaluation of integrity and adherence to ethical rules, the ability to formulate independent judgments and the possibility to dedicate a sufficient amount of time to performing the relevant duties, while taking into account the limitations on undertaking other activities.

The assessment of collective suitability, in addition to the guidelines and requirements set out in the generally applicable laws, is focused primarily on ensuring an appropriate "collective" level of knowledge, skills and experience in the context of the nature and scope of the Bank's operations and the material risks of such operations and in terms of the ability of the Management Board as a whole to manage the Bank and the Supervisory Board as a whole to supervise the Bank's operations.

The selection of Supervisory Board members also takes into account the fact that the Bank is obliged to have a sufficient number of independent Supervisory Board members who satisfy the independence criteria applicable to audit committee members, as specified in the Act on registered auditors, audit firm and public oversight.

In selecting the members of the Bank's Management Board and Supervisory Board, the principle of diversification of the members and the principles of succession management are taken into account. These principles are aimed at ensuring the continuity of decision-making and an appropriate selection of the Management Board and Supervisory Board members in order to obtain a wide range of competences, knowledge and skills adequate to the position, which guarantee that the members of the Management Board and the Supervisory Board will, individually and collectively, issue and make high quality independent opinions and decisions relating to the entire range of the Bank's operations.

When selecting the Management Board and Supervisory Board members, respectively, the Supervisory Board and the GSM strive to achieve a gender balance, or at least to achieve a minimum participation of the less numerous gender of 30%. However, the objectives of diversification in the composition of the Management Board and Supervisory Board are taken into account in the selection process only to the extent that it does not adversely affect the functioning and suitability of these bodies. More information on diversity is included in the Directors' Report on the operations of the PKO Bank Polski S.A. Group for 2020, prepared together with the Directors' Report on the operations of PKO Bank Polski S.A. for 2021 (11. Corporate Governance, 11.2.10 Policy for ensuring diversity in the composition of the Bank's Management Board and Supervisory Board).

In the course of the Management Board and Supervisory Board members carrying out their functions, pursuant to Article 395(2)(3) of the Commercial Companies Code, the Annual General Shareholders' Meeting acknowledges the fulfilment of duties by each member of the Management Board and Supervisory Board once a year. The acknowledgement of the fulfilment of duties represents a positive assessment of these persons' work, irrespective of the approval of the Directors' Report by the Annual General Shareholders' Meeting, whereas the absence of such acknowledgement represents a negative assessment of a Management Board or Supervisory Board member's work and, in consequence, may lead to his or her dismissal.

Due to the changes in the composition of the Bank's Management Board (11. Corporate governance; 11.2.9 The Management Board of PKO Bank Polski S.A. – composition, powers and principles of functioning) and the related changes in the internal division of powers within the Bank's Management Board, the Appointments and Remuneration Committee of the Supervisory Board performed:

- preliminary suitability assessments – associated with appointment of new Management Board members;
- periodical suitability assessments – associated with the annual suitability assessment of the existing members who remained on the Management Board of the Bank;
- additional suitability assessments – associated with the change of the internal division of powers in the Bank's Management Board;
- collective suitability assessments of the Bank's Management Board.

As a result of the assessments performed, the Appointments and Remuneration Committee each time confirmed the individual suitability of the newly appointed and existing Management Board members and the collective suitability of the Bank's Management Board, taking into account the personal changes made and the changes in the internal division of powers within the Bank's Management Board. The above suitability assessments were approved by the Supervisory Board of the Bank.

As at 31 December 2021, there were eight members of the Management Board. As at that date, all members of the Bank's Management Board met the requirements set out in Article 22aa of the Banking Law.

Overall, the members of the Bank's Management Board occupy 13 positions in the Supervisory Boards of other entities, most of which are the PKO Bank Polski S.A. Group companies, the Bank's joint ventures or associated entities. The number of positions occupied by the individual members of the Bank's Management Board complies with the requirements of Article 22aa, clauses 3-5 of the Banking Law.

The General Shareholders' Meeting, when making changes in the composition of the Supervisory Board in 2021 (twice) (11. Corporate governance, 11.2.8 Supervisory Board of PKO Bank Polski S.A. – composition, powers and principles of functioning, confirmed the individual suitability of the new Supervisory Board members in connection with their election for the current joint term and the collective suitability of the whole body, taking into account the changes in its composition. Moreover, the GSM confirmed the suitability of the existing members remaining on the Supervisory Board as part of the annual suitability assessment.

As at 31 December 2021, there were 11 members of the Supervisory Board. As at that date, all members of the Bank's Supervisory Board met the requirements set out in Article 22aa of the Banking Law.

Overall, the members of the Bank's Supervisory Board occupy 12 positions in the Management Boards and Supervisory Boards of other entities (mostly in the Supervisory Boards). The number of positions occupied by the individual members of the Supervisory Board complies with the requirements of Article 22aa, clauses 3-5 of the Banking Law.

2.5. Credit risk, including counterparty credit risk

2.5.1. Introduction

Credit risk is understood as the risk of incurring losses as a result of a customer defaulting on his or her liabilities to the Bank's Group or the risk of a decrease in the economic value of the Bank's Group receivables as a result of a deterioration in a customer's ability to service his or her liabilities.

The objective of credit risk management is to reduce losses on the loan portfolio and changes in the economic value of exposures on the wholesale market and to minimize the risk of the occurrence of loan exposures at risk of impairment to an acceptable level, while maintaining the expected level of profitability and value of the loan portfolio by shaping on-balance sheet and off-balance sheet items.

The Bank and its subsidiaries forming the Group are mainly guided by the following principles of credit risk management:
1) a lending transaction requires comprehensive credit risk assessment, which is reflected in an internal rating or credit scoring;

2) credit risk relating to lending transactions is measured at the stage of examining a loan application and on a regular basis, as part of the monitoring process, taking into consideration changes in external conditions and in the financial standing of the borrowers;
3) the credit risk of exposures which are material due to their risk level or value is assessed by credit risk assessment units which are independent of the business units;
4) the terms and conditions of a lending transaction offered to a customer depend on the assessment of credit risk level generated by the transaction;
5) credit decisions may be made only by authorized persons;
6) credit risk is diversified, in particular, in terms of geographical areas, industries, products and customers;
7) depending on the credit risk level, appropriate collateral is taken by the Bank to minimize potential future losses.

In the Bank's Group, as part of credit risk, the risk of foreign currency mortgage loans to households is identified. This risk is understood as the risk of incurring losses as a result of a customer defaulting on his or her liabilities to the Bank in respect of a foreign currency mortgage loan. This risk is considered material at the Bank.

2.5.2. Risk identification

The identification of credit risk consists of recognizing current and potential sources and factors affecting the credit risk level in the current and planned lending activities of the Bank's Group.

Credit risk identification involves determining the factors which have a significant impact on the level of credit risk in the operations of the Bank's Group and estimating their potential impact on the operations of the Bank's Group

Credit risk identification addresses both the existing and planned loan products offered to the customers of the Bank's Group, the processes of implementation of such products, using IT tools and databases.

2.5.3. Credit risk measurement, estimation and assessment

Credit risk measurement, estimation and assessment take place at customer level, individual lending transaction level and at the level of the loan portfolios of the Bank's Group. The measurement or estimation of credit risk involves carrying out stress tests of the risk related to credit exposures in foreign currencies and in PLN. The assumptions for conducting stress tests ensure a reliable measurement/ estimation of credit risk in the Bank's Group.

The measurement, estimation and assessment of portfolio credit risk includes periodical assessment of such risk taking into account all credit exposures of customers, as well as various aspects of the portfolio, such as customer groups or groups of loan products.

2.5.4. Credit risk measurement methods

Various measures are used to measure and assess portfolio credit risk, in particular:
1) probability of default (PD);
2) loss given default (LGD);
3) credit conversion factor (CCF);
4) expected loss (EL);
5) credit value at risk (CVaR);
6) the share and structure of credit exposures at risk of impairment;
7) the coverage ratio of impaired loans (Coverage Ratio);
8) the cost of credit risk;
9) stress testing.

PKO Bank Polski S.A. gradually improves the scope of its credit risk parameters, taking into account the IRB approach and expands the scope of application of risk measures so as to fully cover the Bank's loan portfolio with this approach.

The results of portfolio credit risk measurement are taken into account, in particular, in determining the profitability and pricing terms of new or modified loan products, the optimum threshold values conditioning the customer's access to financing by the Bank, determining allowances for expected credit losses and establishing bonus rules.

The process of assessing the Group's credit risk takes into account the requirements of the Polish Financial Supervision Authority as specified in the PFSA Recommendations. The Bank conducts analyses and stress tests, taking into account, in particular, the PFSA's Recommendations S, T and C. The Bank sets limits which constitute an internal tool determining the appetite for credit risk and concentration risk. These limits are a tool which supports the management of these risks. The stress tests and analyses concern the impact of potential changes in the macroeconomic environment on the quality of the Group's loan portfolio, and their results are presented in the reports for the Bank's bodies. The above information makes it possible to identify and take measures to reduce the negative effects of the impact of unfavourable market situations on the Group's performance.

2.5.5. Rating and scoring methods

The Bank assesses the risk of individual lending transactions using the scoring and rating methods which are created, developed and supervised by the Risk Management Area. The functioning of such methods is supported by specialist IT applications. The assessment method is defined in the Bank's internal regulations whose main purpose is to ensure a uniform and objective credit risk assessment in the lending process.

The credit risk assessment process at the Bank takes into account the requirements of the PFSA as defined in Recommendation S concerning good practices for the management of mortgage-secured credit exposures and Recommendation T concerning good practices for the management of retail credit exposures.

The Bank assesses the credit risk of retail customers from two perspectives: credit standing in terms of quantity and quality. The assessment of credit standing in terms of quantity consists of examining a customer's financial position, whereas the assessment of credit standing in terms of quality (the assessment of creditworthiness) covers credit scoring and the assessment of information about the customer's credit record, obtained from the Bank's internal databases and external databases.

In the case of companies and enterprises which meet specific criteria, the Bank assesses credit risk using the scoring method. This assessment concerns low-value, non-complex lending transactions and is performed in two perspectives: a customer's credit standing and creditworthiness. The assessment of credit standing consists of examining the customer's ability to settle his or her liabilities, whereas the assessment of the customer's creditworthiness covers credit scoring and the assessment of the past and present conduct of an enterprise and its owners (natural persons) in their lending dealings with banks. In other cases, the credit rating method is used.

The assessment of credit risk related to financing institutional customers is performed in two perspectives: the customer and the transaction. The assessment measures comprise assessing the customer's credibility, i.e. credit rating, and assessing the transaction, i.e. the ability to repay the liability in a specific amount and within a specified time limit. The rating models for institutional customers are developed using the Bank's internal data, thus ensuring that they are tailored to the risk profiles of the Bank's customers. The models are based on a statistical analysis of the relationship between default and a customer's risk scoring. The customer's risk assessment is dependent on the size of the enterprise for which the analysis is conducted and the industry in which the customer conducts business activities. In addition, the Bank uses a model for the assessment of enterprises credited using a specialist financing formula which makes it possible to adequately assess the credit risk of large projects consisting of financing real estate (e.g. office space, retail space, storage space) and infrastructure projects (e.g. telecommunications, industrial, and public utility infrastructure).

Risk assessment models are subject to monitoring at least once a quarter in accordance with the Bank's internal regulations regarding periodical verification of credit risk models. They are also subject to regular independent validation conducted by the Model Validation Department.

The rating and scoring information is widely used at the Bank in credit risk management within the system of competences to make lending decisions and within the system for credit risk measurement and reporting.

2.5.6. Credit risk control

Credit risk control consists of defining tools for diagnosing the credit risk level, applying credit risk controls to reduce the level of that risk and complying with the controls as part of credit risk management, both in lending processes and at portfolio level.

The Bank and the Bank's Group use, in particular, the following risk control tools and mechanisms to manage credit risk:

1) strategic credit risk and concentration risk tolerance limits;
2) internal credit risk or concentration risk limits;
    a) limits which define the level of tolerance for portfolio credit risk and concentration risk;
    b) industry-specific limits;
    c) competence limits;
3) verification of the quality of lending processes;
4) a branch's rating;
5) thresholds initiating risk analysts' participation in credit risk assessment.

The Bank and the Bank's Group set internal limits of tolerance for portfolio credit risk, in particular, with regard to:

1) industry segments;
2) mortgage-secured credit exposures and retail credit exposures;
3) credit portfolio quality;
4) portfolio structure by product/segment/currency/distribution channel;
5) the maximum and individual ratios of the expenditures related to servicing loan and financial liabilities to retail customers' income;
6) duration of a lending transaction;
7) exposures resulting from leveraged transactions.

The Bank controls the level of its credit exposure to its customers or groups of related customers within the meaning of the Banking Law by setting the maximum level of powers required to make lending decisions concerning lending transactions, including changes in their terms and conditions, and the maximum limits of the competences for these levels, as referred to in the Bank's internal regulations concerning the segregation of competences to make lending decisions. As part of monitoring the competence limits, the Bank verifies, in particular, the level of the lending competences of the authorized persons and the validity of the lending competence certificates awarded to these persons.

The Bank and the entities in the Bank's Group monitor and control the utilization of strategic credit risk tolerance limits and internal limits on a monthly and quarterly basis. The results of the monitoring are presented in the monthly information for the members of the Risk Committee and in the quarterly or monthly report on credit risk at PKO Bank Polski S.A., respectively. Where the level of utilization of a strategic limit exceeds the set threshold, the Bank initiates measures to prevent the set level from being exceeded.

2.5.7. Credit risk forecasting and monitoring

Forecasting credit risk and concentration risk consists of predicting the future level of credit risk and concentration risk, taking into account the assumed projection of the development of lending activities and external and internal events. Monitoring credit risk consists of monitoring deviations of the actual values from the forecasts or the assumed points of reference (e.g. limits, thresholds, plans, prior period measurements, recommendations and guidance issued by an external supervisory and control authority), as well as conducting specific and comprehensive stress tests.

Risk level forecasting is subject to backtesting.

Credit risk is monitored for individual lending transactions and for portfolios.

Credit risk monitoring for individual lending transactions is defined, in particular, in the Bank's internal regulations concerning:
1) the assessment of the Bank's credit risk related to financing its customers;
2) customer assessment methodologies or methods;
3) identification of groups of related entities;
4) evaluation of collateral and inspection of real estate and investment projects;
5) recognizing allowances for expected credit losses;

6) the Early Warning System (EWS);
7) operating activities within the lending process.

In order to reduce the time of response to the observed warning signals indicating an increase in the credit risk level, the Bank uses and develops an EWS IT application as well as scoring models used for behavioural assessment.

2.5.8. Risk concentration

The objective of concentration risk management is to ensure a safe loan portfolio structure by mitigating the risks arising from excessive concentrations of exposures which have the potential to generate losses large enough to threaten the financial standing of the Bank's Group or its ability to carry on its core operations or lead to a significant change in the risk profile of the Bank's Group.
The Bank's Group identifies concentration at portfolio level and concentration at entity level.

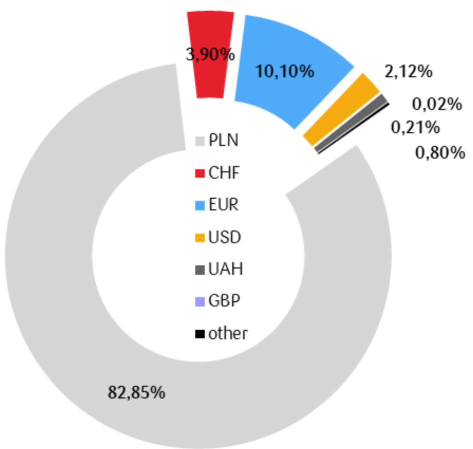
The Bank's Group monitors exposure concentration risk in relation to:
1) exposures to individual customers and groups of related customers, including large exposures;
2) exposures to groups of customers or loan portfolios exposed to a single risk factor

The risk of concentration of exposures to individual customers and groups of related customers is monitored in relation to the exposure concentration limit, where the total individual exposure may not exceed 25% of consolidated own funds (Tier 1 capital).

In the process of monitoring the concentration of exposures at entity level, the Bank takes into account:
1) the daily monitoring of the level of concentration of large exposures within the meaning of Article 392 of the CRR (if an exposure reaches or exceeds 10% of the Bank's capital, the Bank immediately informs the PFSA);
2) a monthly check of the utilization of the limits arising from Article 395(1) of the CRR and from Article 79a(4) of the Banking Law;
3) a quarterly check of internal limits on the risk of concentration at entity level;
4) identification of warning signals and initiating measures aimed at preventing limits from being exceeded;
5) performing stress tests for concentration risk (including scenarios which are the input for comprehensive stress tests that make it possible to assess the impact of correlated factors of credit risk, interest rate risk, currency risk, operational risk and liquidity risk on the level of the Bank's expected credit loss).

Moreover, the Bank's Group analyses concentration risk for:
1) geographical regions;
2) currencies;
3) industry sectors;
4) mortgage-secured credit exposures;
5) the largest entities;
6) the largest groups.

Chart 2.1. Capital Group credit portfolio currency structure (balance and off-balance)



EUR-denominated exposures constitute the largest part of the foreign currency exposure of the Bank's Group, and they relate to the Bank's loan portfolio. The share of these loans in the foreign currency portfolio amounted to 58.88% as at the end of 2021, which represents a 7.01 p.p. increase compared with the end of 2020. Another group of foreign currency loans are loans in CHF which represented 22.76% of the Group's foreign currency portfolio as at the end of 2021, which represents a 10.99 p.p. drop compared with the end of 2020.

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Table 2.1. Exposures towards the 10 biggest clients

No.	2021		2020	
	Value*	Own funds percentage	Value*	Own funds percentage
1	5 939	15,4%	2 831	6,8%
2	2 607	6,8%	2 453	5,9%
3	2 453	6,4%	2 367	5,7%
4	2 377	6,2%	2 273	5,5%
5	1 984	5,2%	2 268	5,5%
6	1 774	4,6%	2 121	5,1%
7	1 756	4,6%	2 047	4,9%
8	1 549	4,0%	1 865	4,5%
9	1 538	4,0%	1 593	3,8%
10	1 485	3,9%	1 310	3,2%
Total	23 462	60,9%	21 127	50,9%

* Total (on-balance sheet and off-balance sheet) exposure to non-bank customers, which is the basis for determining the exposure concentration limit. The chart does not include any items which are excluded from the concentration limit.

As at 31 December 2021 and 31 December 2020, concentration limits were not exceeded. As at 31 December 2021, the largest exposure of the Bank's Group to a single entity accounted for 15.4% of the consolidated Tier 1 capital.

As at 31 December 2021, the largest concentration of the exposure of the Bank's Group to a group of related customers within the meaning of the Banking Law accounted for 16.3% of the consolidated Tier 1 capital.

Table 2.2. Exposure towards 5 biggest capital groups*

No.	2021		2020	
	Value	Own funds percentage	Value	Own funds percentage
1	6 287	16,3%	3 623	8,7%
2	2 977	7,7%	2 748	6,6%
3	2 896	7,5%	2 666	6,4%
4	2 868	7,4%	2 629	6,3%
5	2 744	7,1%	2 453	5,9%
Total	17 772	46,1%	14 119	34,0%

*Total (on-balance sheet and off-balance sheet) exposure to groups of related non-bank customers, which is the basis for determining the exposure concentration limit. The table does not include any items which are excluded from the concentration limit.
**The table does not include the exposures to the State Treasury (the information concerns groups controlled by the State Treasury)

Table 2.3. Maturity of exposures [template EU CR1-A]

PKO Bank Polski S.A.*		31.12.2021				
		a, b	c	d	e	f
		Net exposure value				
		On demand and <= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
1	Loans and advances	56 405	83 100	80 469	-	219 974
2	Securities	7 244	71 867	51 367	362	130 840
3	Off-balance sheet items	48 415	24 300	13 799	-	86 514
4	Total	112 064	179 267	145 635	362	437 328

(*) data is presented on a stand-alone basis

2.5.9. Impairment of credit exposures

In the area of impairment, the Bank's Group applies IFRS 9 which is based on the concept of expected losses.
The impairment model is applicable to financial assets which are not measured at fair value through profit or loss, including:
1) debt financial instruments comprising credit exposures and securities;
2) lease receivables;
3) off-balance-sheet financial and guarantee exposures.
In accordance with IFRS 9, no expected credit losses are recognized for equity investments.

The impairment of credit exposures is measured as 12-month or lifetime expected credit losses on an asset. The time horizon of an expected loss depends on whether a significant increase in credit risk occurred since the moment of initial recognition. Based on this criterion, financial assets are allocated to 4 stages:

1) Stage 1 – assets in the case of which credit risk is not significantly higher than the credit risk on the date of their initial recognition, and no indication of impairment has been recognized for them;
2) Stage 2 – assets in the case of which credit risk is significantly higher than the credit risk on the date of initial recognition of the exposure, but no indication of impairment has been recognized for them;
3) Stage 3 – assets for which an indication of impairment has been recognized;
4) Stage 4 – assets granted or purchased with an indication of impairment recognized (on the date of granting or purchasing) (POCI).

In order to assess a significant increase in credit risk for mortgage exposures and other retail exposures, the Bank's Group uses a model based on calculating the marginal PD, i.e. the probability of default in a specified month calculated from the date of origination of an exposure. The Bank identifies an indication of a significant increase in risk for a given exposure based on the comparison of probability-of-default curves over the exposure horizon as at the date of initial recognition and as at the reporting date.

In order to assess a significant increase in credit risk for institutional customers, the Bank's Group uses a model based on Markov chains. The curve of the maximum acceptable deterioration in credit quality over time, which is not identified as a significant increase in credit risk, is calculated on the basis of probabilities of default estimated based on the migration of customers between individual rating and scoring classes.

In order to identify other indications of a material increase in credit risk, the full qualitative and quantitative information available is used, including:

1) forbearance measures providing concessions to a borrower due to his or her financial distress;
2) delinquency in the repayment of a material amount of principal or interest of more than 30 days, with the exception of credit exposures in respect of interbank deposits, debt securities held by the Group, guarantees for debt security issues, receivables in respect of purchase of securities with a repurchase clause or in respect of "old portfolio" housing loans, in the case of which such delinquency is not an indication of impairment;
3) a material increase in the probability of insolvency compared with the probability of insolvency on the date of initial recognition of a credit exposure;
4) classification of a credit exposure or customer to the Watch List in a given customer segment;
5) early warning signals identified during the monitoring process, indicating a significant increase in credit risk;
6) a significant increase in the LTV ratio (for retail mortgage loans);
7) an analyst's assessment as part of the individualized analysis process.

The indications of default and impairment of a credit exposure include, in particular:

1) delinquency in the repayment of a material amount of principal or interest of more than 90 consecutive days;
2) deterioration in the debtor's economic and financial position or a threat to the completion of the investment project financed in the lending period, expressed by putting the debtor into a rating class or risk class indicating a significant threat to debt repayment;
3) the conclusion of a forbearance agreement or the application of relief in the settlement of a receivable due to economic or legal reasons resulting from a customer's distress (until the receivable is recognized as healed);
4) filing a petition in bankruptcy against a debtor, putting the debtor in liquidation or initiating enforcement proceedings against the debtor;
5) declaration of consumer bankruptcy by any of the joint borrowers;
6) information on the death of all borrowers who are natural persons or entrepreneurs running individual business activity or a civil partnership (unless such business activity is continued by a successor).

Changes in the terms and conditions of an agreement, agreed with a debtor or an issuer, forced by their distress (forbearance measures introducing concessions which otherwise would not be granted) are considered forbearance and an indication of impairment. The objective of forbearance is to restore a debtor's or an issuer's ability to fulfil their obligations to the Bank's Group and to maximize the effectiveness of non-performing loan management, i.e. obtaining the highest recoveries possible while minimizing the related costs.

Changes in repayment terms made as part of forbearance may consist of:

1) dividing the debt due into instalments;
2) changing the repayment scheme (annuities, degressive instalments);
3) extending the loan period;
4) changing the interest rate;
5) changing the margin;
6) reducing the amounts due.

Granting concessions recognized as indications of impairment as part of forbearance results in the recognition of a default event and the classification of a credit exposure in the non-performing exposure portfolio. The exposure is excluded from this portfolio (a forbearance agreement ceases to be recognized as an indication of impairment) after 12 months from the introduction of forbearance, provided that all past due payments and at least six instalments arising from an agreed schedule are settled during this period, and the customer's current financial position does not pose, in the Bank Group's opinion, a threat to his or her compliance with the terms and conditions of the forbearance agreement (unless forbearance includes reducing the amounts due).

Exposures subject to forced forbearance cease to meet the criteria for exposures under forbearance status no earlier than after 24 months from the time this status ceases to be recognized as an indication of impairment, provided that the customer has repaid at least 12 instalments in the target amount and has no debt past due by more than 30 days as at the end of that period.

Information concerning forbearance at the Bank's Group level is described in the consolidated financial statements of the PKO Bank Polski S.A. Group as at and for the year ended 31 December 2021 (Note 68).

Under the portfolio approach, the expected loss is determined as the product of credit risk parameters: probability of default (PD), loss given default (LGD) and exposure at default (EAD), with each of these parameters having the form of a vector with the number of months covering the credit loss estimation horizon. In the case of exposures classified as Stage 1, the Bank uses a 12-month expected loss estimation horizon at most. In the case of exposures classified as Stages 2, 3 or 4, the expected loss is estimated over the horizon up to the maturity of an exposure or its renewal. With regard to retail exposures without a repayment schedule, the Bank determines such horizon based on behavioural data arising from past observations. The expected loss both throughout the exposure period and over a 12-month period is the total of expected losses in individual periods, discounted at the effective interest rate. In order to determine the value of an asset at the time of default in a given period, the Bank adjusts the parameter determining the exposure value at the time of default for future repayments arising from the repayment schedule and potential overpayments and underpayments.

The calculation of expected credit losses takes into account estimates concerning future macroeconomic conditions. As regards the portfolio analysis, the impact of macroeconomic scenarios is taken into account in the values of individual risk parameters. The methodology of calculation of risk parameters covers examining the dependence of the values of these parameters on macroeconomic conditions, based on historical data. For the purposes of calculating the expected loss, three macroeconomic scenarios based on own forecasts are used, namely the base scenario and two alternative scenarios. The range of the forecast indicators includes the GDP growth rate, unemployment rate, WIBOR 3M, Libor CHF 3M, CHF/PLN exchange rate, property price index, and the NBP reference rate. The final expected loss is the average of the expected losses corresponding to the individual scenarios, weighted by the probability of the scenarios. The Bank's Group ensures the consistency of the macroeconomic scenarios used for calculating risk parameters with the macroeconomic scenarios used in credit risk budgeting processes.

In the event of identifying an indication of impairment of individually significant exposures, the expected credit loss on an exposure is determined using the individual method as the difference between its gross carrying amount (in the case of an off-balance sheet credit exposure – the value of its on-balance sheet equivalent) and the present value of expected future cash flows determined taking into account possible scenarios regarding the performance of the agreement and management of the credit exposure, weighted by the probability of their implementation.

The individual method of measurement of the expected loss is also used for individually significant exposures which do not show any indications of impairment, in the case of which the use of portfolio parameters in the calculations would be unjustified due to the specific nature of the case.

Both the assessment of a material increase in credit risk and the calculation of the expected loss are performed on a monthly basis at individual exposure level. They use a computing environment which makes it possible to distribute the results to the Bank Group's internal units.

The indications for classifying credit exposures as non-performing items (at risk of default) are consistent with the indications of default and impairment.

Past due exposures include credit exposures in the case of which there is delinquency in principal or interest payments, concerning amounts exceeding the quantitative thresholds taken into account when recognizing the past due status as impairment.

As far as a specific credit risk adjustment is concerned, the Bank's Group uses the impairment loss on assets which was included in the Bank's Tier 1 funds, in accordance with the CRR and the CRR implementing rules.

2.5.10. Credit risk reporting

Credit risk reporting includes providing periodical information on the scale of exposure to credit portfolio risk.

The Bank prepares monthly and quarterly credit risk reports. In addition to the information concerning the Bank, the reports also contain information on the credit risk level of the entities in the Bank's Group in which a material credit risk level has been identified (among other things, in the KREDOBANK S.A. Group, PKO Leasing SA Group, and PKO Bank Hipoteczny S.A). The scope of reporting takes into account recommendations addressed to the Bank by the regulators.

Moreover, the Bank prepares daily, weekly, monthly and quarterly reports on credit exposures in respect of transactions in derivative instruments, concluded with financial institutions and non-financial institutional entities. The reports contain information on credit exposures in respect of derivative instruments concluded with financial institutions and non-financial institutional entities as well as information on the utilization of limits. The users of the reports are mainly the BCC, ALCO, RC, the Management Board and the Supervisory Board.

2.5.11. Credit risk related management activities

The objective of management activities is to shape and optimize the credit risk management system and the level of credit risk in the Bank's Group.

The management activities in credit risk management include, in particular:
1) issuing internal regulations governing the credit risk management system in the Bank and the Bank's Group;
2) issuing recommendations, guidelines on conduct, clarifications and interpretations of the internal regulations of the Bank and the Bank's Group;
3) making decisions regarding the acceptable level of credit risk, including, in particular, lending decisions;
4) designing and improving credit risk control tools and mechanisms which enable the credit risk level to be maintained within the limits accepted by the Bank and the Bank's Group;
5) designing, implementing, monitoring and amending the functioning of controls in credit risk management;
6) designing and improving credit risk assessment methods and models;
7) developing and enhancing IT tools used in credit risk management;
8) planning activities and issuing recommendations and guidelines.

The collateral policy plays a special role in determining the terms and conditions of lending transactions. The objective of the collateral policy pursued by the Bank and the entities in the Bank's Group is to properly hedge the credit risk to which the Bank's Group is exposed, including, in the first place, to establish the most liquid collateral. Collateral may be considered liquid if it can be sold without a significant reduction in its price and within a timeframe which does not expose the Bank to a change in the value of the collateral due to the fluctuation of prices which is typical of given collateral. The Bank's Group strives to diversify its collateral (both in terms of forms and the assets collateralized). The Bank's Group assesses collateral in terms of the actual possibility to use it as a potential source from which its claims may be satisfied.

2.5.12. Use of credit risk mitigation techniques

The main credit risk mitigating techniques include an adequate assessment of customer and transaction risk, a system of limits (as described in the sections above) and collateral for lending transactions.

The collateral policy of the PKO Bank Polski S.A. Group defines the rules for establishing and remeasuring collateral as well as the procedures to be followed if the limits used are exceeded, in order to hedge against risk. The relevant methods set out in the internal regulations of the PKO Bank Polski S.A. Group are used.

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Market value is the basis for assessing the value of real estate, tangible collateral and rights. The market value of a collateralized asset is determined on the basis of an estimation made by the PKO Bank Polski S.A. Group or an appraisal prepared by an independent expert, verified in accordance with other regulations concerning the assessment of collateral, including the assessment of real estate.

The following factors are taken into account, in particular, in the assessment of collateral:
1) the economic, financial and economic or social and financial position of entities which provide personal guarantees;
2) the condition and market value of the tangible assets collateralized and their susceptibility to depreciation during the life of the collateral (the impact of technological obsolescence of the collateralized assets on their value);
3) the condition and market value of real estate and data adequate to the type of real estate which make it possible to estimate the level of risk related to the portfolio of a given type of collateral effectively and to manage such risk;
4) the potential economic benefits arising from a specific method of securing receivables, including, in particular, the possibility to reduce impairment losses;
5) the method of establishing collateral, including the typical duration and complexity of formalities, as well as the necessary costs (the costs of holding collateral and enforcement against the collateral), using the internal regulations concerning the assessment of collateral;
6) complexity, duration as well as the economic and legal conditions for the effective enforcement against collateral, in the context of enforcement limitations and the existing rules of distribution of the amounts obtained from individual enforcement or in the course of bankruptcy proceedings, debt seniority.

Taking specific types of collateral is dependent on the product and the customer segment.

In granting loans for financing residential and commercial real estate, collateral is mandatorily established in the form of a mortgage on real estate.

Until collateral is established effectively (depending on the type of loan and its amount), temporary collateral in a different form may be taken.

In granting consumer loans, usually personal collateral (a guarantee under civil law or an aval) is taken or a bank account, a car or securities are collateralized.

Collateral for loans for financing companies and enterprises as well as corporate customers is established, among other things, on business receivables, bank accounts, movables, real estate or securities or in the form of a guarantee (commonly used in the case of companies and enterprises).

In calculating the own funds requirement for credit risk, the Bank's Group does not use any credit derivatives as collateral for risk in accordance with the CRR (Article 453 d).

The State Treasury is the main type of guarantor and therefore, the source of concentration, accounting from more than 99% of all proceeds from guarantees. The value of financial collateral is determined using the financial collateral comprehensive method referred to in Article 223 of the CRR. The principles for recognizing the provider and forms of collateral comply with Part Three, Title II, Chapter 4 of the CRR.

Table 2.4. CRM techniques overview: Disclosure of the use of credit risk mitigation techniques [template EU CR3]

		31.12.2021				
		Unsecured carrying amount	Secured carrying amount			
				Of which secured by collateral	Of which secured by financial guarantees	
						Of which secured by credit derivatives
		a	b	c	d	e
1	Loans and advances*	90 627	169 530	169 223	308	-
2	Debt securities	132 723	-	-	-	
3	Total	223 350	169 530	169 223	308	-
4	*Of which non-performing exposures*	7 444	2 916	2 899	17	-
EU-5	*Of which defaulted*	7 258				

* The 'Total loans and advances' line shows all exposures less debt securities which are contained in a separate line.

2.5.13. Information on the use of standardised method

The use of external credit assessment institutions (ECAI)

In the process of calculating own funds requirements, the Bank uses the credit assessments assigned by the following external credit assessment institutions (ECAI):

1) Moody's Investors Service;
2) Standard and Poor's Ratings Services;
3) Fitch Ratings.

The Bank's Group does not use the assessments of export credit agencies in the process of calculating own funds requirements.

Credit assessments used to determine risk weights for exposures to counterparties in the following categories:

1) central governments or central banks;
2) institutions;
3) enterprises;
4) regional self-governments or local authorities.

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The princples of applying external ratings and the process of applying an assessment of an issuer and the issues to the non-trading book items for the purposes of calculating own funds requirements is in line with the provisions of Part Three, Title II, Chapter 2 of the CRR and the regulation issued pursuant to Article 136 of the CRR on the mapping of credit assessments of external credit assessment institutions for credit risk (2016/1799).

Table 2.5. Credit risk exposure and CRM effects - standardised approach [template EU CR4]

Exposure classes		31.12.2021					
		Exposures before CCF and before CRM		Exposures post CCF and post CRM		RWAs and RWAs density	
		On-balance-sheet exposures	Off-balance-sheet exposures	On-balance-sheet exposures	Off-balance-sheet amount	RWEA	RWEA density (%)
		a	b	c	d	e	f
1	Central governments or central banks	112 063	0	131 455	25	8 735	6,6%
2	Regional government or local authorities	11 617	2 908	11 700	1 720	2 684	20,0%
3	Public sector entities	608	2 736	576	1 266	920	49,9%
4	Multilateral development banks	3 652	-	3 652	-	-	0,0%
5	International organisations	-	-	-	-	-	-
6	Institutions	1 918	6 678	1 918	3 462	1 795	33,4%
7	Corporates	63 433	45 566	46 160	11 936	55 787	96,0%
8	Retail	70 794	17 176	67 371	4 412	49 768	69,3%
9	Secured by mortgages on immovable property	106 634	2 367	106 413	745	57 659	53,8%
10	Exposures in default	5 135	367	5 007	75	6 498	127,9%
11	Exposures associated with particularly high risk	1 296	1 544	835	346	1 771	150,0%
12	Covered bonds	-	-	-	-	-	-
13	Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-
14	Collective investment undertakings	451	-	451	-	718	159,4%
15	Equity	440	-	440	-	1 064	242,1%
16	Other items	27 150	6	27 150	3	8 788	32,4%
17	TOTAL	405 191	79 348	403 129	23 989	196 186	45,9%

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Table 2.6. Standardised approach [template EU CR5]

	Exposure classes	31.12.2021																
		Risk weight															Total	Of which unrated
		0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Inne		
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
1	Central governments or central banks	126 657	-	-	-	677	-	-	-	-	1 178	-	2 969	-	-	-	131 480	-
2	Regional government or local authorities	-	-	-	-	13 420	-	-	-	-	-	-	-	-	-	-	13 420	13 347
3	Public sector entities	-	-	-	-	3	-	1 838	-	-	-	-	-	-	-	-	1 842	1 842
4	Multilateral development banks	3 652	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3 652	3 652
5	International organisations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Institutions	-	-	-	-	4 122	-	578	-	-	681	1	-	-	-	-	5 380	19
7	Corporates	-	-	-	-	121	-	574	-	-	57 401	-	-	-	-	-	58 095	51 761
8	Retail	-	-	-	-	-	-	-	-	71 784	-	-	-	-	-	-	71 784	71 784
9	Secured by mortgages on immovable property	-	-	-	-	-	83 831	3 510	-	88	4 771	14 958	-	-	-	-	107 158	107 158
10	Exposures in default	-	-	-	-	-	-	-	-	-	2 250	2 832	-	-	-	-	5 082	5 082
11	Exposures associated with particularly high risk	-	-	-	-	-	-	-	-	-	-	1 181	-	-	-	-	1 181	1 181
12	Covered bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Unit or shares in collective investment undertakings	-	-	-	-	-	-	-	-	-	6	400	45	-	-	-	451	451
15	Equity	-	-	-	-	-	-	-	-	-	23	-	416	-	-	-	440	440
16	Other items	17 270	-	-	-	1 369	-	0	-	-	8 514	-	-	-	-	-	27 153	27 153
17	TOTAL	147 579	-	-	-	19 712	83 831	6 500	-	71 872	74 822	19 371	3 430	-	-	-	427 117	283 869

The table above presents the total exposure amount of the on-balance sheet and off-balance sheet items of the Bank's Group of PLN 433 531 million, which represents the total exposure net of specific credit risk adjustments and impairment losses and after applying the relevant conversion factors for off-balance sheet exposures, i.e. after multiplying the exposure amounts of off-balance sheet items by the corresponding factors of 0%, 20%, 50% or 100%.

As at 31 December 2021, the Bank did not use on- and off-balance sheet netting pursuant to Article 205 of the CRR, therefore, Article 453(a) of the CRR, regarding the disclosure of information about the policies and processes for on- and off-balance sheet netting and the extent to which a given entity makes use of such netting is not applicable.

As at 31 December 2021, the Bank used the effect of contractual netting agreements for the purposes of determining the balance sheet equivalent for derivative transactions, in accordance with Article 298 of the CRR. Such agreements are concluded primarily with institutional counterparties. They enable the settlement, also in the event of the insolvency of one of the parties, of all transactions covered by a given agreement with one amount being the total of the market values of individual transactions. The contractual netting agreements used meet the requirements of Articles 295-297 of the CRR.

Exposures to the counterparty credit risk

On the wholesale market, PKO Bank Polski S.A. cooperates with financial institutions whose registered offices are located in 69 countries. The Bank may enter, within the set limits, into transactions with 375 counterparties, including domestic and foreign banks, insurance companies, pension funds and investment funds. Transactions include investment and deposit transactions, transactions in securities, foreign exchange transactions and derivative transactions.

The Bank has access to two clearing houses – CCP (in one clearing house – as an indirect participant, and in the other one – as a direct participant) through which it clears the interest rate derivative transactions specified in the EMIR,[6] concluded with selected domestic and foreign counterparties. In addition, the Bank plays the role of a clearing broker in one of the clearing houses – it acts as an intermediary in the central clearing of the aforementioned derivative transactions concluded by the Bank's customers. The Bank determines limits within which it manages exposures to central counterparties.

In order to mitigate the credit risk of derivative transactions and transactions in securities, the Bank enters into framework agreements with its counterparties (according to the Polish Bank Association, ISDA and ICMA standards). They enable the offsetting of the parties' mutual due obligations (a reduction in settlement risk) and undue obligations (a reduction in pre-settlement risk) arising from transactions, as well as the use of close-out netting at the time of termination of the framework agreement as a result of a breach or justification for the termination in relation to one or two parties to the agreement.

In addition, the Bank concludes collateral agreements (CSA – Credit Support Annex according to the ISDA standard or Collateral Agreements according to the standards of the Polish Bank Association) with its counterparties, under which each of the parties, after meeting the conditions set out in the agreement, undertakes to establish appropriate collateral along with the right to its netting, except for transactions in derivative instruments concluded by and between the Group entities: PKO Bank Polski S.A. and PKO Bank Hipoteczny S.A., which are exempted from the obligation to exchange collateral under Article 4(2) of the EMIR. Under CSA collateral agreements, the Bank only accepts or provides solely cash and cash equivalents, which reduces its exposure to the risk of excessive or negative correlation with the counterparty's exposure or financial condition.

For lending transactions with financial institutions which have their registered offices outside the Republic of Poland, the international standards on loan agreements of the Loan Market Association are used.

Entering into a framework agreement with a counterparty forms the basis for verifying the internal limit per counterparty and the periods of the Bank's exposures to forward transactions or securities repurchase agreements.

The Bank monitors the financial standing of its counterparties on an ongoing basis and establishes exposure limits adequate to the risk incurred for pre-settlement and settlement exposures of individual counterparties. The Bank sets credit and settlement limits. A credit limit defines the Bank's maximum exposure to a specific counterparty or country in respect of wholesale market operations. A settlement limit defines the maximum acceptable amount of proceeds from a single counterparty or country within one day.

According to the methodology in place at the Bank, the amounts of limits for financial institutions are dependent on, among other things, a counterparty's rating and the level of own funds of the Bank and of the counterparty, and in the case of non-financial institutions also on a treasury survey which determines a customer's demand for hedging transactions and the expected gain or loss on a transaction.

The Bank manages the risk of adjustment to the valuation of derivatives for counterparty credit risk as part of credit risk management. The assessment of counterparty credit risk forms a basis for the estimation of CVA and DVA adjustments.

The amount of internal capital for the credit risk of the insolvency of counterparties which are a financial institution, a country or a central bank is determined on the basis of the balance-sheet equivalent of on-balance sheet and off-balance sheet transactions. Depending on the rating, exposures are included in the individual credit quality steps and assigned the relevant risk weight calculated using internal methods. Monitoring and reporting internal capital levels for counterparty risk constitutes one of the elements of managing that risk.

As at 31 December 2021, the Bank had CSA collateral agreements with its counterparties, in which the amount of collateral is linked to the Bank's rating. If the Bank's rating should be lowered below the level defined in a given agreement, the amount of the collateral posted by the Bank on a daily basis may be modified according to the methodology described in the agreement or additional initial margin collateral may be required. As at the date of this Report, the outflow in respect of posting additional collateral if the Bank's rating should be lowered by 3 notches would amount to approx. PLN 1 438 million.

As at 31 December 2021, the positive gross fair value of derivative instruments concluded with financial institutions amounted to PLN 4 128 million. This amount was calculated by adding up the positive market values for all open transactions. The net credit exposure, after taking into account the netting of transactions for counterparties with framework agreements, was PLN 1 979 million (excluding centrally cleared transactions). The benefits of the netting amounted to PLN 2 148 million. The value of the collateral taken from the counterparties under the CSA agreements and the PBA collateral agreements was PLN 1 923 million.

As at 31 December 2021, the Bank took into account adjustments for credit valuation in the valuation of derivative financial instruments. In the adjustment, the Bank took into account the market value of credit risk from the Bank's perspective. The analysis covered all exposures. In particular, the adjustment

[6] EMIR (European Market Infrastructure Regulation) – Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories which entered into force on 16 August 2012.

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took into account the risk of non-performance of the agreements concluded with a counterparty based on, among other things, an analysis of the economic and financial standing of the entities, the probability of repayment of the individual contracts, and the recoverable amount of collateral.

The financial institutions with which the Bank enters into transactions on the interbank market have various external ratings between AAA and BB (Table 2.7).

Table 2.7. Quality of exposures* to financial institutions**

	PKO Bank Polski SA
Rating	2021
AAA	25,71%
AA	5,83%
A	59,97%
BBB	7,35%
BB	0,03%
B	0,00%
CCC	0,00%
No rating	1,10%
Total	100,00%

* Exposure is the total nominal exposures in respect of deposits, nostro accounts and securities and the total valuations of derivative instruments after their netting for the counterparties with which there are effective framework netting agreements. The exposures in respect of derivative instruments presented in this table do not include the collateral posted by the counterparties, which reduce this exposure.
** Exposures to institutions from outside the Bank's Group.

The above list is based on external ratings assigned by Moody's, Standard and Poor's Ratings Services and Fitch, mapped to a uniform rating scale.

The value of exposures to counterparty risk is calculated using the standardised method according to Part Three, Title II, Chapter 6, Section 3 of the CRR. In order to determine the current replacement cost of all contracts with positive values, the Bank attaches the current market values to the contracts.

As at the end of 2021, neither the Bank's Group nor the Bank held any credit derivatives used to reduce capital requirements. Consequently, table EU CCR6 has not been presented.

The table below presents the methods used to calculate the own funds requirement for counterparty credit risk
(excluding exposures to central counterparties)

Table 2.8. Analysis of CCR exposure by approach [template EU CCR1]

		31.12.2021							
		a	b	c	d	e	f	g	h
		Replacement cost (RC)	Potential future exposure (PFE)	EEPE	Alpha used for computing regulatory exposure value	Exposure value pre-CRM	Exposure value post-CRM	Exposure value	RWEA
EU1	EU - Original Exposure Method (for derivatives)	-	-		1.4	-	-	-	-
EU2	EU - Simplified SA-CCR (for derivatives)	-	-		1.4	-	-	-	-
1	SA-CCR (for derivatives)	2 751	3 020		1.4	10 577	8 079	7 092	4 732
2	IMM (for derivatives and SFTs)			-	-	-	-	-	-
2a	Of which securities financing transactions netting sets			-		-	-	-	-
2b	Of which derivatives and long settlement transactions netting sets			-		-	-	-	-
2c	Of which from contractual cross-product netting sets			-		-	-	-	-
3	Financial collateral simple method (for SFTs)					-	-	-	-
4	Financial collateral comprehensive method (for SFTs)					43	-	-	-
5	VaR for SFTs					-	-	-	-
6	Total					10 620	8 079	7 092	4 732

The table below presents the value and amount of exposure to the risk for transactions which are subject to the own fund requirement for credit valuation adjustment risk of derivative instruments in the counterparty credit risk.

Table 2.9. Transactions subject to own funds requirements for CVA risk [template EU CCR2]

		31.12.2021	
		a	b
		Exposure value	RWEA
1	Total transactions subject to the Advanced method	-	-
2	(i) VaR component (including the 3× multiplier)		-
3	(ii) stressed VaR component (including the 3× multiplier)		-
4	Transactions subject to the Standardised method	4 022	518
EU4	Transactions subject to the Alternative approach (Based on the Original Exposure Method)	-	-
5	Total transactions subject to own funds requirements for CVA risk	4 022	518

The table below presents exposures to counterparty credit risk by exposure classes and risk weights applied to calculate the own fund requirement for counterparty credit risk using the standardised method.

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Table 2.10. Standardised approach – CCR exposures by regulatory exposure class and risk weights [template EU CCR3]

	Exposure classes	31.12.2021											
		Risk weight											
		a	b	c	d	e	f	g	h	i	j	k	l
		0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Inne	Total exposure value
1	Central governments or central banks	1	-	-	-	4	-	-	-	-	-	-	5
2	Regional government or local authorities	-	-	-	-	-	-	-	-	-	-	-	-
3	Public sector entities	-	-	-	-	-	-	-	-	-	-	-	-
4	Multilateral development banks	-	-	-	-	-	-	-	-	-	-	-	-
5	International organisations	-	-	-	-	-	-	-	-	-	-	-	-
6	Institutions	-	-	-	-	1 662	2 030	-	-	0	-	-	3 692
7	Corporates	-	-	-	-	-	22	-	-	3 373	-	-	3 395
8	Retail	-	-	-	-	-	-	-	-	-	-	-	-
9	Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-
10	Other items	-	-	-	-	-	-	-	-	-	-	-	-
11	Total exposure value	1	-	-	-	1 666	2 052	-	-	3 373	-	-	7 092

Table 2.11. Composition of collateral for CCR exposures [template EU CCR5]

	Collateral type	31.12.2021							
		a	b	c	d	e	f	g	h
		Collateral used in derivative transactions				Collateral used in SFTs			
		Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received		Fair value of posted collateral	
		Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated
1	Cash – domestic currency	29	101	3 705	126	-	-	-	-
2	Cash – other currencies	65	1 767	23	1 717	-	-	-	-
3	Domestic sovereign debt	-	-	-	-	-	-	-	-
4	Other sovereign debt	-	-	-	-	-	-	-	-
5	Government agency debt	-	-	-	-	-	-	-	-
6	Corporate bonds	-	-	-	-	-	-	-	-
7	Equity securities	-	-	-	-	-	-	-	-
8	Other collateral	-	-	-	-	-	-	-	-
9	Total	94	1 867	3 728	1 843	-	-	-	-

The table below presents an analysis of exposures to central counterparties used to calculate the own fund requirement for counterparty credit risk.

Table 2.12. Exposures of central counterparties (CCPs) [template EU CCR8]

		31.12.2021	
		a	b
		Exposure value	RWEA
1	Exposures to QCCPs (total)		5
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	68	1
3	(i) OTC derivatives	59	1
4	(ii) Exchange-traded derivatives	9	0
5	(iii) SFTs	-	-
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	-	
8	Non-segregated initial margin	106	2
9	Prefunded default fund contributions	53	1
10	Unfunded default fund contributions	-	-
11	Exposures to non-QCCPs (total)		-
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	-	-
13	(i) OTC derivatives	-	-
14	(ii) Exchange-traded derivatives	-	-
15	(iii) SFTs	-	-
16	(iv) Netting sets where cross-product netting has been approved	-	-
17	Segregated initial margin	-	
18	Non-segregated initial margin	-	-
19	Prefunded default fund contributions	-	-
20	Unfunded default fund contributions	-	-

2.5.14. Non-performing and forborne exposures

The Group's gross NPL ratio[7] amounted to 3.98% as at 31.12.2020. Therefore, in accordance with Regulation 2021/637, the tables containing quantitative information on non-performing and foreborne exposures are presented below.

- Table 2.13. Credit quality of performing and non-performing exposures by past due days [Template EU CQ3]
- Table 2.14. Performing and non-performing exposures related provisions [Template EU CR1],
- Table 2.15 Changes in the stock of non-performing loans and advances [Template EU CR2],
- Table 2.16. Credit quality of forborne exposures [Template EU CQ1],
- Table 2.17. Credit quality of loans and advances to non-financial corporations by industry [Template EU CQ5],
- Table 2.18. Collateral obtained by taking possession and execution processes [Template EU CQ7].

[7] The NPL ratio is the ratio of gross carrying amount of loans and advances covered by the provisions of Article 47(a)(3) of EU Regulation no. 575/2013 to gross carrying amount of loans and advances covered by the provisions of Article 47(a)(1) of EU Regulation no. 575/2013.

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Table 2.13. Credit quality of performing and non-performing exposures by past due days [template EU CQ3]

		31.12.2021											
		a	b	c	d	e	f	g	h	i	j	k	l
		Gross carrying amount/nominal amount											
		Performing exposures			Non-performing exposures								
			Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
005	Cash balances at central banks and other demand deposits	8 999	8 999	-	-	-	-	-	-	-	-	-	-
010	Loans and advances	241 349	240 645	704	9 810	4 708	467	550	775	1 609	787	914	9 624
020	*Central banks*	536	536	-	-	-	-	-	-	-	-	-	-
030	*General governments*	5 588	5 588	-	55	55	-	-	-	-	-	-	55
040	*Credit institutions*	7 385	7 385	-	-	-	-	-	-	-	-	-	-
050	*Other financial corporations*	2 813	2 812	1	30	23	1	2	0	4	0	0	30
060	*Non-financial corporations*	67 442	67 149	293	4 894	2 706	121	138	255	672	455	547	4 879
070	Of which SMEs	34 304	34 122	182	3 552	1 773	109	132	232	540	277	489	3 529
080	*Households*	157 584	157 174	410	4 831	1 924	345	411	519	933	332	367	4 660
090	Debt securities	132 172	132 172	-	550	550	-	-	-	-	-	-	550
100	*Central banks*	810	810	-	-	-	-	-	-	-	-	-	-
110	*General governments*	102 070	102 070	-	-	-	-	-	-	-	-	-	-
120	*Credit institutions*	7 378	7 378	-	-	-	-	-	-	-	-	-	-
130	*Other financial corporations*	18 429	18 429	-	-	-	-	-	-	-	-	-	-
140	*Non-financial corporations*	3 485	3 485	-	550	550	-	-	-	-	-	-	550
150	Off-balance-sheet exposures	79 631			570								567
160	*Central banks*	-			-								-
170	*General governments*	4 695			-								-
180	*Credit institutions*	6 739			-								-
190	*Other financial corporations*	2 277			-								-
200	*Non-financial corporations*	48 605			529								529
210	*Households*	17 315			40								38
220	**Total**	462 151	381 816	704	10 930	5 258	467	550	775	1 609	787	914	10 742

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Table 2.14. Performing and non-performing exposures and related provisions [template EU CR1]

		31.12.2021														
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
		Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						Accumulated partial write-off	Collaterals and financial guarantees received	
		Performing exposures			Non-performing exposures			Performing exposures - Accumulated impairment and provisions			Non-performing exposures - Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions				On performing exposures	On non-performing exposures
			of which: stage 1	of which: stage 2		of which: stage 1	of which: stage 2		of which: stage 1	of which: stage 2		of which: stage 2	of which: stage 3			
005	Cash balances at central banks and other demand deposits	8 999	8 999	-	-	-	-	0	0	-	-	-	-	-	-	-
010	Loans and advances	241 349	200 501	36 467	9 810	126	9 266	-2 994	-713	-2 281	-5 792	-31	-5 751	-1 407	166 614	2 916
020	*Central banks*	536	536	-	-	-	-	-	-	-	-	-	-	-	-	-
030	*General governments*	5 588	5 330	204	55	-	55	-23	-20	-3	-2	-	-2	0	764	53
040	*Credit institutions*	7 385	7 385	-	-	-	-	0	0	-	-	-	-	0	-	-
050	*Other financial corporations*	2 813	2 792	21	30	-	30	-17	-16	-1	-16	0	-16	0	1 984	10
060	*Non-financial corporations*	67 442	51 802	15 607	4 894	13	4 786	-1 175	-317	-858	-2 689	-1	-2 680	-575	40 768	1 945
070	*Of which: SMEs*	34 304	24 605	9 667	3 552	13	3 500	-775	-156	-619	-2 001	-1	-1 993	-497	24 607	1 342
080	*Households*	157 584	132 657	20 634	4 831	113	4 395	-1 779	-359	-1 420	-3 084	-31	-3 052	-831	123 097	908
090	Debt Securities	132 172	131 357	446	550	0	16	-70	-45	-25	-52	0	0	-3	-	-
100	*Central banks*	810	810	-	-	-	-	-	-	-	-	-	-	-	-	-
110	*General governments*	102 070	101 619	101	-	-	-	-33	-32	-1	-	-	-	-	-	-
120	*Credit institutions*	7 378	7 378	-	-	-	-	-5	-5	-	-	-	-	-	-	-
130	*Other financial corporations*	18 429	18 429	-	-	-	-	-2	-2	-	-	-	-	-	-	-
140	*Non-financial corporations*	3 485	3 121	345	550	-	16	-31	-6	-25	-52	0	0	-3	-	-
150	Off-balance sheet exposures	79 631	69 145	10 487	570	2	509	456	135	321	219	0	215		-	-
160	*Central banks*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
170	*General governments*	4 695	4 659	35	-	-	-	6	5	1	-	-	-		-	-
180	*Credit institutions*	6 739	6 739	-	-	-	-	0	0	-	-	-	-		-	-
190	*Other financial corporations*	2 277	2 277	0	-	-	-	8	8	0	-	-	-		-	-
200	*Non-financial corporations*	48 605	40 007	8 598	529	0	472	332	97	236	206	0	203		-	-
210	*Households*	17 315	15 463	1 853	40	2	37	110	25	85	13	0	12		-	-
220	Total	462 151	410 002	47 399	10 930	128	9 791	-2 608	-623	-1 986	-5 625	-31	-5 536	-1 410	166 614	2 916

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Table 2.15 Changes in the stock of non-performing loans and advances [template EU CR2]

		31.12.2021
		a
		Gross carrying amount
010	**Initial stock of non-performing loans and advances**	10 274
020	Inflows to non-performing portfolios	2 530
030	Outflows from non-performing portfolios	-790
040	Outflows due to write-offs	-1 753
050	Outflow due to other situations	-451
060	**Final stock of non-performing loans and advances**	9 810

Table 2.16. Credit quality of forborne exposures [template EU CQ1]

		31.12.2021							
		a	b	c	d	e	f	g	h
		Gross carrying amount/ Nominal amount of exposures with forbearance measures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collaterals received and financial guarantees received on forborne exposures	
		Performing forborne	Non-performing forborne			On performing forborne exposures	On non-performing forborne exposures		Of which: Collateral and financial guarantees received on non-performing exposures with forbearance measures
				Of which defaulted	Of which impaired				
005	Cash balances at central banks and other demand deposits	-	-	-	-	-	-	-	-
010	Loans and advances	721	2 369	2 240	2 233	-66	-1 167	1 584	1 003
020	*Central banks*	-	-	-	-	-	-	-	-
030	*General governments*	-	2	2	2	-	-1	1	1
040	*Credit institutions*	-	-	-	-	-	-	-	-
050	*Other financial corporations*	-	-	-	-	-	-	-	-
060	*Non-financial corporations*	300	1 397	1 320	1 338	-23	-650	995	720
070	*Households*	422	970	919	893	-43	-516	588	283
080	Debt Securities	-	550	550	16	-	-52	-	-
090	Loan commitments given	41	37	37	37	1	6	-	-
100	Total	763	2 957	2 828	2 286	-65	-1214	1 584	1 003

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Table 2.17. Credit quality of loans and advances to non-financial corporations by industry [template EU CQ5]

		31.12.2021					
		a	b	c	d	e	f
		Gross carrying amount				Accumulated impairment	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			of which: non-performing		of which: loans and advances subject to impairment		
				of which: defaulted			
010	Agriculture, forestry and fishing	1 834	82	82	1 833	-55	-
020	Mining and quarrying	1 263	17	17	1 263	-22	-
030	Manufacturing	19 435	1 339	1 339	19 429	-1 099	-2
040	Electricity, gas, steam and air conditioning supply	3 677	8	8	3 677	-57	-
050	Water supply	1 000	11	10	1 000	-13	-
060	Construction	3 659	481	479	3 654	-375	-
070	Wholesale and retail trade	13 647	687	685	13 639	-565	-
080	Transport and storage	7 824	451	450	7 820	-330	-
090	Accommodation and food service activities	1 834	685	684	1 833	-423	-
100	Information and communication	3 408	70	70	3 407	-61	-
110	Financial and insurance actvities	29	3	3	29	-4	-
120	Real estate activities	7 991	690	685	7 991	-548	-
130	Professional, scientific and technical activities	1 492	96	95	1 488	-69	-
140	Administrative and support service activities	2 020	112	112	2 019	-91	-
150	Public administration and defense, compulsory social security	30	1	1	30	0	-
160	Education	197	20	20	196	-16	-
170	Human health services and social work activities	1 292	55	55	1 291	-28	-
180	Arts, entertainment and recreation	487	30	30	486	-47	-
190	Other services	1 216	53	53	1 214	-59	-
200	Total	72 336	4 894	4 879	72 299	-3 862	-2

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Table 2.18. Collateral obtained by taking possession and execution processes [template EU CQ7]

		31.12.2021	
		a	b
		Collateral obtained by taking possession accumulated	
		Value at initial recognition	Accumulated negative changes
010	**Property Plant and Equipment (PP&E)**	-	-
020	**Other than Property Plant and Equipment**	31	-3
030	*Residential immovable property*	1	-
040	*Commercial Immovable property*	30	-3
050	*Movable property (auto, shipping, etc.)*	-	-
060	*Equity and debt instruments*	-	-
070	*Other*	-	-
080	**Total**	31	-3

2.5.15. Information on exposures subject to measures applied in response to the COVID-19 pandemic

The tables below present information on exposures subject to the EBA/GL/2020/07 Guidelines of 2 June 2020 on legislative and non-legislative moratoria on loan repayments applied in the light of the COVID-19 crisis and on newly originated exposures subject to public guarantee schemes, in accordance with the templates set out in Annex 3 to these Guidelines.

For better data transparency, Table 2.19 Loans and advances subject to moratoria consistent with the EBA guidelines (statutory and non-statutory) [template 1 COVID19] is divided into two tables: Table 2.19a (columns from a) to g)) and Table 2.19b (columns from h) to o)).

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Table 2.19a. Information on loans and advances subject to legislative and non-legislative moratoria (table columns a) - g)) [template 1 COVID19]

		31.12.2021						
		a	b	c	d	e	f	g
		Gross carrying amount						
			Performing			Non performing		
				Of which: exposures with forbearance measures	Of which: Instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: Unlikely to pay that are not past-due or past-due <= 90 days
1	**Loans and advances subject to moratorium of compliance with EBA requi**	214	190	-	104	25	0	15
2	of which: Households	44	35	-	3	9	0	3
3	of which: Collateralised by residential immovable property	9	8	-	0	1	0	1
4	of which: Non-financial corporations	170	155	-	101	15	-	12
5	of which: SMEs	81	69	-	37	13	-	12
6	of which: Collateralised by commercial immovable property	63	63	-	62	0	-	0

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Table 2.19b. Information on loans and advances subject to legislative and non-legislative moratoria (table columns h) - o)) [template 1 COVID19]

		31.12.2021							
		h	i	j	k	l	m	n	o
		Accumulated impairment, accumulated negative changes in fair value due to credit risk							Gross carrying amount
			Performing			Non performing			
				Of which: exposures with forbearance measures	Of which: Instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: Unlikely to pay that are not past-due or past-due <= 90 days	Inflows to non-performing exposures
1	**Loans and advances subject to moratorium of compliance with EBA requi**	-22	-7	-	-6	-15	- 0	-8	-
2	of which: Households	-7	-1	-	-1	-6	- 0	-2	-
3	of which: Collateralised by residential immovable property	0	0	-	0	0	- 0	0	-
4	of which: Non-financial corporations	-15	-5	-	-5	-9	-	-7	-
5	of which: SMEs	-8	-1	-	-1	-7	-	-7	-
6	of which: Collateralised by commercial immovable property	0	0	-	0	0	-	0	-

Table 2.20. Breakdown of loans and advances subject to legislative and non-legislative moratoria by residual maturity of moratoria [template 2 COVID19]

		31.12.2021								
		a	b	c	d	e	f	g	h	i
		Number of obligors	Gross carrying amount							
				Of which: legislative moratoria	Of which: expired	Residual maturity of moratoria				
						<= 3 months	> 3 months <= 6 months	> 6 months <= 9 months	> 9 months <= 12 months	> 1 year
1	Loans and advances for which moratorium was offered	163 953	27 051							
2	Loans and advances subject to moratorium of compliance with EBA requirements (granted)	160 185	25 965	78	25 751	69	5	3	19	118
3	of which: Households		16 759	78	16 715	38	2	0	5	0
4	of which: Collateralised by residential immovable property		13 826	56	13 817	9	0	-	-	-
5	of which: Non-financial corporations		9 206	-	9 036	32	3	3	14	118
6	of which: SMEs		4 504	-	4 423	28	3	3	5	43
7	of which: Collateralised by commercial immovable property		4 627	-	4 564	4	0	1	-	58

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Table 2.21. Information on newly originated loans and advances provided under newly applicable public guarantee schemes introduced in response to COVID-19 crisis [Template 3 COVID19]

		31.12.2021			
		a	b	c	d
		Gross carrying amount		Maximum amount of the guarantee that can be considered	Gross carrying amount
			of which: forborne	Public guarantees received	Inflows to non-performing exposures
1	Newly originated loans and advances subject to public guarantee schemes	5 288	-	4 211	1
2	of which: Households	-			-
3	of which: Collateralised by residential immovable property	-			-
4	of which: Non-financial corporations	5 288	-	4 211	1
5	of which: SMEs	3 984			1
6	of which: Collateralised by commercial immovable property	-			-

More detailed information on the impact of the COVID-19 pandemic on the Bank Group's activities is provided in the Consolidated Financial Statements of the PKO Bank Polski S.A. Group as at and for the year ended 31 December 2021 (9. Impact of the COVID-19 pandemic on the Group's operations).

2.5.16. Exposure to securitization positions

In September 2019, PKO Leasing SA carried out the largest asset securitization transaction on the domestic market. The transaction consisted of selling a portfolio of high quality lease receivables totalling PLN 2.5 billion.

On 26 September 2019, PKO Leasing S.A. sold a portfolio of securitized lease receivables to a special purpose vehicle Polish Lease Prime 1 Designated Activity Company (Polish Lease Prime 1 DAC), with its registered office in Dublin (Ireland). According to IFRS 10, Polish Lease Prime 1 DAC meets the definition of a subsidiary of PKO Leasing S.A. and is subject to consolidation.

The receivables purchased by the special purpose vehicle were financed mainly with an issue of securities (bonds) conducted on 26 September 2019 with the redemption date falling on 28 December 2029 and with funds obtained within the PKO Leasing SA Group. Bonds with a nominal value of PLN 1 835 million were taken up by entities from outside the Bank's Group. The objective of and benefit from selling these receivables to the SPV was to obtain and diversify sources of long-term financing.

The Group applies International Financial Reporting Standard 9 "Financial Instruments" in the context of excluding securitized assets of the Company and the requirements of the International Financial Reporting Standard 10 "Consolidated financial statements" in the context of exercising control over SPV and an obligation to consolidate it.

PKO Leasing S.A. consolidates securitization SPVs because the risks and rewards of their operations remained at the side of the originator of the transaction, i.e. PKO Leasing S.A. In accordance with IFRS 10, PKO Leasing S.A. exercises control over securitization SPVs despite the fact that it has no capital investment in these entities. The liabilities of SPVs (Polish Lease Prime 1 only as at 31.12.2021) to investors are treated as PKO Leasing S.A. Group's liabilities.

Securitized lease receivables are presented as PKO Leasing S.A.'s assets in separate financial statements because they do not meet derecognition criteria. Despite the fact that PKO Leasing S.A. is obliged to transfer amounts received from the portfolio of securitized lease contracts to Polish Lease Prime 1 DAC (benefits from the portfolio of lease contracts), the Company retained substantially all risks resulting from owning a portfolio of lease contracts due to the granting of a subordinated loan from which any potential losses on the portfolio of lease contract will be covered.

Securities from a senior tranche was purchased by several institutional investors, of which the European Investment Bank (EBI) took up the largest part amounting to PLN 900 million. Moreover, senior tranche securities totalling PLN 935 million were purchased by Citi Handlowy and European investors. The transaction structure also includes subordinated mezzanine bonds taken up by the EBI amounting to PLN 640 million. The separation and sale of the subordinated mezzanine tranche, the credit risk was transferred to an investor (EBI), thus releasing regulatory capital at the level of the PKO Bank Polski Group. PKO Leasing retained a junior tranche of PLN 25 million and a reserve fund to cover any deficits generated by the liquidity, interest rate and operational risks.

The STS status granted to the transaction confirms that the issue meets transparency criteria set out in the EU securitization regulation. High ratings, on the other hands, reflect a low risk associated with the bonds issued. Bonds in the senior tranche received the highest possible AAA rating from Scope rating agency and AA- from ARC. The structure also includes subordinated bonds with BB- rating from Scope and BB+ from the ACR. All classes of bonds are redeemed gradually, in line with amortization of the receivables portfolio (after a 2-year revolving period). The expected final redemption period is 70 months of the issue date, and the weighted average maturity is 34 months.

The Group excludes securitized receivables from risk exposures and reduces own funds by the value of a junior tranche and a provision, taking into account specific risk adjustments for underlying exposures subject to securitization, in accordance with the requirements of the CRR.

At the beginning of July 2020, due to the closure of securitization of PKO Leasing SA's lease receivables conducted in cooperation with a special purpose vehicle ROOF Poland Leasing 2014 DAC, operating activities relating to the liquidation of the special purpose vehicle were commenced.

Detailed information on the securitization is presented in the Consolidated Financial Statements of the Bank's Group as at and for the year ended 31 December 2021 (Note 78 Information on securitization of the lease portfolio and package sale of receivables).

The Bank's Group has no securitization items in the trading book and therefore does not present table EU SEC 2. PKO Leasing S.A., a subsidiary of PKO BP S.A., is a securitization originator. Neither PKO Leasing S.A. nor any other entity in the Bank's Group is an investor in the securitization process and consequently, the Bank's Group does not present table EU SEC 4.

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Table 2.22. Securitisation exposures in the non-trading book [Template EU SEC1]

		31.12.2021														
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
		Institution acts as originator							Institution acts as sponsor				Institution acts as investor			
		Traditional				Synthetic		Sub-total	Traditional		Synthetic	Sub-total	Traditional		Synthetic	Sub-total
		STS		Non-STS			of which SRT		STS	Non-STS			STS	Non-STS		
			of which SRT		of which SRT											
1	**Total exposures**	54	54	-	-	-	-	-	-	-	-	-	-	-	-	-
2	**Retail (total)**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	residential mortgage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	credit card	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	other retail exposures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	**Wholesale (total)**	54	54	-	-	-	-	-	-	-	-	-	-	-	-	-
8	loans to corporates	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	commercial mortgage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	lease and receivables	54	54	-	-	-	-	-	-	-	-	-	-	-	-	-
11	other wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	re-securitisation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2.23. Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor [Template EU SEC3]

		31.12.2021																
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	EU-p	EU-q
		Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)				RWEA (by regulatory approach)				Capital charge after cap			
		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions
1	**Total exposures**	-	-	-	-	54	-	-	-	54	-	-	-	-54	-	-	-	-
2	**Traditional transactions**	-	-	-	-	54	-	-	-	54	-	-	-	-54	-	-	-	-
3	**Securitisation**	-	-	-	-	54	-	-	-	54	-	-	-	-54	-	-	-	-
4	**Retail underlying**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Of which STS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	**Wholesale**	-	-	-	-	54	-	-	-	54	-	-	-	-54	-	-	-	-
7	Of which STS	-	-	-	-	54	-	-	-	54	-	-	-	-54	-	-	-	-
8	**Re-securitisation**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	**Synthetic transactions**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	**Securitisation**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	**Retail underlying**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	**Wholesale**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	**Re-securitisation**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table 2.24. Exposures securitised by the institution - Exposures in default and specific credit risk adjustments [template EU SEC5]

		31.12.2021		
		a	b	c
		Exposures securitised by the institution - Institution acts as originator or as sponsor		
		Total outstanding nominal amount		Total amount of specific credit risk adjustments made during the period
			Of which exposures in default	
1	**Total exposures**	2 500	15	29
2	**Retail (total)**	-	-	-
3	residential mortgage	-	-	-
4	credit card	-	-	-
5	other retail exposures	-	-	-
6	re-securitisation	-	-	-
7	**Wholesale (total)**	2 500	15	29
8	loans to corporates	-	-	-
9	commercial mortgage	-	-	-
10	lease and receivables	2 500	15	29
11	other wholesale	-	-	-
12	re-securitisation	-	-	-

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2.5.17. Exposures in non-trading book equity securities

PKO Bank Polski S.A. and its subsidiaries subject to prudential consolidation have equity exposures[8] in other entities which are classified in the banking book.

The exposures in the banking book as at 31 December 2021, due to the type of investment and the purpose of the acquisition, are broken down into the following groups:

1) investments in subsidiaries not subject to prudential consolidation – this group includes companies which complement the Bank's basic offer with insurance services, as well as closed-end investment funds set up to support entities (including start-ups) offering technological innovations mainly for the financial sector and to optimize management and sales activities related to supervised asset portfolios;
2) investments in associates and joint ventures – investments in companies which provide financial and technological services; this group includes, among other things, Centrum Elektronicznych Usług Płatniczych eService sp. z o.o., together with which PKO Bank Polski S.A. offers comprehensive services consisting of setting up POS terminals and accounting for transactions carried out with payment instruments, using these terminals;
3) other exposures, including:
   a) the Bank's investments in companies which provide financial services or which contribute to the development of financial markets, including those which create the infrastructure of financial markets;
   b) participation units investment certificates in investment funds – mainly the investments of PKO Towarzystwo Funduszy Inwestycyjnych S.A. (PKO TFI S.A.) in the participation units of the new investment funds it manages; the assets are acquired to provide the funds required to establish a fund;
   c) the Bank's investments and the investments of the subsidiaries subject to prudential consolidation, mostly held for sale; this group includes, among other things, shares acquired as part of forbearance of loan receivables, including repossessed collateral.

Table 2.25. Banking book equity exposures

	2021		2020	
	Carrying amount	Fair value*	Carrying amount	Fair value*
Investments valued under the equity method(equity investments in subsidiaries not subject to prudential consolidation, jointventures and associated entities)	1 383	1 401	1 394	1 412
Shares in other entities, this includes also equity investments in entities revealed as fixed assets items for sale	87	87	88	88
Equity securities	243	243	372	372
Shares in entities listed on regulated market	22	22	17	17
Shares in entities not listed on regulated market**	221	221	355	355
Participation units in PKO TFI SA investment funds	6	6	4	4
Total	1 719	1 737	1 859	1 876

* Estimated fair value, including for shares admitted to trading on a regulated market – market value.
** This item also includes shares not admitted to trading on the regulated market of public companies.

The equity exposures presented in the above table are subject to periodic valuation.

Investments in subsidiaries not subject to prudential consolidation, joint ventures and associates are measured using the equity method. The share of the Bank's Group in the financial results of the aforementioned entities as from the date of acquisition is recognized in profit or loss, whereas its share in changes in other comprehensive income as from the date of acquisition – in other comprehensive income. The carrying amount of the investments is adjusted for total changes in individual equity items as from the date of acquisition.

Each time, as at the end of a reporting period, it is assessed whether there are any indications that the investments in subsidiaries not subject to prudential consolidation, joint ventures and associates may be impaired. If such indications exist, the recoverable amount, i.e. the higher of the value in use of an investment or its fair value less costs to sell the asset, is estimated (an impairment test). If the carrying amount of an asset exceeds its recoverable amount, an impairment loss is recognized in profit or loss. Value in use is determined on the basis of the estimated value of expected future cash flows from the continuing holding of shares, based on the entities' financial plans, using the discount rate determined for the Bank's equity exposures. The current bid price or the value estimated on the basis of valuation techniques commonly used by market participants is adopted as the fair value.

Shares in other companies are measured at fair value determined according to market value for companies for which there is an active market or based on internal valuation models for companies for which there is no active market. The effects of changes in the fair value of shares are recognized in profit or loss.

Participation units and investment certificates in investment funds are measured at fair value, with the effect being recognized in profit or loss.

The fair value of equity exposures, determined on the basis of internal valuation models, is described in the financial statements of the Bank and the Bank's Group for 2021, in the notes on the fair value hierarchy.

In 2021, the Bank's Group (according to prudential consolidation) realized an accumulated gross profit on the sale of securities constituting equity exposures in the banking book of PLN 58.5 million. The unrealized gross gains of the Bank's Group on the revaluation of the equity exposures in the banking book totalled PLN 515.9 million as at the end of 2021. The aforementioned amount includes the unrealized gain of the Bank's Group of PLN 178.5 million on the remeasurement of the cost of purchase of shares in one of the companies to fair value.

In 2021, PKO Bank Polski S.A. received a gross dividend totalling PLN 118.6 million in respect of shares constituting equity exposures in the banking book.

[8]This information concerns equity exposures in the form of shares, participation units and investment certificates. The Bank classifies the following in the banking book under prudential consolidation: subsidiaries not subject to prudential consolidation, associates, joint ventures and the aforementioned securities and equity securities which constitute financial assets not held for trading.

PKO Bank Polski S.A. manages equity exposures in the banking book in accordance with the Investment Strategy and Investment Policy adopted by the Bank. The aforementioned regulations govern the objective and principles of the Bank's exposure to specific equity investments. The investment limits established limit the Bank's exposure to the appropriate level of risk accepted by the Bank. At least once a year, the Bank evaluates the adopted Investment Policy from the perspective of the investment method, effectiveness of the achievement of investment objectives and the correctness of the activities conducted.

Moreover, in order to reduce volatility of the results associated with VISA's C series preference shares, the Bank is using Total Return Swaps.

2.6. Interest rate risk

2.6.1. Introduction

Interest rate risk is the risk of losses being incurred on the on-balance sheet and off-balance sheet items of the Bank's Group, sensitive to interest rate fluctuations, as a result of changes in market interest rates.

The Bank categorizes its portfolios from the perspective of interest rate risk management:

- the banking book – comprises on-balance sheet and off-balance sheet items not included in the trading book, in particular items resulting from the Bank's core activities, transactions concluded for investment and liquidity purposes and their hedging transactions;
- the trading book – comprises transactions concluded in financial instruments as part of activities conducted on its own account and on behalf of the customers.

The Bank pro-actively manages the interest rate risk arising from items in both the trading and non-trading books.

The purpose of interest rate risk management is to reduce the potential losses resulting from fluctuations in market interest rates to an acceptable level by properly shaping the structure of on-balance sheet and off-balance sheet items. In particular, the Bank's Group aims to reduce the sensitivity of both interest income and economic value sensitivity to an acceptable level, defined in the form of strategic tolerance limits (risk appetite).

2.6.2. Identification, measurement and assessment of interest rate risk

The identification of interest rate risk consists of identifying its current and potential sources and estimating the materiality of its potential impact on the activities of the Bank and the Bank's Group.

The process and the organization of interest rate risk management in the Bank's Group are in compliance with the principles described in section 2.1.

The interest rate risk management process is supervised by the Supervisory Board which regularly receives information on the risk profile of the Bank and the Bank's Group as well as information on the key measures taken in the area of interest rate risk management. The Supervisory Board also approves reports confirming the compatibility of the interest rate risk profile with the tolerance for interest rate risk defined at the level of the Bank and the Bank's Group. The Management Board is responsible for managing the Bank's interest rate risk, including supervising and monitoring the measures taken by the Bank to manage interest rate risk. The Management Board adopts internal regulations on interest rate risk management.

The Risk Management Strategy of PKO Bank Polski S.A. and the PKO Bank Polski S.A. Group defines an acceptable level of interest rate risk both in the Bank and the Bank's Group and lays down the principles for interest rate risk management in the Bank's Group. Additionally, the Strategy for managing interest rate risk in the banking book of PKO Bank Polski S.A. defines the approach to managing interest rate risk in this portfolio.

The assignment of transactions to business models according to IFRS 9 and the division into the trading book and the banking book are determined by the Bank's Investment Policy relating to financial instruments.

The Bank supervises the functioning of interest rate risk management in the individual subsidiaries in the Bank's Group. As part of the supervision, the Bank influences the interest rate risk management methods in these entities and supports their development. The Bank also takes into account the level of interest rate risk in the operations of the individual entities as part of the interest rate risk monitoring and reporting system at the Bank's Group level.

The interest rate risk generated by the Bank's core activities is transferred using a transfer pricing system in order to manage this risk in a centralized manner. The Bank's business model assumes managing interest rate risk in an active manner by shaping its product mix appropriately and using the available financial instruments within the limits and thresholds for interest rate risk adopted at the Bank.

In order to determine the level of interest rate risk, the Bank uses an interest income sensitivity measure, economic value sensitivity measure (Basis Point Value – BPV), value-at-risk model (VaR), shock analyses and repricing gaps.

The sensitivity of interest income to an abrupt shift of the yield curve defines the potential financial effect of that shift, expressed as a change in the amount of interest income in a given time horizon. This change is the result of the mismatch of the repricing dates of assets, liabilities and off-balance sheet liabilities granted and received (in particular derivative instruments) which are sensitive to changes in interest rates.

The economic value sensitivity reflects a fair value change of portfolio items caused by a parallel upward shift of the yield curves by one basis point.

The IR VaR measure is the potential loss which may occur in normal market conditions over a specific period of time (i.e. a horizon) and with an assumed probability level due to changes in interest rate curves. For market risk management purposes, VaR is calculated with a 99% confidence level and 10-day position holding. Interest rate risk is managed using, among other things, VaR determined for individual financial instruments and for the Bank's portfolios, and by type of business activities of the Bank.

Shock analyses (stress tests, crash tests) is used to estimate potential losses resulting from the maintained structure of the balance sheet and off-balance sheet items, where a market situation occurs which is not described in a standard manner, using statistical measures. Additionally, the Bank uses shock analyses in the form of reverse stress tests of interest rate risk.

The following types of shock analysis scenarios are used at the Bank:

a) hypothetical stress tests – in which interest rate fluctuations are assumed arbitrarily: a parallel shift of the interest rate curves for the individual currencies by ±50 bps, ±100 bps, ±200 bps, values over 200 bps and nonparallel deflection of yield curves scenarios;
b) historical stress tests – in which interest rate fluctuations are assumed on the basis of movements in interest rates observed in the past, including: the biggest historical change, deflection of the yield curve, taking into account portfolio positions, the biggest historical nonparallel shift of interest rate curves for securities and for derivatives hedging those securities;
c) crash tests – in which interest rate fluctuations are assumed on the basis of movements in interest rates observed in the past in such a manner as to maximize the Bank's potential loss;
d) reverse stress tests – which are aimed at finding such scenarios relating to:
   - the shift of yield curves;
   - a change in the average repricing date of individuals' current accounts, and
   - an increase in the frequency of termination of deposits bearing fixed interest rates subject to a strategy for hedging against interest rate fluctuations,
e) Supervisory Stress Testing in accordance with the EBA Guidelines on IRRBB,

whose results would correspond to a given change in the Bank's on-balance sheet and off-balance sheet items.

The repricing gap is the difference between the current value of assets and liabilities exposed to interest rate risk, repriced in a given time bracket, with the said items being recognized as at the transaction date.

In the process of interest rate risk measurement, in relation to loan and deposit balances with indefinite repricing dates, the Bank uses an approach based on replicated interest rate risk profiles, taking into account the instability of the balances of these products (determined on the basis of movements in them in the past). The average and maximum tenors applied by the Bank to individual groups of products with indefinite repricing dates are shown in the table below:

Table 2.26. The average and maximum tenors applied by the Bank to individual groups of products with indefinite repricing dates

	31.12.2021	
Product	Average maturity (in years)	Maximum maturity (in years)
Current accounts of retail customers	3,21	10
Saving accounts of retail customers	0,77	10
Current accounts of corporate clients	0,38	3
SME current accounts	1,57	4

2.6.3. Control of interest rate risk

The control of interest rate risk covers determining limits and thresholds concerning interest rate risk, in particular strategic limits of tolerance for interest rate risk, tailored to the scale and complexity of the activities of the Bank's Group.

2.6.4. Monitoring interest rate risk

The Bank's interest rate risk is monitored on a daily basis, whereas that of the Bank's Group is monitored on a monthly basis. In 2021, the interest rate risk of the Bank's Group was determined mainly by the mismatch of the repricing dates of assets and liabilities.

2.6.4. 1. Banking book

In order to monitor interest rate risk, the Bank's Group uses interest rate risk measures reflecting the main types of interest rate risk identified:
a) repricing risk;
b) yield curve risk;
c) base risk;
d) customer option risk, and
e) credit spread risk arising from non-trading book activities (CSRBB).

The Bank regularly monitors the impact of the early repayment of loans (customer option risk) on interest rate risk measures and, according to the latest analyses, it considers such impact to be immaterial. The Bank also analyses the impact of a different behaviour of interest rate indices (base risk) on interest rate risk measures and, according to the latest analyses, it considers such impact to be immaterial.

The sensitivity of interest income in the Bank Group's banking book to an abrupt shift of the yield curve by 100 bps within a year in all currencies is presented in Table 2.27. below:

Table 2.27. The sensitivity of interest income in the Group's banking book

MEASURE NAME	31.12.2021	31.12.2020
Sensitivity of interest income (PLN million)	-864	-527

The economic value sensitivity reflects a fair value change of portfolio items caused by a parallel shift of the yield curves by 100 bps up or down (the more unfavourable of the scenarios mentioned).

The table below presents the sensitivity measure of the economic value (stress-test) of the Bank Group's banking book in all currencies as at 31 December 2021 and 31 December 2020:

Tabele 2.28. The economic value sensitivity measure of the Group's banking book

MEASURE NAME	31.12.2021	31.12.2020
Sensitivity of economic value (in PLN million)	-1 319	-443

The objective of stress tests is to estimate potential losses on interest-bearing items in the event of a market situation which is not described in a standard manner, using statistical measures.

A stress test analysis of the Bank Group's exposure to interest rate risk is presented in Table 2.29. below:

Table 2.29. A stress test analysis of the Group's exposure to interest rate risk

MEASURE NAME	31.12.2021	31.12.2020	31.12.2021	31.12.2020
	The economic value sensitivity measure		The interest income value sensivity measure	
Parallel shift of the interest rate curves by +200 bps	-2 405	-776	951	1 371
Parallel shift of the interest rate curves by -200 bps	1 363	644	-1 523	-726
Parallel shift of the interest rate curves by a given increase for each currency	-3 000	-976		
Parallel shift of the interest rate curves by a given decrease for each currency	1 762	644		
Steepness of yield curve	211	717		
Flattening of yield curve	-1 038	-1 089		
Increase in long-term rates	-2 040	-1 389		
Decrease in long-term rates	1 047	824		

Changes in measures of interest income sensitivity and economic value sensitivity presented in the tables above are mainly due to a dynamic growth of the deposit base combined with an increase of the debt instrument portfolio

2.6.4. 2. Trading book

In order to monitor interest rate risk in the trading book, the Bank uses value-at-risk (VaR).

The IR VaR in the Bank's trading book is presented in Table 2.30. below:

Table 2.30. VaR measure in the Bank's trading book

MEASURE NAME	31.12.2021	31.12.2020
IR VaR (in PLN million)[1]		
Average value	17	11
Maximum value	34	20
Value at the end of the year	31	13

[1] Due to the nature of the activities of the Group companies, the value-at-risk measure is presented for the Bank's trading book.

2.6.5. Reporting interest rate risk

The Bank prepares daily, weekly, monthly and quarterly interest rate risk reports, with the monthly and quarterly reports concerning also the Bank's Group. The reports contain information on the interest rate risk exposure and information on the utilization of the risk limits. The Bank's exposure to interest rate risk is measured on a daily basis and the scope of the reporting is adjusted to the frequency and recipients of the reports. The users of such reports are mainly the ALCO, RC, the Management Board, Risk Committee of the Supervisory Board, and the Supervisory Board.

2.6.6. Management activities related to interest rate risk

The main interest rate risk management tools used in the Bank's Group include:
1) interest rate risk management procedures;
2) limits and thresholds for interest rate risk;

3) defining the characteristics and the level of exposure of individual products to interest rate risk;
4) defining the acceptable types of transactions based on interest rates.

The Bank's Group has established limits and thresholds for interest rate risk, among other things, for interest income sensitivity, economic value sensitivity as well as limits and thresholds for losses, and limits for instruments sensitive to interest rate fluctuations.

The methods of interest rate risk management in the entities in the Bank's Group are defined in the internal regulations implemented by those entities for which interest rate risk is material. Such regulations are developed after consulting the Bank and taking into account the Bank's recommendations.

The acceptable level of risk at the level of both the Bank and the Bank's Group is determined as part of the Risk Management Strategy of PKO Bank Polski S.A. and the PKO Bank Polski S.A. Group.

At least once a year, the Bank reviews the risk management process in order to verify the consistency of the interest rate risk management process with the process of managing other risks, the regulatory requirements and the degree of alignment with the scale and complexity of the interest rate risk to which the Bank is exposed, which ensures the continued effectiveness of hedging instruments and risk mitigation measures. Additionally, the effectiveness of the risk management process is constantly monitored as part of the reports specified in chapter 2.6.5 of this Report.

2.7. Foreign exchange risk

2.7.1. Introduction

Foreign exchange risk is the risk of incurring losses due to exchange rate fluctuations, generated by maintaining open currency positions.

The objective of foreign exchange risk management is to reduce the potential losses resulting from exchange rate fluctuations to an acceptable level by properly shaping the currency structure of on-balance sheet and off-balance sheet items. The acceptable level of risk for both the Bank and the Bank's Group is determined as part of the Risk Management Strategy of PKO Bank Polski S.A. and the PKO Bank Polski S.A. Group, implemented by the Management Board and approved by the Supervisory Board.

The overall structure of the management of risk, including foreign exchange risk, is contained in chapter 2.1 of this Report. According to the Foreign Exchange Risk Management Principles in place at the Bank, implemented by the Management Board, the currency position generated by banking operations (e.g. the repayment of a foreign currency loan in PLN by a customer, loan currency conversion) is transferred to the Treasury Department on a daily basis. This means that the Bank's currency position as at the end of a day may consist only of an open position in banking operations generated on that day and a limited currency position derived from trading activities, as a result of which the Bank's exposure to foreign exchange risk is low.

2.7.2. Identification, measurement and assessment of foreign exchange risk

The identification of foreign exchange risk consists of identifying its current and potential sources and estimating the materiality of its potential impact on the activities of the Bank and the Bank's Group.

The process and the organization of foreign exchange risk management in the Bank's Group are in compliance with the principles described in chapter 2.1 of this Report.

The foreign exchange risk management process is supervised by the Supervisory Board which regularly receives information on the risk profile of the Bank and the Bank's Group as well as information on the key measures taken to manage that risk. The Supervisory Board also approves reports confirming the compatibility of the foreign exchange risk profile with the tolerance for foreign exchange risk specified at the level of the Bank and the Bank's Group. The Management Board is responsible for managing the Bank's foreign exchange risk, including supervising and monitoring the measures taken by the Bank to manage foreign exchange risk. The Management Board adopts internal regulations on foreign exchange risk management.

The Risk Management Strategy of PKO Bank Polski S.A. and the PKO Bank Polski S.A. Group defines an acceptable level of foreign exchange risk both in the Bank and the Bank's Group and lays down the principles of foreign exchange risk management in the Bank's Group.

The Bank supervises the functioning of foreign exchange risk management in the individual subsidiaries in the Bank's Group. As part of the supervision, the Bank influences the foreign exchange risk management methods in these entities and supports their development. The Bank also takes into account the level of foreign exchange risk in the operations of the individual entities as part of the foreign exchange risk monitoring and reporting system at the Bank's Group level.

In order to determine the level of foreign exchange risk, the Bank uses the value-at-risk (VaR) model and shock analyses.

Shock analyses (stress tests and crash tests) for foreign exchange risk are used to estimate potential losses on the currency positions taken, where an extraordinary situation occurs on the foreign exchange market, which is not described in a standard manner, using statistical measures. Additionally, the Bank uses shock analyses in the form of a reverse stress test for foreign exchange risk.

The Bank carries out stress test analyses, crash test analyses and reverse stress test analyses, using the following scenarios relating to exchange rate fluctuations:
1) hypothetical scenarios – in which the hypothetical appreciation or depreciation of foreign exchange rates (by 10% and 30%) is assumed;
2) historical scenarios – scenarios relating to movements in foreign exchange rates observed in the past;
3) reverse stress tests – which examine potential exchange rate fluctuations resulting in the Bank's losses at the specified level of the Bank's own funds.

2.7.3. Control of foreign exchange risk

The main tools for controlling foreign exchange risk at the level of both the Bank and the Bank's Group are the set strategic limits of tolerance for foreign exchange risk and the limits imposed by the ALCO, defining the acceptable exposure of the Bank's individual portfolios to foreign exchange risk.

The Bank's Group has established limits and thresholds for foreign exchange risk, among other things, for foreign currency positions, 10-day value-at-risk and losses on the foreign exchange market.

2.7.4. Monitoring foreign exchange risk

As at the end of 2020, the Group recognized a material foreign exchange position in CHF of approximately PLN 14.2 billion, in connection with the Bank's intention, as confirmed by a resolution of the Extraordinary Shareholders' Meeting of 23 April 2021, to settle with consumers who had concluded mortgage loan agreements in foreign currencies with the Bank.

By the end of April 2021, the Group fully hedged this foreign exchange position by concluding and subsequently closing option transactions which gave the Bank the right to purchase foreign currencies, and by concluding and settling a series of foreign currency exchange transactions under which the Group purchased foreign currencies for PLN. After hedging this foreign exchange position, the capital requirement for market risk significantly decreased.

In the second half of 2021, the foreign exchange risk of the Bank's Group was low because the Bank, as a rule, follows the policy of limiting its positions in the main currencies, i.e. EUR, USD, CHF and GBP.

The VaR and stress test analysis of the financial assets of the Bank and the Bank's Group (in total for all currencies) exposed to foreign exchange risk were as follows as at 31 December 2021 and as at 31 December 2020:

Table 2.31. Sensitivity of financial assets exposed to foreign exchange risk

MEASURE NAME[1]	31.12.2021	31.12.2020
FX VaR for a 10-day time horizon at the confidence level of 99% (in PLN million) [2]	3	615
Change in CHF/PLN exchange rate by 10% (in PLN million) (stress-test)[3]	4	1424
Change in EUR/PLN exchange rate by 10% (in PLN million) (stress-test)[3]	25	18
Change in CUR/PLN exchange rate by 10% (in PLN million) (stress-test)	25	1430

[1] Items do not include structural positions in UAH (PLN 1 072.3 million) and EUR (PLN 23.5 million) which the Bank is permitted to exclude from determination of foreign exchange positions based on a consent received from PFSA, which do not affect the Bank's net profit.
[2] Due to the nature of the activities of the Group companies, the value-at-risk measure is presented for the Bank.
[3] Stress test scenarios assume the appreciation or depreciation of PLN against individual foreign currencies; depending on which change generates a bigger loss.

As in the case of interest rate risk, given the nature of the activities of the other entities in the Bank's Group which generate a material foreign exchange risk and the specific nature of the market in which they operate, the Bank does not calculate a consolidated VaR sensitivity measure. These entities use their own risk measures to manage foreign exchange risk. A 10-day VaR measure is used by KREDOBANK S.A., it amounted to PLN 0.1 million as at 31 December 2021 and PLN 0.1 million as at 31 December 2020.

2.7.5. Reporting foreign exchange risk

The Bank prepares daily, weekly, monthly and quarterly foreign exchange risk reports, with the monthly and quarterly reports concerning also the Bank's Group. The reports contain information on the foreign exchange risk exposure and information on the utilization of the risk limits. The users of such reports are mainly the ALCO, RC, the Management Board, Risk Committee of the Supervisory Board, and the Supervisory Board.

2.7.6. Management activities related to foreign exchange risk

The main foreign exchange risk management tools used in the Bank's Group include:
1) foreign exchange risk management procedures;
2) limits and thresholds for foreign exchange risk;
3) defining the acceptable types of foreign exchange transactions and the foreign exchange rates used in such transactions.

The methods of foreign exchange risk management in the entities in the Bank's Group are defined in the internal regulations implemented by those entities for which foreign exchange risk is material. Such regulations are developed after consulting the Bank and taking into account the Bank's recommendations.

The acceptable level of foreign exchange risk at the level of both the Bank and the Bank's Group is determined as part of the Risk Management Strategy of PKO Bank Polski S.A. and the PKO Bank Polski S.A. Group.

At least once a year, the Bank reviews the risk management process in order to verify the consistency of the foreign exchange risk management process with the process of managing other risks, the regulatory requirements and the degree of alignment with the scale and complexity of the foreign exchange risk to which the Bank is exposed, which ensures the continued effectiveness of hedging instruments and risk mitigation measures. Additionally, the effectiveness of the risk management process is constantly monitored as part of the reports specified in chapter 2.7.5 of this Report.

2.8. Liquidity risk, including financing risk

2.8.1. Introduction

Liquidity risk is the risk of the inability to settle liabilities as they become due because of the absence of liquid assets. A lack of liquidity may be due to an inappropriate structure of the balance sheet, a mismatch of cash flows, non-payment by counterparties, a sudden withdrawal of funds by customers or other market developments.

The purpose of liquidity risk management is to ensure the necessary level of funds needed to settle current and future liabilities (also potential ones), taking into account the nature of the activities conducted and the needs which may arise due to changes in the market environment, by appropriately shaping the structure of the balance sheet and off-balance sheet liabilities.

As part of liquidity risk management, the Bank also manages:
1) financing risk, which includes the risk of losing the available sources of financing and the inability to renew the funding matured or losing access to new sources of financing;
2) product liquidity risk, for the estimation of which the cost of sale of liquid securities is assessed, which is then used in the main liquidity risk measures, stress testing and within the internal transfer pricing system in the Bank.

The process and the organization of liquidity risk management in the Bank's Group are in compliance with the principles described in chapter 2.1 of this Report.

The liquidity risk management process is supervised by the Supervisory Board which regularly receives information on the risk profile of the Bank and the Bank's Group as well as information on the key measures taken to manage liquidity risk. The Supervisory Board also approves reports confirming the compatibility of the liquidity risk profile with the tolerance for liquidity risk defined at the level of the Bank and the Bank's Group. The Management Board is responsible for managing the Bank's liquidity risk, including supervising and monitoring the measures taken by the Bank to manage liquidity risk. The Management Board adopts internal regulations on liquidity risk management.

The Risk Management Strategy of PKO Bank Polski S.A. and the PKO Bank Polski S.A. Group defines an acceptable level of liquidity risk both in the Bank and the Bank's Group and lays down the principles of liquidity risk management in the Bank's Group.

The Bank supervises the functioning of liquidity risk management in the individual subsidiaries in the Bank's Group. As part of the supervision, the Bank influences the liquidity risk management methods in these entities and supports their development. The Bank also takes into account the level of liquidity risk in the operations of the individual entities as part of the liquidity risk monitoring and reporting system at the Bank's Group level.

The Bank's treasury and liquidity risk management functions are segregated between the Corporate and Investment Banking Area and the Risk Management Area, whereas within the individual entities in the Bank's Group they are centralized. The internal transfer of liquidity within the Bank's Group is restricted to the level of the financing needs being reported and the limits granted. The Bank also sells a selected part of its housing loan portfolio to PKO Bank Hipoteczny, as part of which PKO Bank Hipoteczny issues long-term mortgage covered bonds in PLN and EUR which are secured with the aforementioned receivables.

The Bank's Group has different types of long-term sources of external financing which include loans obtained from international financial institutions, bond issues under the Own Bond Issue Programme of PKO Bank Polski S.A. on the domestic market and the Euro Medium Term Notes (EMTN) programme on the foreign market, bond issues on the foreign market through PKO Finance AB under the EMTN programme, covered mortgage bond issues by PKO Bank Hipoteczny S.A. and the securitization of assets by PKO Leasing S.A.

2.8.2. Identification, measurement and assessment of liquidity risk

The identification of liquidity risk consists of identifying its current and potential sources and estimating the materiality of its potential impact on the activities of the Bank and the Bank's Group.

The liquidity policy of the Bank's Group is based on maintaining an adequate level of a liquidity surplus as well as supervisory and internal measures of liquidity and financing risk, by increasing the liquid securities portfolio and stable sources of financing (in particular, a stable deposit base). Money market instruments, including the operations of the open market of the National Bank of Poland, are also used to manage liquidity risk.

The Bank's Group uses, among other things, the following liquidity risk measures:
1) contractual liquidity gap – a listing of all balance sheet items by contractual maturity;
2) adjusted liquidity gap – a listing of individual balance sheet categories by adjusted maturity;
3) Liquidity Coverage Ratio (LCR) – a measure which defines the relationship of high quality liquid assets to net outflows in a 30-day horizon in stress conditions (a supervisory measure defined in the CRR);
4) Net Stable Funding Ratio (NSFR) – a measure which defines the relationship of items providing stable funding to items requiring stable funding;
5) liquidity surplus – a measure defining the Bank's ability to maintain liquidity on each day during the period called a "survival horizon", in stress conditions, taking into account scenarios of various severity and probability;
6) liquidity reserve – the difference between the most liquid assets and the expected and potential liabilities which mature in a given period;
7) stable financing to non-liquid assets ratio – the relationship of a stable deposit base, own funds and stable market sources of financing to loans, non-current assets and non-liquid securities;
8) concentration of long-term market sources of financing – the relationship of long-term sources of financing, grouped collectively according to a defined maturity, to a deposit base and all long-term sources of financing;
9) measures of stability of the deposit and loan portfolios;
10) early warning indicators – monitored with a view to early detection of adverse events which may have a negative impact on the liquidity of the Bank or the financial sector (which, when exceeded, trigger off liquidity contingency plans);
11) liquidity stress tests.

The main objective of the stress tests performed as part of liquidity risk management is to identify and determine the factors constituting the greatest risk to the Bank's liquidity and to assess their impact on the Bank's liquidity, should they materialize.

The following types of scenarios are used to measure liquidity risk in the Bank:
1) scenario of the Bank's survival horizon in stress conditions;
2) scenarios of a mass withdrawal of deposits by non-financial customers;
3) scenarios of the sensitivity of inflows and outflows to a change in market conditions;
4) scenarios of the impact of stress market conditions on the expected losses on the housing loan portfolio;
5) scenarios of forecasted liquidity risk in shock conditions;
6) scenarios of additional collateral for derivative instruments concluded in the event of the Bank's credit rating being lowered;
7) stress tests for intraday liquidity;

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8) reverse stress tests.

The results of stress tests are used, in particular, in:
1) monitoring the Bank's exposure to liquidity risk in stress conditions;
2) establishing limits and thresholds imposed on liquidity risk measures;
3) controlling the maintenance of a liquidity surplus on each day during the period called a "survival horizon";
4) the financial planning process at the Bank;
5) determining the symptoms which trigger off the Bank's liquidity contingency plans;
6) determining the levels of the ratios which trigger off the Recovery Plan.

2.8.3. Control of liquidity risk

The control of liquidity risk covers determining the strategic limits of tolerance for liquidity risk, limits and thresholds which define an acceptable level of the exposure of the entities in the Bank's Group to the risk of short-, mid- and long-term liquidity, tailored to the scale and complexity of the Bank and the Bank's Group.

2.8.4. Monitoring liquidity risk

The adjusted liquidity gaps presented below include a list of maturing assets and liabilities and, in addition, they have been adjusted for certain on-balance sheet and off-balance sheet items to properly present the liquidity position of the Bank and the entities in the Bank's Group.

The key adjustments concern the following:
1) the core deposits (excluding the interbank market) and their maturities – customers' deposits (current accounts, savings accounts and fixed term deposits) have been classified into respective tenors according to their stability (the maintenance of an appropriate balance or revolving after the maturity date);
2) overdraft facilities and credit cards and their maturities – the expected cash flows relating to the repayment of overdraft facilities and credit card loans and the discharge of the off-balance sheet liabilities relating to these products have been classified into respective tenors, taking into account the payability of these loans and the possibility of their revolving;
3) liquid securities and their maturities – the expected cash flows have been classified into respective tenors, according to the possible dates of their liquidation (pledging, sale);
4) hedging transactions placed in connection with the performance of CSA agreements – the expected cash inflows or outflows have been classified into respective tenors, according to the estimated value of deposits to be placed by the Bank or deposits payable to the Bank;
5) market sources of financing – the expected cash flows have been classified into respective tenors, according to the planned revolving of the maturing market sources of financing;
6) off-balance sheet liabilities granted and received – the expected cash flows have been classified into respective tenors, according to the estimated dates and degrees of utilization of off-balance sheet liabilities (in particular, loans granted).

The tables below present data concerning a periodic gap and a cumulative periodic gap of the Bank and the entities in the Bank's Group as at 31 December 2021 and 31 December 2020, respectively.

Table 2.32. Adjusted liquidity gap* - assets and liabilities

2021	a'vista	0-1 month	1-3 months	3-6 months	6-12 months	1-2 years	2-5 years	over 5 years
PKO Bank Polski SA								
Periodic gap	9 604	84 503	-8 396	-3 436	-1 085	15 878	33 475	-130 543
Cummulative gap	9 604	94 107	85 712	82 275	81 190	97 069	130 543	0
Bank subsidiaries								
Periodic gap	448	3 838	977	-3 358	259	-481	-1 224	-459
Cumulative gap	448	4 287	5 263	1 906	2 165	1 683	459	0
Total - Periodic gap	10 053	88 341	-7 419	-6 794	-826	15 397	32 251	-131 003
Total - Cumulative gap	10 053	98 394	90 975	84 181	83 355	98 752	131 003	0

* Calculated as the total of the adjusted liquidity gap of PKO Bank Polski S.A., PKO Bank Hipoteczny, PKO Leasing S.A., PKO Życie Towarzystwo Ubezpieczeń S.A. and KREDOBANK and the contractual liquidity gap of the other companies in the Bank's Group.

In all tenors, the adjusted cumulative liquidity gap of the Bank's Group was positive. This means a cumulative surplus of the maturing assets over the maturing liabilities.

The table below presents the Bank's liquidity surplus as at 31 December 2021 and as at 31 December 2020.

Table 2.33. Bank's liquidity surplus

SENSITIVITY MEASURE	2021	2020
Liquidity surplus in 30-day horizon	14 656	14 522

The Bank maintains a high and safe level of high quality unencumbered liquid assets which constitute a hedge in case extreme liquidity scenarios (a liquidity surplus) materialize. Easily disposable assets include: cash (less the minimum balance maintained at the ATMs and in the Bank's branches), funds in the Bank's nostro accounts (excluding the average level of the mandatory reserve), interbank deposits placed with other banks and liquid securities.

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Table 2.34. Liquidity surplus items

CATEGORY	2021	2020
Cash	3 139	2 989
Nostro accounts and deposits	2 434	3 340
Treasury bills and bonds	83 489	82 749
Monetary bills	0	0
Other liquid secur ities	26 182	22 698

The table below shows the supervisory liquidity measures of the Bank's Group as at 31 December 2021 and as at 31 December 2020.

Table 2.35. Supervisory liquidity measures

Measure	2021	2020
LCR	193,3%	227,6%
NSFR	129,0%	134,7%

In the period from 31 December 2020 to 31 December 2021, the values of the supervisory measures remained above the supervisory limits.

The structure of the Bank's sources of financing was described in the Bank's annual financial statements as at and for the year ended 31 December 2021 (Note 73. Liquidity risk management). The Bank follows a strategy which consists of using the stable part of the deposit base as the basic source of financing in all currencies. Issues of bonds denominated in EUR, PLN and USD as well as mortgage covered bonds denominated in EUR and PLN also constitute a significant part of financing for the Bank and the Bank's Group (especially in the case of foreign currencies). Surplus funds obtained on the market in a given currency (issues of securities) are used to manage the Bank's foreign currency liquidity needs, using derivative transactions (mainly CIRS and FX swaps).

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Table 2.36. Quantitative information of LCR [Template EU LIQ1]

		a	b	c	d	e	f	g	h
		Total unweighted value (avg)				Total weighted value (avg)			
EU 1a	Quarter ending on (DD Month YYY)	31.12.2021	30.09.2021	30.06.2021	31.03.2021	31.12.2021	30.09.2021	30.06.2021	31.03.2021
EU 1b	Number of data points used in the calculation of averages	12	12	12	12	12	12	12	12
HIGH-QUALITY LIQUID ASSETS									
1	Total high-quality liquid assets (HQLA)					117 683	116 954	113 373	108 471
CASH - OUTFLOWS									
2	Retail deposits and deposits from small business customers, of which:	216 101	211 198	206 466	201 408	15 294	15 001	14 766	14 587
3	Stable deposits	157 968	153 865	149 397	143 934	7 898	7 693	7 470	7 197
4	Less stable deposits	58 133	57 333	57 069	57 474	7 395	7 307	7 296	7 390
5	Unsecured wholesale funding	83 926	80 834	80 856	82 920	29 304	27 855	27 885	29 288
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks	29 003	29 487	29 954	28 868	7 006	7 140	7 274	7 025
7	Non-operational deposits (all counterparties)	53 301	50 141	49 922	53 384	20 676	19 510	19 631	21 595
8	Unsecured debt	1 622	1 206	979	668	1 622	1 206	979	668
9	Secured wholesale funding					-	-	-	-
10	Additional requirements	65 190	60 934	59 793	58 387	10 970	9 267	8 552	8 191
11	Outflows related to derivative exposures and other collateral requirements	3 850	2 588	2 134	2 032	3 850	2 588	2 134	2 032
12	Outflows related to loss of funding on debt products	-	-	-	-	-	-	-	-
13	Credit and liquidity facilities	61 340	58 345	57 659	56 355	7 120	6 679	6 418	6 159
14	Other contractual funding obligations	2 580	2 256	2 183	2 184	1 797	1 509	1 456	1 446
15	Other contingent funding obligations	15 965	18 242	17 525	17 295	3 238	3 580	3 449	3 492
16	TOTAL CASH OUTFLOWS					60 602	57 212	56 107	57 004
CASH-INFLOWS									
17	Secured lending (e.g. reverse repos)	604	270	312	117	7	3	3	1
18	Inflows from fully performing exposures	7 567	7 245	7 262	7 542	5 354	5 027	5 030	5 191
19	Other cash inflows	2 304	1 641	1 550	1 540	1 909	1 101	902	903
EU-19a	(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)					-	-	-	-
EU-19b	(Excess inflows from a related specialised credit institution)					-	-	-	-
20	TOTAL CASH INFLOWS	10 474	9 156	9 123	9 199	7 270	6 131	5 935	6 095
EU-20a	Fully exempt inflows	-	-	-	-	-	-	-	-
EU-20b	Inflows subject to 90% cap	-	-	-	-	-	-	-	-
EU-20c	Inflows subject to 75% cap	10 474	9 156	9 123	9 199	7 270	6 131	5 935	6 095
TOTAL ADJUSTED VALUE									
EU-21	LIQUIDITY BUFFER					117 683	116 954	113 373	108 471
22	TOTAL NET CASH OUTFLOWS					53 332	51 081	50 172	50 908
23	LIQUIDITY COVERAGE RATIO					222%	229%	226%	214%

A liquidity coverage ratio is determined individually by each entity in the Bank's Group which is required to determine this ratio and on a consolidated basis for the Bank's Group as a whole.

As at 31 December 2021, the LCR has remained at a high level, significantly above the supervisory limit and internal limits and thresholds. Compared with 30 June 2021, the ratio fell by 25 pps, mainly due to an increase in the mandatory reserve rate required by the NBP, an increase in the cost of selling corporate and municipal bonds and an increase in outflows in the scenario of the impact of unfavourable market conditions on derivatives, financing transactions and other agreements. The Group's liquid assets decreased by PLN 8 billion in that period, mainly as a result of lower valuation of liquid securities.

The Bank maintains a high and safe level of high quality unencumbered liquid assets which constitute a hedge in the event that extreme liquidity scenarios (a liquidity surplus) materialize. Easily disposable assets include: cash (less the minimum balance maintained at the ATMs and in the Bank's branches), funds in the Bank's nostro accounts (excluding the average level of the mandatory reserve), interbank deposits placed with other banks and liquid securities.

As at the end of December 2021, the outflows in respect of derivative instruments calculated in accordance with the CRR amounted to PLN 2.1 billion, whereas the impact of the unfavourable market conditions scenario on derivative instruments, financing transactions and other agreements accounted for 1.0% of the total unweighted outflows recognized in the liquidity coverage ratio.

As at the end of December 2021, the Bank's Group had 2 currencies for which the ratio of the value of liabilities in a given currency to the total value of liabilities in all currencies amounted to at least 5%: PLN and EUR. The Bank's Group had an LCR above 100% for all currencies in total and for PLN.

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Table 37. Net Stable Funding Ratio [Template EU LIQ2]

	(in currency amount)	31.12.2021				
		a	b	c	d	e
		Unweighted value by residual maturity				Weighted value
		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	
Available stable funding (ASF) Items						
1	Capital items and instruments	43 520	-	-	2 700	46 220
2	*Own funds*	43 520	-	-	2 700	46 220
3	*Other capital instruments*		-	-	-	-
4	Retail deposits		225 400	-	-	211 038
5	*Stable deposits*		163 562	-	-	155 384
6	*Less stable deposits*		61 838	-	-	55 654
7	Wholesale funding:		108 367	4 808	12 660	46 384
8	*Operational deposits*		31 350	-	-	15 675
9	*Other wholesale funding*		77 018	4 808	12 660	30 710
10	Interdependent liabilities		-	-	-	-
11	Other liabilities:	-	14 637	-	-	-
12	*NSFR derivative liabilities*	-				
13	*All other liabilities and capital instruments not included in the above categories*		14 637	-	-	-
14	**Total available stable funding (ASF)**					319 317
Required stable funding (RSF) Items						
15	Total high-quality liquid assets (HQLA)					1 181
EU-15a	Assets encumbered for more than 12m in cover pool		252	230	10 000	8 910
16	Deposits held at other financial institutions for operational purposes		-	-	-	-
17	Performing loans and securities:		20 263	12 849	208 406	200 726
18	*Performing securities financing transactions with financial customerscollateralised by Level 1 HQLA subject to 0% haircut*		-	-	-	-
19	*Performing securities financing transactions with financial customer collateralised by other assets and loans and advances to financial institutions*		1 903	1	3	194
20	*Performing loans to non- financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs, of which:*		14 243	9 391	100 376	108 988
21	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*		499	346	6 443	5 657
22	*Performing residential mortgages, of which:*		2 946	2 974	95 139	77 836
23	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*		1 642	1 490	60 079	44 113
24	*Other loans and securities that are not in default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products*		1 170	483	12 888	13 708
25	Interdependent assets		-	-	-	-
26	Other assets:					
27	*Physical traded commodities*				-	-
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*		-	-	1 436	1 220
29	*NSFR derivative assets*		217			217
30	*NSFR derivative liabilities before deduction of variation margin posted*		8 757			438
31	*All other assets not included in the above categories*		9 508	391	27 165	31 020
32	Off-balance sheet items		15 589	16 103	36 774	3 856
33	**Total RSF**					247 567
34	**Net Stable Funding Ratio (%)**					129,0%

2.8.5. Reporting liquidity risk

The Bank prepares daily, weekly, monthly and quarterly liquidity risk reports, with the monthly and quarterly reports concerning also the Bank's Group. The reports contain information on the liquidity risk exposure and information on the utilization of the risk limits. The users of such reports are mainly the ALCO, RC, the Management Board, the Risk Committee of the Supervisory Board, and the Supervisory Board.

2.8.6. Management activities related to liquidity risk

The main liquidity risk management tools used in the Bank's Group include:
1) liquidity risk management procedures, including, in particular, liquidity contingency plans;
2) limits and thresholds for liquidity risk;
3) deposit, investment and derivative transactions, including structured foreign exchange transactions, and the purchase and sale of securities;
4) transactions providing long-term financing for lending activities.

The methods of liquidity risk management in the entities in the Bank's Group are defined in the internal regulations implemented by those entities for which liquidity risk is material. Such regulations are developed after consulting the Bank and taking into account the Bank's recommendations.

The acceptable level of risk at the level of both the Bank and the Bank's Group is determined as part of the Risk Management Strategy of PKO Bank Polski S.A. and the PKO Bank Polski S.A. Group.

At least once a year, the Bank reviews the risk management process (taking into account the ILAAP guidelines) in order to verify whether the liquidity risk management process is adequate to the scale and complexity of the liquidity risk to which the Bank is exposed and consistent with the process of managing other risks and the regulatory requirements. This activity ensures the continued effectiveness of hedging instruments and risk mitigation measures. Additionally, the effectiveness of the risk management process is constantly monitored as part of the reports specified in chapter 2.8.5 of this Report.

2.9. Operational risk

2.9.1. Introduction

Operational risk is understood as the risk of losses resulting from inadequate or failed internal processes, people and systems or from external events. Operational risk does not include reputation risk or business risk, but does include legal risk and cybersecurity risk:

- legal risk – the risk of incurring losses resulting from the ignorance, misunderstanding and non-application of legal and accounting standards, inability to enforce contractual provisions, unfavourable interpretations or decisions of courts or public administration authorities;
- cybersecurity risk – the degree of vulnerability due to potential negative ICT-related cyber security risk factors that could cause a financial loss to the organization by compromising the availability, integrity, confidentiality or accountability of information processed on SIB resources.

In accordance with the operational risk management strategy, the objective of operational risk management is to ensure the operating and cost effectiveness as well as security of the activities by reducing the occurrence of operational events and their negative consequences.

Operational risk management in the Bank and at the Bank Group's level follows the best practices for managing the risk in banks and is in line with the generally applicable provisions of the law.

The entities in the Bank's Group manage operational risk in accordance with the principles for managing this risk in the Bank, taking into account the scope and type of the relationships between the entities in the Bank's Group, the specific nature and scale of the operations of the individual entities.

The operational risk profile of the Bank and the Bank's Group is understood as the scale and structure of the exposure to operational risk; it is defined by strategic limits of tolerance for operational risk. The Management Board defines the levels of utilization of strategic limits of tolerance for operational risk which, when exceeded, serve as a signal for undertaking management activities to mitigate operational risk.

Operational risk is managed at the level of the entire Bank and at the levels of the individual areas of systemic operational risk management. The Bank's internal regulations clearly define organization, segregation of competences and tasks in the area of operational risk management.

Current operational risk management is carried out by each employee of the Bank's Group as part of their duties and obligations and consists of preventing operational events arising in servicing products, conducting processes and using applications from materializing and of responding to the occurrence of operational events. Such responding includes:
1) identifying events and explaining the reasons for their occurrence;
2) defining the consequences of operational events;
3) recording data on operational events and their consequences;
4) monitoring information on operational events and their consequences;
5) eliminating the negative consequences of operational events;
6) implementing corrective and preventive measures.

Systemic operational risk management consists of developing solutions used to control the operational risk level, enabling the Bank's objectives to be achieved. The main areas of systemic operational risk management are:
1) security;
2) IT;
3) settlements;
4) human resources;
5) business activities;
6) administration;
7) support (in particular insurance management, outsourcing, building and implementing an internal operational risk measurement model and systems of identification, assessment, monitoring and limiting of operational risk, etc.).

As part of operational risk management, the Supervisory Board supervises the operational risk management process, including:
1) approving strategic limits of tolerance for operational risk of the Bank and the Bank's Group;
2) approving the operational risk management strategy;
3) evaluating the operational risk management process, in particular on the basis of regular operational risk reports taking into account the annual assessment of the adequacy and effectiveness of the operational risk management system.

As part of operational risk management, the Management Board determines the operational risk management process, in particular:
1) it sets the objectives of operational risk management;
2) it shapes the operational risk management strategy;
3) it adopts resolutions on the operational risk management principles, strategic limits of tolerance for operational risk, and significant changes and extensions of the AMA;
4) it accepts the value of the management adjustment to the own funds requirement for operational risk according to the AMA;
5) it accepts reports and information on operational risk.

The correctness of the operational risk management process is regularly verified as part of:
1) review of the operational risk management strategy and processes aimed at assessing the adequacy and effectiveness of the operational risk management system;
2) self-assessment of maintenance of compliance with the AMA requirements;
3) validation of the AMA;
4) internal audit.

2.9.2. Identification, measurement and assessment of operational risk

2.9.2.1. Identification, method of measurement and assessment of operational risk

For the purposes of operational risk management, the Bank collects internal and external data on operational events as well as the reasons for them and the consequences of their occurrence, data on business environment factors, the results of operational risk self-assessment, data on the values of operational risk indicators, and data on the quality of the internal control system.

The operational risk self-assessment includes the identification and assessment of operational risk for the products, processes and applications of the Bank as well as organizational changes. Such self-assessment is conducted regularly and before the introduction of new or changed products, processes and applications of the Bank, using collected data on operational events and information obtained during the measurement, monitoring, cooperation with the entities in the Bank's Group and reporting on operational risk, including internal audits and security audits.

In 2021, PKO Bank Polski S.A. and the PKO Leasing S.A. Group had a decisive impact on the operational risk profile of the Bank's Group.

The measurement of operational risk in the Bank is aimed at determining the scale of the threats related to the occurrence of operational risk, using defined risk measures. Operational risk measurement includes:

1) calculation of operational risk indicators: KRI and RI;
2) calculation of the own funds requirement for operational risk under the AMA (for the Bank, including the branches in Germany and the Czech Republic) and BIA (for the branch in the Czech Republic and the entities in the Bank's Group, subject to prudential consolidation);
3) stress-tests;
4) calculation of internal capital for the Bank's Group.

The BIA requirement regarding the Bank's operations subject to the BIA is calculated in accordance with the CRR (Part Three, Title III) and applies to the part of the Bank's operations for which the Bank has the PFSA's permission obtained in connection with combining the BIA and AMA approaches to calculating the own funds requirement for operational risk.

The AMA requirement is calculated in accordance with the CRR and taking into account the requirements included in the RTS AMA Regulation. The approach is subject to independent reviews and is verified each year as part of the self-assessment of the compliance with AMA requirements in accordance with the guidelines of the PFSA on supervisory validation of statistical methods of capital requirements' calculation, which are treated by the Bank and a supplementary document representing the best practices in the application of the advanced approach to operational risk management.

The Bank complies with the standards relating to external and internal data referred to in Article 322(3) and (4) of the CRR.

In the measurement of the operational risk, the Bank takes into account internal operational incidents where the loss level has exceeded the adopted threshold and covers the following periods:

a) for modelling severity: from 1 January 2005 until the date at which the measurement is performed;
b) for modelling frequency distribution: from 1 May 2007 until the date at which the measurement is performed.

It is the full scope of the Bank's data, consistent with the consent granted by the PFSA for using the Advanced Measurement Approach AMA.

The Bank is mapping internal historical data on losses to business lines determined in Article 317 of the CRR and to loss event types defined in Article 324 of the CRR. Further levels of event type categorization were introduced for the Bank's purposes to collect data at a higher level of detail. Moreover, segmentation which takes into account the said categorization was implemented for the purposes of measuring operational risk using AMA.

All operational events of the Bank, including those relating to credit and market risks, are collected in the operational events database. Losses due to both operational and credit risk which are taken into account when calculating the own funds requirement for credit risk pursuant to Article 322(3)(b) of the CRR are identified and excluded from the operational risk modelling in order to exclude the possibility of double-counting of the same risks. The legal risk costs of the CHF mortgage loans portfolio are an exception, since a part of their value accounted for as at 30 September 2020 is taken into account in AMA measurement as a conservative buffer. Losses associated with the market risk are taken into account in the operational risk measurement.

The Bank's internal regulations governing the procedure for collecting the operational event data make it obligatory to report all losses due to operational risk which exceed the threshold for all units of the Bank, irrespective of the systems and geographical locations to which the loss related. The value of a threshold for internal events was established taking into account the economic cost of collecting information on operational events and their added value in operational risk measurement.

As part of the information on operational events, the Bank collects:

a) descriptive information on loss event factors or reasons;
b) gross loss and amounts recovered from the gross loss;
c) the date of commencement of the event and the date of disclosure of the event, and the date of recognition, understood as the date on which the amount of the loss of on operational event is first recognized in the profit and loss account.

The method of allocating losses resulting from loss events in the Bank's units determines the business line to which the event should be allocated depending on the product to which it relates or the Bank's unit affected by the financial effect. Allocation to a business line is based on:

a) the banking product to which the loss relates;
b) the Bank's unit to which the loss relates, if not related to a banking product.

Losses arising from events occurring over time but related to one another and those arising at different times but resulting from the same event are reported as individual events with several financial outcomes allocated to them. In the case of events related to one another, the sum of losses arising from these events is aggregated to a single observation relative to the aggregating event. Any exceptions from the adopted aggregation method must be justified and it must be verified that they do not contribute to unduly reducing the AMA requirement. The following dates are adopted as observation dates taken into account in the measurement:

1) for events not related to the legal risk – the date of disclosing the operational event;

2) for events related to the legal risk – the date of recognition, and if no date of recognition is assigned to the observation – the earliest date of loss occurrence.

Additionally, the operational risk measurement takes into account macroeconomic data and data illustrating the scale of the Bank's operating and business activities, in accordance with Article 322(6) of the CRR. The business environment factors are used to scale the severity and frequency of losses in LDA measurement, and external control factors are taken into account in the adjustment for changes in the quality of control.

Pursuant to the requirements of Article 322(4) of the CRR, the Bank uses external data when calculating LDA for selected modelled risk categories of the AMA and as an information base for analyses in the scenario analysis. The external data complement the internal data as part of operational risk measurement and are derived from, among other things, a system of exchange of information on events in the operational risk area (the ZORO) maintained by the Polish Bank Association. The Bank regularly reviews the conditions for using external data in AMA measurement.

The own funds requirement for operational risk according to the AMA corresponds to value at risk in respect of operational risk plus the result of a scenario analysis and adjusted for the value of the adjustment for changes in the quality of internal control and a management adjustment, in accordance with the following formula:

AMA = (LDA+AS)*(1+KW)+KK

where:

AMA - own funds requirement for operational risk (the AMA requirement);
LDA - value at risk;
AS - result of the scenario analysis;
KW - adjustment for changes in the quality of control;
KK - management adjustment.

The AMA measure captures potentially severe tail events, achieving a soundness standard comparable to a 99,9 % confidence interval over a one year period, in accordance with Article 322(2)(a) of the CRR.

Value at risk is calculated using a loss distribution approach (LDA). Under this approach, based on historical internal and external data on operational events and on the operational environment, a potential loss is measured which, with 99.9% probability, will not be exceeded in the coming year.

The objective of the scenario analysis is to extend the AMA requirement to capture the operational risk relating to the types of operational events which have not been covered with the LDA approach. In accordance with Article 322(5) of the CRR, the scenario analysis results are based on expert opinions, information on the losses which occurred in other institutions and the profile of these institutions, and on supplementing information on the profile of the Bank's operations.

The adjustment for changes in the quality of control makes it possible to take into account the possibility of deterioration in the quality of control in the Bank's which would result in an increase in the frequency or severity of operational events. Applied assessments of the adequacy and effectiveness of key control mechanisms are prospective and reflect potential sources of operational risk – the assessments reflect the state of functioning of the Bank's processes, including control mechanisms, and identified issues, until they are eliminated, may cause financial losses and changes in the Bank's – risk profile (in accordance with Article 322 (6) of the CRR and Article 27 of the RTS AMA Regulation).

The objective of the management adjustment is to include extraordinary events which, due to their specific nature, were not included in the AMA requirement under the LDA approach or in the scenario analysis, in the calculation of the AMA requirement.

In accordance with the requirements of Article 322(5) of the CRR and Article 26 of the RTS AMA Regulation, risk measurement includes conducting stress tests related to the possible consequences of materialization of extremely unfavourable, yet possible, scenarios. This is aimed at defining the sensitivity of the Bank's results to the materialization of a test scenario and at determining whether the AMA requirement covers the total losses resulting from the materialization of such scenarios. The previous results of stress tests do not challenge the sufficient conservatism of the AMA requirement. Additionally, the Bank performs the backtesting of the correctness of the AMA requirement calculated. Backtesting results confirm the sufficient conservatism of the AMA requirement.

The Model Validation Department, as an independent unit of the Bank, regularly validates the AMA approach used in accordance with the requirements laid down in Article 321(f) of the CRR and Articles 16 and 17 of the RTS AMA Regulation. The objective of validation of the AMA approach is an independent assessment of the extent to which the model meets the business needs known at the time of the validation. Independence of the validation process is ensured by the placement of the validation unit in the Bank's organizational structure under the direct supervision of the Vice-President of the Management Board responsible for the Risk Management Area in matters relating to model validation.

The Internal Audit Department is responsible for conducting internal audits of the internal operational risk management system. Operational risk measurement systems and the assessment of the quality of sources and data used for operational risk measurement and management are important elements which are subject to audit in accordance with the guidelines of Article 16 of the AMA RTS Regulation.

2.9.2.2. The Bank's insurance policy

To minimize the negative financial implications of operational events, the Bank follows an insurance policy which consists of ensuring continuing and effective insurance cover in return for an acceptable cost. PKO Bank Polski S.A. strives to apply uniform insurance principles for the entire Bank's Group so as to optimize the scope and costs of the insurance cover by using the effects of scale.

The Bank's insurance programme is monitored on an ongoing basis in order to identify the needs for the necessary changes.

2.9.2.3. Impact of insurance

In calculating the own funds requirement for operational risk, the Bank takes into account the impact of insurance.

The insurance policies used by the Bank to reduce the own funds requirement for operational risk meet the criteria defined in Article 323 of the CRR and Articles 36-44 of the RTS AMA Regulation and are in compliance with the Bank's internal regulations regarding the calculation of reductions in the own funds requirement for insurance. The Bank's insurance policies primarily relate to crime and professional indemnity insurance, directors and officers liability insurance, the Bank's third party liability and all-risk property insurance. In calculating reductions in respect of insurances held, the Bank takes into account deductibles and franchises.

Pursuant to Article 323 of the CRR, the reduction in own funds requirements from the recognition of insurances and other risk transfer mechanisms shall not exceed 20% of the own funds requirement for operational risk before the recognition of risk mitigation techniques.

2.9.3. Control of operational risk

The objective of operational risk management is to strive to maintain the level of operational risk of the Bank and the Bank's Group at a fixed level.

The control of operational risk includes determining risk control mechanisms in the form of operational risk limits, in particular strategic limits of tolerance for operational risk, loss limits and operational risk indicators, including thresholds and critical values, tailored to the scale and complexity of the activities of the Bank and the Bank's Group.

Strategic limits of tolerance for operational risk are defined by the Management Board and approved by the Supervisory Board. Additionally, the Management Board defines the levels of utilization of the strategic limits of tolerance for operational risk for the Bank and the Bank's Group, which, when exceeded, serve as a signal for undertaking management activities to mitigate operational risk.

The Bank has a system of loss limits allocated to the Bank's individual units or functional divisions managing the operational risk relating to the individual areas of systemic operational risk management, which is aimed at defining the maximum acceptable level of operational risk for the Bank's individual units or functional divisions, ensuring that the strategic limits of tolerance for operational risk are not exceeded.

2.9.4. Monitoring operational risk

The objective of operational risk monitoring is to observe deviations from the benchmarks assumed (in particular limits, thresholds, prior period measurements, recommendations and guidance) in order to diagnose areas requiring management activities.

The Bank regularly monitors, in particular:
1) the degree of utilization of strategic tolerance limits for the Bank and the Bank's Group and loss limits for operational risk for the Bank;
2) operational events and their consequences;
3) results of the operational risk self-assessment;
4) the own funds requirement for operational risk under the BIA with regard to the activities of the branch in the Czech Republic and under the AMA with regard to the Bank's other activities, and under the BIA for the entities in the Bank's Group subject to prudential consolidation;
5) the results of stress tests, including reverse stress tests;
6) the values of operational risk indicators in relation to thresholds and critical values;
7) the level of risk for the Bank and the Bank's Group, areas and tools for managing operational risk in the Bank, such as self-assessment, operational risk indicators, and loss limits;
8) the effectiveness and timeliness of the management activities undertaken to reduce or transfer operational risk;
9) management activities related to the occurrence of an increased or high level of operational risk and their effectiveness in reducing the operational risk level.

2.9.5. Reporting operational risk

The reporting of information on operational risk is carried out for the needs of senior management, the ORC, RC, the Management Board and the Supervisory Board on a monthly and quarterly basis. The scope of the information is tailored to the scope of responsibility of the individual users of the information.

The users of monthly information include the ORC, senior management, and the Bank's units responsible for systemic operational risk management. Monthly information includes, in particular, information on:
1) the number and consequences of operational events;
2) the structure of operational events;
3) the values of selected operational risk indicators.
4) the operational risk level for strategic limits of operational risk tolerance, loss limits and self-assessment of operational risk.

The users of quarterly reports are the ORC, the RC, the Management Board and the Supervisory Board. Quarterly reports include, in particular, information on:
1) the Bank's operational risk profile resulting from the process of identification and assessment of threats to the Bank's products, processes and applications, and the LDA measurement;
2) the operational risk level for the Bank, areas and tools for managing operational risk, such as self-assessment, operational risk indicators, and loss limits;
3) the results of operational risk measurement and monitoring;
4) the activities undertaken to mitigate operational risk and the assessment of the effectiveness of the activities undertaken to reduce the level of operational risk.

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2.9.6. Management activities related to operational risk

Management activities are undertaken in the following cases:
1) on the initiative of the ORC or the Management Board;
2) on the initiative of the Bank's units responsible for managing operational risk;
3) when operational risk has exceeded the levels determined by the Management Board or the ORC.

In particular, if operational risk has reached an increased or high level, the Bank uses the following approaches and operational risk management tools:

1) risk reduction – mitigating the impact of risk factors or the consequences of risk materialization by implementing or enhancing operational risk management instruments, such as:
   a) control instruments (among other things, authorization, internal control, segregation of functions);
   b) human resources management instruments (selection of staff, increasing the qualifications of employees, incentive systems);
   c) establishing or verifying the thresholds and critical values of operational risk indicators;
   d) establishing or verifying operational risk limits;
   e) contingency plans;
2) risk transfer – transfer of responsibility for covering potential losses on a third-party:
   a) insurance;
   b) outsourcing;
3) risk avoidance – discontinuation of risk-generating activity or eliminating the probability that a risk factor will occur.

2.9.7. Losses incurred and management activities mitigating operational risk

In 2021, operational risk events were disclosed in the Bank, excluding losses related to the lending process, which comprised the losses presented in Table 2.35 totalling PLN 24.11 million, net (PLN 56.46 million, gross).

The most important operational incidents were disclosed in the External fraud category and related, among other things, to making unauthorized transfers as a result of the Bank's customers using highly positioned links in Internet search engines redirecting to fake websites impersonating the Bank's Internet banking service. As a result of customers providing confidential data on such websites, cybercriminals carried out and attempted to carry out unauthorized transfers from the customers' accounts. The Bank takes effective measures to block such transactions or to recover the funds.

Table 2.38. Losses* related to disclosed events

PKO BANK POLSKI SA		2021	
General category	**Specific category**	**Gross losses****	**Net losses*****
Internal frauds	Non-legitimated activities	0,32	0,00
	Thefts and frauds	1,03	0,92
Regulations of employment and work safety	Labour issues	1,83	0,60
Client, products and operational practises	Customer service, disclosure of information about clients, responsibilities to clients	0,26	0,24
	Improper business or market practices	0,01	0,01
	Products malfunctions	1,29	1,21
	Customer classification and exposures	0,09	0,05
Disruption od bank operations and system failures	Systems	0,07	0,05
Making transactions, providing and managing operational processes	Recording in the system, making, calculating and servicing transactions	3,45	2,68
	Inflow and registering clients	0,25	0,00
	Managing client's bank accounts	0,27	0,14
	Sellers and suppliers	2,40	2,02
Losses related to fixed assets	Natural disasters and other events	3,43	0,22
External frauds	Thefts and frauds	41,75	15,97
Total		**56,46**	**24,11**

* The losses do not include losses from operational risk related to credit risk, which are recognized as losses from credit risk and are used to calculate minimum requirements for own funds.

** According to Recommendation M of the PFSA, as at 31.12.2020 gross losses include realized losses (e.g. provisions, allowances, expenses) and unrealized losses (potential losses); however, they do not include direct recoveries or recoveries from the risk transfer mechanism.
*** As at 31.12.2021, net losses include realized losses (e.g. provisions, allowances, expenses).

To mitigate losses from operational risk, the Bank undertakes both *ad hoc* and systemic management activities. *Ad hoc* activities include a direct response to the sources of risk identified, eliminating reversible irregularities and recovering lost funds. Systemic activities comprise, among other things, securing IT systems, improving transaction authorization methods, developing identification processes and blocking transfers to accounts identified as accounts associated with criminal activities, developing an anti-fraud system, developing and optimizing a system for combating money laundering and financing of terrorism (AML), processes improvement, internal control optimization, training, risk transfer (insurance, outsourcing).

The Bank is constantly increasing the security of IT systems, in particular in the area of applications used by the Bank's customers – this includes, among other things, active combating of phishing websites impersonating the Bank's transactional systems, identifying the intentions and capabilities of criminals including tactics, techniques and procedures (standardizing and structuring information about threats in a single data model), keeping track of the development of malware which attacks the Bank's customers, developing mechanisms of detecting infected computers of the customers, as well as improving the rules and extending the scope of electronic transaction monitoring.

In 2021, the Bank implemented the CyberSecurity Operations Center project, which optimized processes in the area of cybersecurity and prepared a strategy for providing services to the Bank's Group Companies. In addition, in 2021, the Bank implemented a SOAR class system to automate the handling of security incidents, improved systems for detecting incidents, anomalies and advanced types of malware, ensured the technological validity of solutions for computer forensics in accordance with the current profile of requirements.

Moreover, the Bank regularly educates its employees in ICT environment security and security of information processed in this environment. The Bank's employees are offered training in the threats associated with:

- using mobile devices;
- using personal computer hardware for professional purposes and using equipment provided by the Bank for private purposes;
- employees publishing information concerning the Bank in the Internet (in particular in social media);
- social engineering attacks.

In accordance with the Bank's policy, the cybersecurity principles must be complied with not only by employees, but also by third parties (contractors). The Bank sets security requirements for IT service providers with regard to the protection of the Bank's information, access to the Bank's buildings and premises, protection of the SIB.

A specialist CERT unit operating within the Bank pursues a strategy for ensuring IT security of the services provided by the Bank. CERT PKO BP is a member of an international forum which brings together response teams – FIRST and belongs to the working group of European response teams – TERENA TF-CSIRT and the Trusted Introducer organization which operates with it. Joining international organizations allows the CERT PKO BP's team to respond more effectively and quickly to cyber security threats through operational cooperation and sharing experience and knowledge with similar entities around the world. The membership of the Bank, which is an organization that meets the highest national and international standards in the field of cyber security, in the aforementioned organizations is confirmation of the high level of services provided and recognition of the Bank's professionalism and skills in ensuring IT security. The CERT PKO BP team operates on a 24/7/365 basis, and as part of its activities it pro-actively fights Internet threats, in particular those related to online and mobile banking.

The Bank's representatives become involved in the work carried out as part of the Banking Cybersecurity Centre (BCC) operating as part of the Polish Bank Association. The purpose of the BCC is to take comprehensive and long-term actions on several levels: intrasectoral, intersectoral (including cooperation with telecommunication, transport or power sector institutions), nationwide (cooperation with the state administration or law enforcement) and international, which are aimed at improving the safety of mobile and electronic banking and preparing crisis management tools (structures, procedures, information exchange mechanisms) in the event of, e.g., a massive attack of cybercriminals on the banking sector.

The Bank has an anti-fraud system in place to comprehensively detect fraud attempts to the detriment of the Bank and its customers. Anti-fraud analytics is based on decision engines operating in NRT mode for lending processes and in real time for transaction processes. Fraud detection algorithms use advanced statistical methods for rare event detection, both in key customer credit areas in the Bank's branches and agencies as well as in remote channels and transaction streams. Anti-fraud models analyse both unauthorized activity by Bank employees and detect accounts potentially operated to transfer fraudulent funds.

As regards the physical security of facilities, the monetary assets they hold and the information they process, technical safeguards and remote protection in the form of monitoring of alarm signals with the guaranteed arrival of intervention teams are used. Additionally, on-site protection is provided in selected branches and key facilities. Physical protection management, monitoring of alarm signals and work on securing the facilities are aimed at minimizing risks related to storing substantial amounts of cash, such as robberies, burglaries and other risks to physical security, such as fires, property damage, vandalism and terrorism. Due to the COVID-19 epidemic, in 2021 physical protection was adapted to the organizational changes in the work of the departments. In addition, a threat analysis of self-service devices is being carried out (the threat level of each location is analysed) in order to identify the need for additional site security, among other things, in the light of increased attacks on devices using explosives.

The technical safeguards and physical protection also serve the purpose of securing the Bank's ICT infrastructure, the information processed at the Bank, which constitutes banking secrecy, and personal data by ensuring a level of security required by law, adequate to the assessment of operational risk and optimal in terms of costs. IT system security is ensured by physical restraints as well as by the use of constantly upgraded alarm, access control, CCTV and fire protection systems.

In 2021:

1) among other things, projects were carried out which consisted of upgrading fire protection systems in selected facilities;
2) the Bank intensified its measures to prevent burglaries into ATMs with the use of explosives;
3) new mechanisms were implemented to tighten up the process of monitoring in electronic, card and mobile banking. The process of granting cash loans was also tightened up;
4) the systems for detecting incidents, anomalies and advanced types of malware were enhanced, and the handling of incidents was automated;
5) the biometric project was continued. Its purpose is to develop a system which enables safe and effective verification of a person in a stationary or remote channel based on his or her unique physical or behavioural features, using an innovative biometric technology. The project is co-financed by the National Centre for Research and Development;

6) in order to mitigate legal risk, settlement agreements were concluded with individual customers holding active loans denominated in CHF, designated for fulfilling their own housing needs. There were approximately 4.6 times as many positive mediations and settlement agreements concluded as negative ones.

2.9. Business risk

2.9.1. Introduction

Business (strategic) risk is the risk of failing to achieve the assumed financial goals, including incurring losses, due to adverse changes taking place in the business environment, making bad decisions, incorrect implementation of the decisions made or failing to take appropriate action in response to changes taking place in the business environment.

The objective of business risk management is to maintain the potential negative financial consequences resulting from adverse changes taking place in the business environment, making bad decisions, incorrect implementation of the decisions made or failing to take appropriate action in response to changes taking place in the business environment at an acceptable level.

2.9.2. Identification, measurement and assessment of business risk

The identification of business risk consists of recognizing and determining factors, both current and potential ones which arise from current and planned activities of the Bank's Group and which may significantly affect the financial position of the Bank's Group, generating revenue and expenses of the Bank's Group or a change in their amounts. Business risk is identified by making a qualitative assessment of business risk and by identifying and analysing the factors which contributed to significant deviations of the actual amounts of revenue and expenses from their forecasted amounts.

The measurement of business risk is aimed at defining the scale of threats related to the existence of business risk using the adopted risk measures. The measurement of business risk includes:
1) the calculation of internal capital;
2) conducting stress tests;
3) backtesting;
4) utilization of the strategic limit of tolerance.

The level of business risk is assessed on a quarterly basis, based on the risk level resulting from:
1) level of strategic tolerance limits calculated;
2) a qualitative assessment of business risk;
3) an indicator based on the deviation of the actual business revenue and costs from their forecast values and the level of internal capital.

2.9.3. Control of business risk

The objective of the control of business risk is to strive to maintain the level of business risk of the Bank's Group at an acceptable level.

The control of business risk includes determining and reviewing risk controls in the form of limits of tolerance for business risk along with its thresholds and critical values, adequate to the scale and complexity of the activities of the Bank's Group, on a regular basis.

2.9.4. Monitoring of business risk

Business risk is monitored to identify areas which require management action. The monitoring of business risk includes, in particular:
1) strategic limits of business risk tolerance;
2) the results of stress tests (the scenarios include the following types of events: increase in costs without a simultaneous change in revenue, intensification of the phenomenon of failure to achieve the forecast result, accumulation of losses, increased scale of losses);
3) results of backtesting;
4) internal capital level;
5) deviations in business risk materialization from the forecast;
6) results of a qualitative assessment of the business risk.

2.9.5. Reporting business risk

The reporting of the business risk of the Bank's Group is performed on a quarterly basis. The users of business risk reports include the ALCO, RC, the Management Board and the Supervisory Board. The reports include, among other things, the results of business risk measurement, in particular internal capital, the degree of utilization of the strategic limit of tolerance for business risk, results of a qualitative assessment of business risk, a forecast for internal capital to cover business risk, backtesting of the forecast, and the results of monitoring the amounts of the Bank's revenue and expenses, results of stress tests and reverse stress tests, results of an annual assessment of the adequacy and effectiveness of risk management, including a business risk management process review, information on the business risk in the entities in the Bank's Group, in particular internal capital and the degree of utilization of the strategic limit of tolerance for business risk.

2.9.6. Management activities related to business risk

The management activities consist of, in particular:
1) verifying and updating quarterly financial forecasts, including activities aimed at reducing the level of business risk;
2) monitoring the level of the strategic limit of tolerance to business risk.

2.10. Model risk

2.10.1. Introduction

Model risk is the risk of incurring losses as a result of making wrong business decisions on the basis of the models in place. The model risk in the Bank's Group is managed both at the level of a given entity in the Bank's Group (the owner of a model) and at the level of the Bank as the parent company in the Bank's Group.

The objective of model risk management is to mitigate the risk of incurring losses as a result of making wrong business decisions on the basis of the models in place through a properly defined and implemented model management process.

All the models significant to the Bank and the models of the entities in the Bank's Group, significant to the Bank's Group, are subject to an independent validation carried out by the validation unit of PKO Bank Polski S.A.

2.10.2. Identification, measurement and assessment of model risk

The identification of model risk consists of, in particular:
1) collecting information on the models in place and models planned to be implemented;
2) determining the significance of the models on a regular basis.

Model risk evaluation is aimed at determining the scale of the threats associated with the occurrence of the model risk. The assessment makes it possible to determine the risk profile and to identify the models which generate the highest risk, exposing the Bank's Group to potential losses. Model risk is assessed at the level of each model and in aggregate, at the level of each entity in the Bank's Group.

2.10.3. Control of model risk

The objective of the control of model risk is to maintain an aggregated assessment of model risk at a level which is accepted by the Bank's Group. Control of the model risk consists in determining the mechanisms used to diagnose the model risk level and tools for reducing the level of this risk. The tools used to diagnose model risk include a strategic limit of tolerance for model risk and model risk thresholds.

2.10.4. Monitoring and reporting model risk

The objective of monitoring model risk is to diagnose the areas which require management activities. The monitoring of model risk includes:
1) updating the model risk level;
2) evaluating the utilization of the strategic limit of tolerance to the model risk and the thresholds of the model risk;
3) verifying the stage of implementation and evaluating the effectiveness of the implementation of actions intended to mitigate the model risk.

The monitoring results are presented regularly in reports intended for the RC, the Management Board and the Supervisory Board, and they contain a comprehensive assessment of model risk, in particular:
1) information on the degree of utilization of the strategic limit of tolerance for model risk;
2) information on the level of model risk (on a separate and consolidated basis);
3) model risk map;
4) assessment of the effectiveness of the recommendations made to reduce the level of model risk;
5) suggested new management activities (if any) to mitigate model risk.

2.10.5. Management activities related to model risk

The objective of management activities is to shape the process of management of model risk and the level of such risk by setting acceptable risk levels and making decisions to use tools which support model risk management.

2.11. Macroeconomic risk

2.11.1. Introduction

Macroeconomic risk is the risk of deterioration in the financial position of the Bank's Group as a result of an adverse impact of changes in macroeconomic conditions.

The objective of macroeconomic risk management is to identify macroeconomic factors which have a significant impact on the activities of the Bank's Group and to take action to mitigate the adverse impact of potential changes in the macroeconomic situation on the financial position of the Bank's Group.

2.11.2. Identification, measurement and assessment of macroeconomic risk

The identification of macroeconomic risk consists of determining the scenarios of potential macroeconomic changes and risk factors having the greatest impact on the financial position of the Bank's Group. Macroeconomic risk results from the interaction of factors dependent on the activities of the Bank's

Group (in particular, the balance sheet structure and response plans developed for stress scenario purposes) and factors independent thereof (macroeconomic factors). The Bank's Group identifies factors affecting the level of macroeconomic risk in the course of comprehensive stress tests.

The measurement of macroeconomic risk is aimed at defining the scale of threats related to the existence of macroeconomic risk and includes:
1) determining the financial result as part of comprehensive stress testing (based on scenarios: baseline – assuming acceleration of vaccination in 2021 and achievement of population's immunity; stress – assuming persistence of elevated levels of coronavirus infection until 2024), together with its components and risk measures;
2) conducting reverse stress tests;
3) the calculation of internal capital.

The level of macroeconomic risk is assessed annually, based on the results of periodical comprehensive stress tests (scenarios for assessing macroeconomic risk). The level of macroeconomic risk is assessed as moderate, increased or high.

2.11.3. Control of macroeconomic risk

The objective of the control of macroeconomic risk is to strive to mitigate the adverse impact of potential changes in the macroeconomic situation on the financial position of the Bank's Group.

The control of macroeconomic risk consists of determining an acceptable level of macroeconomic risk tailored to the scale of the activities of the Bank's Group and its impact on the operations and financial position of the Bank's Group. An acceptable level of macroeconomic risk is a situation in which the results of comprehensive stress tests do not indicate the need to take any remedial measures or the remedial measures which must be taken will be sufficient to improve the financial position of the Bank's Group.

2.11.4. Monitoring macroeconomic risk

The monitoring of macroeconomic risk consists of analysing the macroeconomic situation, the macroeconomic factors to which the Bank's Group is sensitive, the level of macroeconomic risk and the results of comprehensive stress tests.

2.11.5. Reporting macroeconomic risk

Macroeconomic risk is reported quarterly in the form of a report submitted to the ALCO, RC, the Management Board, the Risk Committee of the Supervisory Board, and the Supervisory Board.

In particular, the following is reported:
1) results of the assessment of macroeconomic risk, in particular internal capital;
2) the level of macroeconomic risk;
3) results of comprehensive stress tests;
4) results of reverse stress tests.

2.11.6. Measurement activities related to macroeconomic risk

The management activities consist of, in particular:
1) determining acceptable levels of risk;
2) taking measures to reduce the risk level in the event of an increased or high level of macroeconomic risk.

2.12. Risk management at PKO Bank Hipoteczny S.A.

The risk management system in place at PKO Bank Hipoteczny S.A. is consistent with the one in place in the Bank's Group.

Due to the specialist nature of the mortgage bank:

1) credit risk management relates mainly to competences in the mortgage loan segment, the assessment of the credit standing of retail customers, and the assessment of the mortgage lending value (MLV) of real estate;
2) the main source of financing is the issue of long-term mortgage covered bonds, liquidity management competences are focused on issuing instruments on the domestic and foreign secured debt markets.

PKO Bank Hipoteczny S.A. builds its mortgage loan portfolio by way of agency sales and purchasing receivables from the parent company. The mortgage loan portfolio forms the basis of a collateral pool securing the issue of mortgage covered bonds.

The mortgage lending value of real estate is a value determined by PKO Bank Hipoteczny S.A. which, in the bank's opinion, reflects the level of the risk relating to the real estate as collateral for loans granted and is used to determine the amount up to which a loan secured with a mortgage on given real estate may be granted or to decide whether the receivable secured with the said real estate may be purchased by the bank.

PKO Bank Hipoteczny S.A. determines the MLV based on an appraisal of the mortgage lending value of real estate, which is carried out with due diligence and prudence, taking into account only those features of the real estate and the expenditure necessary to build it that will be durable and, assuming the reasonable operation thereof, will be possible to obtain by each owner of the real estate. In the appraisal, which is prepared for a specific date, the assumptions and parameters adopted for the analysis, the MLV determination process and the resultant proposed MLV are documented. The appraisal takes into account the analyses and forecasts concerning the parameters specific to given real estate, which affect the assessment of credit risk, as well as general factors, e.g. population growth, the unemployment rate, local land development plans.

A mortgage covered bond is a registered or bearer debt security issued by mortgage banks on the basis of a pool of receivables secured with a mortgage. Mortgage covered bonds are mainly issued for longer terms, therefore, they constitute a source of long-term financing for the Bank's Group.

PKO Bank Hipoteczny S.A.'s business model assumes a large percentage of mortgage covered bonds in the financing structure. A mortgage covered bond is a stable source of financing, but due to the balloon nature of its redemption in most cases, at the time of redemption, such financing has to be replaced with more issues or an alternative source of financing. In managing liquidity, PKO Bank Hipoteczny S.A. pays special attention to matching cash flow dates and the opportunities to renew its sources of financing at the time of maturity of significant liabilities (the redemption of mortgage covered bonds).

The risk management system and quantitative information on disclosures can be found in the Financial Statements of PKO Bank Hipoteczny S.A. as at and for the year ended 31 December 2021 and in the Directors' Report of PKO Bank Hipoteczny S.A. as at and for the year ended 31 December 2021.

3. Own funds

For capital adequacy purposes, own funds are calculated in accordance with the provisions of the Banking Law, Part Two of the CRR and the secondary legislation for the CRR.

The own funds of the Bank's Group include Common Equity Tier 1 capital and Tier 2 capital. No elements of Additional Tier 1 capital are identified in the Bank's Group.

Common Equity Tier 1 capital includes:
1) share capital presented in accordance with the Articles of Association and the entry in the Commercial Register, at nominal value;
2) supplementary capital created as a result of the annual appropriation of net profit and earmarked for offsetting accounting losses which may arise in connection with the Group's operations;
3) reserve capital created independently of the supplementary capital as a result of the annual appropriation of net profit, in an amount determined in a resolution adopted by the General Meeting (hereinafter called the "GM") and earmarked solely for offsetting possible accounting losses;
4) other cumulative comprehensive income (excluding gains and losses relating to cash flow hedges);
5) general risk reserve created by appropriating net profit, in an amount determined in a resolution adopted by the GM and earmarked for unidentified banking risks;
6) retained earnings (unappropriated profits);
7) the net profit (loss) in the course of being approved and the net profit (loss) for the current reporting period, calculated in accordance with the applicable accounting policies, less any expected charges and dividends, in amounts no higher than the profit amounts verified by a registered auditor; a net profit (loss) may be recognized in own funds on condition that it is approved by the General Meeting or, before being approved by the GM, the PFSA's consent to its recognition in own funds is obtained. Once the aforementioned formal requirements have been met, the Bank makes retrospective adjustments to own funds.[9]

The Common Equity Tier 1 capital is reduced by:

1) losses for the current financial year;
2) intangible assets stated at their carrying amounts, net of the related deferred income tax provision; the amount being deducted includes goodwill taken into account in the valuation of the Bank's significant investments, software assets subject to prudential valuation are not deducted;[10]
3) additional adjustments to assets measured at fair value, which result from compliance with the requirements for prudential valuation;
4) additional adjustments to the valuation of derivative instruments, reflecting the Bank's own credit risk;
5) deferred income tax assets based on future profitability and not resulting from temporary differences;
6) deferred income tax assets based on future profitability and resulting from temporary differences, which exceed 10% of the Common Equity Tier 1 capital of the Bank's Group (calculated without taking into account deductions in respect of equity exposures and deferred tax assets);
7) direct and indirect equity exposures to financial sector entities if the Bank's Group has not made significant investments in these entities, in the form of shares held or other Common Equity Tier 1 instruments or Tier 2 instruments of these entities, provided that their total exceeds 10% of the Common Equity Tier 1 capital of the Bank's Group (calculated without taking into account deductions in respect of equity exposures and deferred tax assets);
8) direct and indirect equity exposures to financial sector entities if the Bank's Group has made significant investments in these entities, in the form of shares held or other Common Equity Tier 1 instruments of these entities, the total of which exceeds 10% of the Common Equity Tier 1 capital of the Bank's Group (without taking into account deductions in respect of equity exposures and deferred tax assets);
9) the amount by which the total of:
   a) deferred income tax assets based on future profitability and resulting from temporary differences, up to 10% of the Common Equity Tier 1 capital of the Bank's Group (calculated without taking into account deductions in respect of equity exposures and deferred tax assets) and
   b) direct and indirect equity exposures to financial sector entities if the Bank's Group has made significant investments in these entities, in the form of shares held or Common Equity Tier 1 instruments of these entities, up to 10% of the Common Equity Tier 1 capital of the Bank's Group (calculated without taking into account deductions in respect of equity exposures and deferred tax assets)

   exceeds an equivalent of 17.65% of the Common Equity Tier 1 capital of the Bank's Group (calculated taking into account all the deductions specified in points 1-6 and the full total of the items specified in points 9 a-b, without using a threshold representing 17.65% of the share capital. An amount below the threshold (17.65%) is recognized in risk-weighted assets.
10) The applicable amount of insufficient coverage for non-performing exposures, calculated in accordance with Article 47c of the CRR, except for the amount of insufficient coverage relating to exposures which arose before 26 April 2019, provided that the conditions of these exposures have not been changed in a manner that increases the Bank's exposure to a debtor.
11) Securitization items – as an alternative to applying the 1 250% risk weight, exposures held by the Group (junior tranche and cash reserve to cover liquidity risk, less specific risk adjustments for the underlying exposures) reduce own funds.

Tier 2 capital includes, once the Bank has obtained the PFSA's consent, subordinated liabilities understood as liabilities in respect of funds acquired by the Bank, in the amount and in accordance with the rules laid down in the PFSA's decision issued at the Bank's request, which meet the conditions set out in Article 63 of the CRR.

The Tier 2 capital is reduced by:

1) direct and indirect equity exposures to financial sector entities in the form of Tier 2 capital instruments of these entities if an institution has made significant investments in these entities;
2) direct and indirect equity exposures to financial sector entities if an institution has not made significant investments in these entities, in the form of shares held or other Tier 2 capital instruments, if the total amount of these exposures exceeds 10% of the Bank's Common Equity Tier 1 capital.

[9] In May 2020, the European Banking Authority (EBA) published, in a single rulebook Q&A, its position regarding the moment of recognition of annual and interim profits in the capital adequacy data (Q&A 2018_3822 and Q&A 2018_4085). According to this position, once the Bank or the Bank's Group have formally met the criteria for including their profit for a given period in the Tier 1 capital, this profit should be included retrospectively (as at the date of the profit, and not the date of meeting the criteria), and own funds should be adjusted accordingly as at the date of the profit.

[10] As regards software, the amount deductible from own funds is determined on the basis of accumulated prudential amortization of software assets, calculated as from the date on which software assets are available for use and begin to be amortized for accounting purposes. The remaining amount of software is included in risk-weighted assets with a weighting of 100%.

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If the value of the deductions referred to in points 1 and 2 should reduce the value of Tier 2 capital to less than zero, the excess of these deductions over the value of Tier 2 capital is deducted from Common Equity Tier 1 capital.

Pursuant to Regulation 2021/637, Table 3.1 presents information on the nature and amounts of individual own fund items used to calculate a Total Capital ratio as at 31 December 2021. The rows with values equal to 0 were omitted.

Table 3.1 Composition of regulatory own funds [template EU CC1]

		31.12.2021	
		(a)	(b)
		Amounts	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation *
Common Equity Tier 1 (CET1) capital: instruments and reserves			
1	Capital instruments and the related share premium accounts	1 250	note 32.
	of which: Series A - ordinary registered shares	313	note 32.
	of which: Series A - ordinary bearer shares	198	note 32.
	of which: Series B - ordinary bearer shares	105	note 32.
	of which: Series C - ordinary bearer shares	385	note 32.
	of which: Series D - ordinary bearer shares	250	note 32.
2	Retained earnings	6 717	
3	Accumulated other comprehensive income (and other reserves)	24 061	
EU-3a	Funds for general banking risk	1 070	
4	Amount of qualifying items referred to in Article 484 (3) and the related share premium accounts subject to phase out from CET1	-	
5	Minority interests (amount allowed in consolidated CET1)	-	
EU-5a	Independently reviewed interim profits net of any foreseeable charge or dividend	1 975	
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	35 074	
Common Equity Tier 1 (CET1) capital: regulatory adjustments			
7	Additional value adjustments (negative amount)	-449	
8	Intangible assets (net of related tax liability) (negative amount)	-2 422	
9	Empty set in the EU	N/A	
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)	-	
11	Fair value reserves related to gains or losses on cash flow hedges of financial instruments that are not valued at fair value	3 700	
12	Negative amounts resulting from the calculation of expected loss amounts	-	
13	Any increase in equity that results from securitised assets (negative amount)	-	
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	-	
15	Defined-benefit pension fund assets (negative amount)	-	
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	-	
17	Direct, indirect and synthetic holdings of the CET 1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
18	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
19	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
20	Empty set in the EU	-	
EU-20a	Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative	-54	
EU-20b	of which: qualifying holdings outside the financial sector (negative amount)	-	
EU-20c	of which: securitisation positions (negative amount)	-54	
EU-20d	of which: free deliveries (negative amount)	-	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)	-	
22	Amount exceeding the 17,65% threshold (negative amount)	-	
23	of which: direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities	-	
24	Empty set in the EU	-	
25	of which: deferred tax assets arising from temporary differences	-	
EU-25a	Losses for the current financial year (negative amount)	-	
EU-25b	Foreseeable tax charges relating to CET1 items except where the institution suitably adjusts the amount of CET1 items insofar as such tax charges reduce the amount up to which those items may be used to cover risks or losses (negative amount)	-	
26	Empty set in the EU	-	
27	Qualifying AT1 deductions that exceed the AT1 items of the institution (negative amount)	-	
27a	Other regulatory adjusments (including IFRS 9 transitional adjustments when relevant)	2 676	
28	**Total regulatory adjustments to Common Equity Tier 1 (CET1)**	3 450	
29	**Common Equity Tier 1 (CET1) capital**	38 524	note 45.
Additional Tier 1 (AT1) capital: instruments			
30	Capital instruments and the related share premium accounts	-	
31	of which: classified as equity under applicable accounting standards	-	
32	of which: classified as liabilities under applicable accounting standards	-	
33	Amount of qualifying items referred to in Article 484 (4) and the related share premium accounts subject to phase out from AT1 as described in Article 486(3) of CRR	-	
EU-33a	Amount of qualifying items referred to in Article 494a(1) subject to phase out from AT1	-	
EU-33b	Amount of qualifying items referred to in Article 494b(1) subject to phase out from AT1	-	
34	Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interests not included in row 5) issued by subsidiaries and held by third parties	-	
35	of which: instruments issued by subsidiaries subject to phase out	-	
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	-	

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Additional Tier 1 (AT1) capital: regulatory adjustments			
37	Direct and indirect holdings by an institution of own AT1 instruments (negative amount)	-	
38	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
39	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
40	Direct, indirect and synthetic holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	
41	Empty set in the EU	-	
42	Qualifying T2 deductions that exceed the T2 items of the institution (negative amount)	-	
42a	Other regulatory adjustments to AT1 capital	-	
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	-	
44	**Additional Tier 1 (AT1) capital**	-	
45	**Tier 1 capital (T1 = Common Equity Tier 1 (CET1) capital and Additional Tier 1 (AT1) capital)**	38 524	note 45.
Tier 2 (T2) capital: instruments			
46	Capital instruments and the related share premium accounts	2 700	
47	Amount of qualifying items referred to in Article 484 (5) and the related share premium accounts subject to phase out from T2 as described in Article 486 (4) CRR	-	
EU-47a	Amount of qualifying items referred to in Article 494a (2) subject to phase out from T2	-	
EU-47b	Amount of qualifying items referred to in Article 494b (2) subject to phase out from T2	-	
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	-	
49	of which: instruments issued by subsidiaries subject to phase out	-	
50	Credit risk adjustments	-	
51	**Tier 2 (T2) capital before regulatory adjustments**	2 700	
Tier 2 (T2) capital: regulatory adjustments			
52	Direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount)	-	
53	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	
54	Direct and indirect holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	
54a	Empty set in the EU	-	
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	
56	Empty set in the EU	-	
EU-56a	Qualifying eligible liabilities deductions that exceed the eligible liabilities items of the institution (negative amount)	-	
56b	Other regulatory adjusments to T2 capital	-	
57	**Total regulatory adjustments to Tier 2 (T2) capital**	-	
58	**Tier 2 (T2) capital**	2 700	note 45.
59	**Total capital (TC = T1 + T2)**	41 224	note 45.
60	**Total risk exposure amount**	226 166	
Capital ratios and buffers			
61	Common Equity Tier 1 (as a percentage of total risk exposure amount)	17,03%	note 45.
62	Tier 1 (as a percentage of total risk exposure amount)	17,03%	note 45.
63	Total capital (as a percentage of total risk exposure amount)	18,23%	note 45.
64	Institution CET1 overall capital requirement (CET1 requirement in accordance with Article 92 (1) CRR, plus additional CET1 requirement which the institution is required to hold in accordance with point (a) of Article 104(1) CRD, plus combined buffer requirement in accordance with Article 128(6) CRD) expressed as a percentage of risk exposure amount)	8,06%	note 45.
65	of which: capital conservation buffer requirement	2,50%	note 45.
66	of which: countercyclical buffer requirement	0,01%	note 45.
67	of which: systemic risk buffer requirement	0,00%	note 45.
EU-67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	1,00%	note 45.
EU-67b	of which: additional own funds requirements to address the risks other than the risk of excessive leverage	0,06%	note 45.
68	**Common Equity Tier 1 available to meet buffer (as a percentage of risk exposure amount)**	10,12%	note 45.
National minima (if different from Basel III)			
69	Not applicable	N/A	
70	Not applicable	N/A	
71	Not applicable	N/A	
Amounts below the thresholds for deduction (before risk weighting)			
72	Direct and indirect holdings of own funds and eligible liabilities of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	324	
73	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 17.65% thresholds and net of eligible short positions)	928	
74	not applicable	N/A	
75	Deferred tax assets arising from temporary differences (amount below 17.65% threshold, net of related tax liability where the conditions in Article 38 (3) are met)	3 369	

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Applicable caps on the inclusion of provisions in Tier 2			
76	Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	-	
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach	-	
78	Credit risk adjustments included in T2 in respect of exposures subject to internal ratings-based approach (prior to the application of the cap)	-	
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	-	
Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2014 and 1 Jan 2022)			
80	Current cap on CET1 instruments subject to phase out arrangements	-	
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-	
82	Current cap on AT1 instruments subject to phase out arrangements	-	
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-	
84	Current cap on T2 instruments subject to phase out arrangements	-	
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-	

* Column (b) shows note numbers from the Consolidated Financial Statements of PKO Bank Polski S.A. Group as at 31 December 2021.

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Pursuant to Regulation 2021/637, Table 3.2 presents the reconciliation of the items in the statement of financial position used to calculate own funds to regulatory own funds as at 31 December 2021.

Table 3.2. Reconciliation of regulatory own funds to balance sheet in the audited financial statements [Template EU CC2]

	31.12.2021		
	a)	b)	c)
	Balance sheet as in published financial statements	Under regulatory scope of consolidation	Reference*
	As at period end	As at period end	
ASSETS - Breakdown by asset clases according to the balance sheet in the published financial statements			
Cash and balances with the Central Bank	11 587	11 587	note 30.
Amounts due from banks	9 010	8 914	note 31.
Hedging derivatives	933	933	note 32.
Other derivative instruments	10 903	10 903	note 33.
Securities	135 440	133 182	note 34.
Reverse repo transactions	-	-	note 35.
Loans and advances to customers	234 300	234 430	note 36.
Receivables in respect of insurance activities	911	-	note 37.
Property, plant and equipment transferred under operating lease	1 371	1 371	note 38.1.
Property, plant and equipment	3 108	2 931	note 38.2.
Non-current assets held for sale	18	18	note 39.
Intangible assets	3 463	3 289	note 38.3.
Investments in associates and joint ventures	285	1 383	note 40.
Current income tax receivables	36	36	note 29.
Deferred income tax assets	4 116	4 101	note 29.
Other assets	2 605	2 570	note.41
TOTAL ASSETS	418 086	415 648	

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LIABILITIES - Breakdown by liability clases according to the balance sheet in the published financial statements			
Amounts due to the Central Bank	8	8	note 42.
Amounts due to banks	3 821	3 821	note 42.
Hedging derivatives	4 806	4 806	note 32.
Other derivative instruments	11 008	11 007	note 33.
Amounts due to customers	322 296	321 433	note 43.
Repo transactions	-	49	
Liabilities in respect of insurance activities	2 008	-	note 37.
Loans and advances received	2 461	2 461	note 44.1.
Debt securities in issue	23 872	24 114	note 44.2.
Subordinated liabilities	2 716	2 716	note 44.3.
Other liabilities	5 366	5 284	note 45.
Current income tax liabilities	18	14	note 29.
Deferred income tax provision	356	324	note 29.
Provisions	1 657	1 651	note 46.
TOTAL LIABILITIES	**380 393**	**377 688**	
EQIUTY			
Share capital	1 250	1 250	note 47.
Other capital and reserves	25 313	25 131	note 47.
Retained earnings	6 270	6 717	note 47.
Net profit or loss for the year	4 874	4 862	note 47.
Capital and reserves attributable to equity holders of the parent	37 707	37 960	note 47.
Non-controlling interests	-14	0	note 47.
TOTAL EQUITY	**37 693**	**37 960**	

* Column (c) shows note numbers from the Consolidated Financial Statements of PKO Bank Polski S.A. Group for the six months ended 31 December 2021. As at 31 December 2021, pursuant to Article 48 of the CRR the individual equity exposures to financial sector entities in consolidated terms did not exceed 10% of Common Equity Tier 1 capital, therefore, they do not constitute a deduction from the Group's own funds and they have been recognized in risk-weighted assets.

A description of the main features of the instruments issued by the Bank and recognized in Common Equity Tier 1 capital and Tier 2 instruments is presented in Table 3.3. (the data is presented in PLN). The rows not related to the Bank's Group were omitted.

Table 3.3. Main features of regulatory own funds instruments and eligible liabilities instruments [Template EU CCA]

		Name I	Name II	Name III	Name IV	Name V	Name VI	Name VII
1	Issuer	PKO BP	PKO BP	PKO BP	PKO BP	PKO BP	PKO BP	PKO BP
2	Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement)	PLPKO0000016	PLPKO0000016	PLPKO0000016	PLPKO0000016	PLPKO0000016	PLPKO0000099	PLPKO0000107
3	Governing law(s) of the instrument	Polish law	Polish law	Polish law	Polish law	Polish law	Polish law	Polish law
4	Current treatment taking into account, where applicable, transitional CRR rules	Common Equity Tier I	Common Equity Tier I	Common Equity Tier I	Common Equity Tier I	Common Equity Tier I	Tier 2	Tier 2
5	Post-transitional CRR rules	Common Equity Tier I	Common Equity Tier I	Common Equity Tier I	Common Equity Tier I	Common Equity Tier I	Tier 2	Tier 2
6	Eligible at solo/(sub-)consolidated/ solo&(sub-)consolidated	Solo and consolidated	Solo and consolidated	Solo and consolidated	Solo and consolidated	Solo and consolidated	Solo and consolidated	Solo and consolidated
7	Instrument type (types to be specified by each jurisdiction)	common stock	common stock	common stock	common stock	common stock	bonds	bonds
8	Amount recognised in regulatory capital or eligible liabilities (Currency in million, as of most recent reporting date)	312 500 000	197 500 000	105 000 000	385 000 000	250 000 000	1 700 000 000	1 000 000 000
9	Nominal amount of instrument	312 500 000	197 500 000	105 000 000	385 000 000	250 000 000	1 700 000 000	1 000 000 000
EU-9a	Issue price	312 500 000	197 500 000	105 000 000	385 000 000	250 000 000	-	-
12	Perpetual or dated	Wieczyste	perpetual	perpetual	perpetual	perpetual	dated	dated
13	Original maturity date	no maturity	no maturity	no maturity	no maturity	no maturity	28.08.2027	06.03.2028
17	Fixed or floating dividend/coupon	Zmienna dywidenda	Floating dividend	Floating dividend	Floating dividend	Floating dividend	Floating coupon	Floating coupon
30	Write-down features	No	No	No	No	No	No	No
36	Non-compliant transitioned features	No	No	No	No	No	No	No

As at 31 December 2021, the Group's own funds calculated for capital adequacy purposes included the results of the prudentially consolidated Group for the first half of 2021, net of expected charges (in the amount of PLN 1 975 million), the inclusion of which was duly approved by the PFSA. Additionally, the Bank's loss for the year 2020 (in the amount of PLN 2 944 million) arising as a result of changes in the assessment methodology and quantification of legal risk related to PKO Bank Polski S.A.'s intention to sign settlement agreements with consumers was covered from reserve capital (from a special fund created for the purpose of covering specific balance sheet losses which will arise as a result of recognizing financial effects of settlements with consumers who concluded mortgage-secured loan agreements with PKO Bank Polski S.A. indexed to foreign currencies or denominated in foreign currencies). The Bank's retained earnings for the previous years of PLN 5 500 million remained unappropriated.

4. Own funds requirements and risk-weighted exposure amounts

Pursuant to the CRR, the Bank's Group calculates own funds requirements for the following types of risk:

1) credit risk – under the standardised approach (pursuant to Part III, Title II, Chapter 2 of the CRR);
2) operational risk:
   a) under the AMA approach – in respect of the Bank's operations, including the operations of the foreign branch in Germany[11] and the foreign branch in the Czech Republic;
   b) under the BIA (pursuant to Part III, Title III of the CRR) – in respect of the operations of the foreign branch in Slovakia and in respect of the operations of the entities in the Bank's Group, subject to prudential consolidation;
3) market risk (pursuant to Part III, Title IV, Chapters 2-4 of the CRR):
   a) foreign exchange risk – calculated under the basic approach;
   b) commodities risk – calculated under the simplified approach;
   c) equity instrument risk – calculated under the simplified approach;
   d) specific debt instrument risk – calculated under the basic approach;
   e) general debt instrument risk – calculated under the duration-based approach;
   f) other risks other than delta risk (non-delta risk) – calculated under the scenario approach for options for which the Bank uses its own valuation models, and under the delta plus approach for other options;
4) other risks:
   a) settlement/delivery risk – calculated under the approach specified in Title V, Part III of the CRR;
   b) counterparty credit risk, including the exposures to the central counterparty – calculated under the standard method specified in Chapter 6, Title II, Part III of the CRR;
   c) credit valuation adjustment risk (CVA) – calculated under the approach specified in Title VI, Part III of the CRR;
   d) exceeding large exposures limit – calculated under the approach specified in Part IV of the CRR.

The total own funds requirement for the Bank's Group is the sum of the aforementioned own funds requirements for individual types or risk.

In calculating the own funds requirement for counterparty credit risk, the Bank uses contractual netting pursuant to the CRR (Articles 295–298).

Information on the own funds requirements for the Bank's Group is presented in Table 4.1.

[11] As from 1 January 2019, the Bank introduced an extended AMA to cover the Branch in Germany in accordance with the criteria that are being developed for the allocation of the own funds requirement for operational risk under the AMA for the Branch in Germany.

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Table 4.1. Overview of total risk exposure amounts [Template EU OV1]

		Total risk exposure amounts (TREA)		Total own funds requirements
		a	b	c
		31.12.2021	31.12.2020	31.12.2021
1	Credit risk (excluding CCR)	196 186	184 760	15 695
2	Of which the standardised approach	196 186	184 760	15 695
3	Of which the Foundation IRB (F-IRB) approach	-	-	-
4	Of which slotting approach	-	-	-
EU-4a	Of which equities under the simple riskweighted approach	-	-	-
5	Of which the Advanced IRB (A-IRB) approach	-	-	-
6	Counterparty credit risk - CCR	5 287	2 907	423
7	Of which the standardised approach	4 732	2 444	379
8	Of which internal model method (IMM)	-	-	-
EU-8a	Of which exposures to a CCP	5	113	0
EU-8b	Of which credit valuation adjustment - CVA	518	350	41
9	Of which other CCR	33	0	3
10	Not applicable	Not applicable	Not applicable	Not applicable
11	Not applicable	Not applicable	Not applicable	Not applicable
12	Not applicable	Not applicable	Not applicable	Not applicable
13	Not applicable	Not applicable	Not applicable	Not applicable
14	Not applicable	Not applicable	Not applicable	Not applicable
15	Settlement risk	-	-	-
16	Securitisation exposures in the non-trading book (after the cap)	-	-	-
17	Of which SEC-IRBA approach	-	-	-
18	Of which SEC-ERBA (including IAA)	-	-	-
19	Of which SEC-SA approach	-	-	-
EU-19a	Of which 1 250 % / deduction *	54	67	-
20	Position, foreign exchange and commodities risks (Market risk)	2 288	20 383	183
21	Of which the standardised approach	2 288	20 383	183
22	Of which IMA	-	-	-
EU-22a	Large exposures	-	-	-
23	Operational risk	22 404	20 363	1 792
EU-23a	Of which basic indicator approach	3 783	3 631	303
EU-23b	Of which standardised approach	-	-	-
EU-23c	Of which advanced measurement approach	18 622	16 732	1 490
24	Amounts below the thresholds for deduction (subject to 250 % risk weight)	10 740	8 998	775
25	Not applicable	Not applicable	Not applicable	Not applicable
26	Not applicable	Not applicable	Not applicable	Not applicable
27	Not applicable	Not applicable	Not applicable	Not applicable
28	Not applicable	Not applicable	Not applicable	Not applicable
29	**Total**	**226 166**	**228 413**	**18 093**

* In row EU-19a the own funds requirement for securitization exposures in the banking book is presented with application of own funds deduction according to Part III, Title II, Chapter V of CRR. The amount of the requirement reduces the Bank's funds, hence it does not generate exposure to (RWA) with a risk weight of 1250%.

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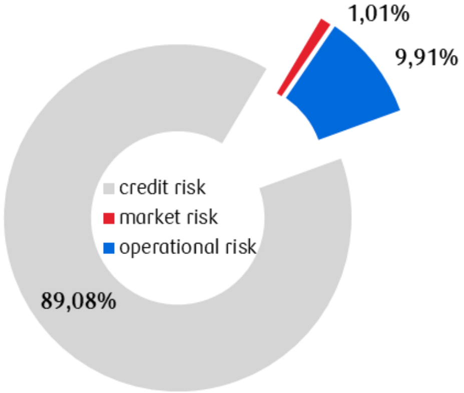
Table 4.2. Key Ratios [template EU KM1]

		a	b	c	d	e
		31.12.2021	30.09.2021	30.06.2021	31.03.2021	31.12.2020
Available own funds (amounts)						
1	Common Equity Tier 1 (CET1) capital	38 524	39 715	38 016	38 524	38 817
2	Tier 1 capital	38 524	39 715	38 016	38 524	38 817
3	Total capital	41 224	42 415	40 716	41 224	41 517
Risk-weighted exposure amounts						
4	Total risk-weighted exposure amount	226 166	223 614	215 780	227 775	228 413
Capital ratios (as a percentage of risk-weighted exposure amount)						
5	Common Equity Tier 1 ratio (%)	17,03%	17,76%	17,62%	16,91%	16,99%
6	Tier 1 ratio (%)	17,03%	17,76%	17,62%	16,91%	16,99%
7	Total capital ratio (%)	18,23%	18,97%	18,87%	18,10%	18,18%
Additional own funds requirements based on SREP (as a percentage of risk-weighted exposure amount)						
EU 7a	Additional CET1 SREP requirements (%)	0,11%	0,24%	0,24%	0,24%	0,24%
EU 7b	Additional AT1 SREP requirements (%)	0,06%	0,14%	0,14%	0,14%	0,14%
EU 7c	Additional T2 SREP requirements (%)	0,08%	0,18%	0,18%	0,18%	0,18%
EU 7d	Total SREP own funds requirements (%)	8,11%	8,24%	8,24%	8,24%	8,24%
Combined buffer requirement (as a percentage of risk-weighted exposure amount)						
8	Capital conservation buffer (%)	2,50%	2,50%	2,50%	2,50%	2,50%
EU 8a	Conservation buffer due to macro-prudential or systemic risk identified at the level of a Member State (%)	0,00%	0,00%	0,00%	0,00%	0,00%
9	Institution specific countercyclical capital buffer (%)	0,01%	0,01%	0,01%	0,01%	0,01%
EU 9a	Systemic risk buffer (%)	0,00%	0,00%	0,00%	0,00%	0,00%
10	Global Systemically Important Institution buffer (%)	0,00%	0,00%	0,00%	0,00%	0,00%
EU 10a	Other Systemically Important Institution buffer	1,00%	1,00%	1,00%	1,00%	1,00%
11	Combined buffer requirement (%)	3,50%	3,51%	3,51%	3,51%	3,51%
EU 11a	Overall capital requirements (%)	11,61%	11,75%	11,75%	11,75%	11,75%
12	CET1 available after meeting the total SREP own funds requirements (%)	22 881,59	23 989,46	24 964,60	23 209,36	22 695,44
Leverage ratio						
13	Leverage ratio total exposure measure	439 933,47	431 594,00	418 209,28	402 805,40	394 467,91
14	Leverage ratio	8,76%	9,20%	9,09%	9,56%	9,84%
Additional own funds requirements to address risks of excessive leverage (as a percentage of leverage ratio total exposure amount)						
EU 14a	Additional own funds requirements to address the risk of excessive leverage (%)	0,00%	0,00%	0,00%	0,00%	0,00%
EU 14b	Additional own funds requirements to address the risk of excessive leverage (%)	0,00%	0,00%	0,00%	0,00%	0,00%
EU 14c	Additional own funds requirements to address the risk of excessive leverage (%)	0,00%	0,00%	0,00%	0,00%	0,00%
Leverage ratio buffer and overall leverage ratio requirement (as a percentage of total exposure measure)						
EU 14d	Leverage ratio buffer requirement (%)	0,00%	0,00%	0,00%	0,00%	0,00%
EU 14e	Overall leverage ratio requirement (%)	0,00%	0,00%	0,00%	0,00%	0,00%
Liquidity Coverage Ratio						
15	Total high-quality liquid assets (HQLA) (Weighted value - average)	113 440	120 841	123 222	118 162	111 239
EU 16a	Cash outflows - Total weighted value	68 717	64 211	62 238	54 531	54 134
EU 16b	Cash inflows - Total weighted value	10 016	7 455	5 811	5 563	5 255
16	Total net cash outflows (adjusted value)	58 701	56 756	56 428	48 968	48 879
17	Liquidity coverage ratio (%)	193%	213%	218%	241%	228%
Net Stable Funding Ratio						
18	Total available stable funding	319 317	294 100	290 874	-	-
19	Total required stable funding	247 567	228 994	219 461	-	-
20	NSFR ratio (%)	129%	128%	133%	-	-

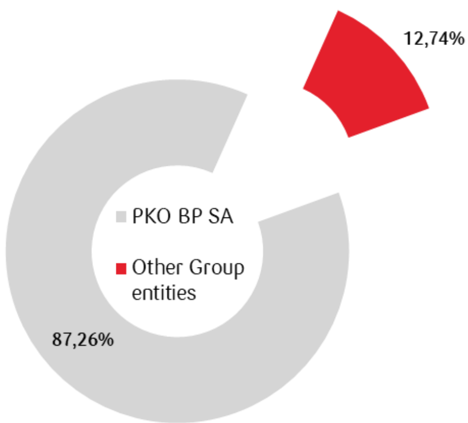
As at 31 December 2021, the own funds requirement for credit risk constituted the largest part of the total own funds requirement for the Bank's Group (89.08%) – Chart 4.1. The credit risk shown in the chart includes credit valuation adjustment risk, whereas settlement/delivery risk is presented as part of market risk.

Chart 4.1. Structure of capital requirement by risk types



The own funds requirements for the Bank constituted a significant part (87.26%) of the total own funds requirement for the Bank's Group (Chart 4.2).

Chart 4.2. Structure of capital requirement by equities in the Bank and the Bank Group companies



The Bank's Group includes the insurance companies PKO Życie Towarzystwo Ubezpieczeń SA and PKO Towarzystwo Ubezpieczeń SA which are excluded from prudential consolidation as financial entities subject to separate supervision by the PFSA which also includes the assessment of compliance with the capital requirements for insurance companies.

As at 31 December 2021, the Group included its holdings in insurance companies in the calculation of deductions from own funds in accordance with the CRR. As the thresholds in Article 48 of the CRR are not exceeded, all of the Group's capital exposures in financial sector entities, including insurance companies, are recognized in risk-weighted assets with a risk weight of 250%.

The largest share of the own funds requirement for market risk in the Bank's Group in 2021 was for the capital requirement relating to interest rate risk (specific and general - 98.5%) (table 4.3.).

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Table 4.3. Market risk under the standardised approach [template EU MR1]

		31.12.2021
		a
Outright products		RWEAs
1	Interest rate risk (general and specific)	2 254
2	Equity risk (general and specific)	7
3	Foreign exchange risk	0
4	Commodity risk	0
Options		
5	Simplified approach	0
6	Delta-plus approach	8
7	Scenario approach	19
8	**Securitisation (specific risk)**	0
9	Total	2 288

As at the end of 2021, the Bank's Group did not have an open position for commodities risk and the foreign currency position did not exceed the threshold of 2% of own funds, therefore, the respective own funds requirement was zero.

Due the fact that the Bank's Group does not use any internal models for calculating own funds requirements for market risk, Article 455 of the CRR "Use of Internal Market Risk Models" does not apply.

The division of the own funds requirement for operational risk according to the calculation method used is presented in Table 4.4.

Table 4.4. Operational risk own funds requirements and risk-weighted exposure amounts [template EU OR1]

Banking activities		31.12.2021				
		a	b	c	d	e
		Relevant indicator			Own funds requirements	Risk weighted exposure amount
		Year-3	Year-2	Last year		
1	Banking activities subject to basic indicator approach (BIA)	1 942	2 212	1 899	303	3 783
2	Banking activities subject to standardised (TSA) / alternative standardised (ASA) approaches	-	-	-	-	-
3	*Subject to TSA:*	-	-	-		
4	*Subject to ASA:*	-	-	-		
5	Banking activities subject to advanced measurement approaches AMA	11 643	12 532	12 425	1 490	18 622

5. Encumbered and unencumbered assets

A given asset is considered encumbered if it has been pledged or is subject to any form of arrangements aimed at securing or supporting the credit rating of any on-balance sheet or off-balance sheet transaction from which it may not be withdrawn freely (e.g. in order to be pledged for financing purposes).

The Group does not apply the difference in approach between the scope of regulatory consolidation used for asset encumbrance disclosures and the scope of application for applying liquidity requirements on a consolidated basis as defined in Part Two, Chapter 2, Title I of the CRR.

The Group does not apply differences in approach between, on the one hand, assets pledged and transferred in accordance with the applicable accounting standards and their application by the institution and, on the other hand, encumbered assets and the treatment of transactions.

The exposure values used for disclosure purposes shall be derived from the quarterly average end-of-quarter reporting for the preceding twelve months. Except for notional debt securities qualifying for EHQLA and HQLA calculated from the three most recent quarters and where otherwise indicated in the text.

Based on the average balances for the four quarters of 2021, the Bank's Group had encumbered assets:

1) in respect of sell-buy-back transactions (repos);

2) Treasury bonds entered in the register of mortgage covered bonds pursuant to Article 18(3a) of the Act on mortgage covered bonds and mortgage banks;

3) own issued mortgage covered bonds and secured bonds.

Repos and sell-buy-back transactions are conditional transactions which result in encumbering assets transferred to counterparties as collateral for loans. Such transactions are normally used by the Bank under the business model used for managing liquidity on the financial markets and for servicing the transactional needs of the financial institutions which are the Bank's counterparties. The collateral transferred in respect of the current valuations contained in derivative transactions constitutes a standard mechanism for securing the Bank's credit exposure resulting from the collateral agreements concluded and, as such, forms part of the Bank's business model related to transactional activity on the financial markets. Additional information is included in notes 58 and 78 of the consolidated financial statements of the PKO Bank Polski S.A. Group for the year ended 31 December 2021.

In addition, the Bank's Group held debt securities in the form of mortgage covered bonds and notes issued by PKO Bank Hipoteczny S.A., which are secured by mortgage loans with an average value, as at the end of the previous two semi-annual periods, of PLN 22 282 million, and bonds with an average value, as at the end of the previous two semi-annual periods, of PLN 2 307 million, issued by PKO Leasing S.A., secured by receivables under lease agreements with an average value, as at the end of the previous two semi-annual periods, of PLN 2 307 million.

Information on overcollateralization, in particular in relation to secured bonds and securitization, and the impact of this overcollateralization on encumbrance levels is presented in notes 58 and 78 of the PKO Bank Polski S.A. Group's Consolidated Financial Statements for the year ended 31 December 2021.

All encumbrances on assets, collateral and off-balance sheet items and sources of encumbrance are in PLN with the exception of Kredobank S.A., which operates in UAH.

A general description of the part of the items shown as carrying amount of unencumbered assets that the Group would not consider as items that may be encumbered in the normal course of business is included in the relevant notes to the Consolidated Financial Statements of PKO Bank Polski S.A. Group for the year ended 31 December 2021.

Mortgage loans in PLN are the underlying assets of the mortgage covered bonds and notes issued by PKO Bank Hipoteczny S.A..

The underlying assets of the notes issued by PKO Leasing SA are mainly: new and used cars, trucks, truck tractors and semi-trailers, various types of machinery and equipment.

The carrying amount of selected financial liabilities consists mainly of: deposits related to repurchase agreements, debt securities issued, charges related to the bank deposit guarantee scheme.

Information on the encumbered and unencumbered assets of the Bank's Group is presented in the tables below.

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Table 5.1. Encumbered and unencumbered assets [template EU AE1]

		31.12.2021							
		Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
			of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
		010	030	040	050	060	080	090	100
010	Assets of the reporting institution	27 900	2 428	-	-	369 373	99 986		
030	Equity instruments	-	-	-	-	369	-	90	-
040	Debt securities	2 936	2 428	278	256	131 100	99 986	66 635	50 330
050	of which: covered bonds	-	-	-	-	-	-	-	-
060	of which: securitisations	-	-	-	-	-	-	-	-
070	of which: issued by general governments	2 936	2 428	278	256	101 966	73 615	51 870	37 413
080	of which: issued by financial corporations	-	-	-	-	25 215	25 960	12 281	12 505
090	of which: issued by non-financial corporations	-	-	-	-	3 610	-	2 175	-
120	Other assets	24 964	-			237 903	0		

Table 5.2. Collateral received and own debt securities issued [template EU AE2]

		31.12.2021			
		Fair value of encumbered collateral received or own debt securities issued		Unencumbered Fair value of collateral received or own debt securities issued available for encumbrance	
			of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA
		010	030	040	060
130	Collateral received by the reporting institution	-	-	-	-
140	Loans on demand	-	-	-	-
150	Equity instruments	-	-	-	-
160	Debt securities	-	-	-	-
170	of which: covered bonds	-	-	-	-
180	of which: securitisations	-	-	-	-
190	of which: issued by general governments	-	-	-	-
200	of which: issued by financial corporations	-	-	-	-
210	of which: issued by non-financial corporations	-	-	-	-
220	Loans and advances other than loans on demand	-	-	-	-
230	Other collateral received	-	-	-	-
240	Own debt securities issued other than own covered bonds or securitisations	-	-	-	-
241	Own covered bonds and asset-backed securities issued and not yet pledged			-	-
250	TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED	27 900	2 428		

Table 5.3. Sources of encumbrance [template EU AE3]

		31.12.2021	
		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and securitisations encumbered
		010	030
010	Carrying amount of selected financial liabilities	18 244	25 449

6. Capital buffers

Pursuant to the CRR and the Act on macroprudential supervision, financial institutions are required to maintain a combined buffer requirement above the minimum levels set out in the CRR for:
1) total capital ratio (TCR);
2) Tier 1 capital ratio (T1);
3) Common Equity Tier 1 capital ratio (CET1).

The combined buffer requirement is the total of all the applicable buffers, i.e. the capital conservation buffer, countercyclical buffer, systemic risk buffer, and Other Systemically Important Institution (O-SII) buffer. These buffers must be covered with Common Equity Tier 1 capital.

The capital conservation buffer is applicable to all banks.

The countercyclical buffer is imposed to mitigate the systemic risk arising from the lending cycle. It is introduced by the minister responsible for financial institutions during periods of an excessive increase in lending activities and lifted when they slow down. As at 31 December 2021, the countercyclical buffer rate was 0% for credit exposures in Poland.

Additionally, the Bank's Group calculates a countercyclical buffer rate specific to a given institution, taking into account the value of all credit exposures in other countries and the respective value of the countercyclical buffer for those countries in its calculations. As at 31 December 2021, the countercyclical buffer specific to the Bank's Group was 0.01%.

Tables 6.1. and 6.2. present information on the geographical distribution of the relevant credit exposures and the amount of the countercyclical buffer specific to the Bank's Group.

Table 6.1. Geographical distribution of credit exposures relevant for the calculation of the countercyclical buffer [template EU CCyB1]

	31.12.2021												
	a	b	c	d	e	f	g	h	i	j	k	l	m
	General credit exposures		Relevant credit exposures – Market risk		Securitisation exposures Exposure value for non-trading book	Total exposure value	Own fund requirements				Risk-weighted exposure amounts	Own fund requirements weights (%)	Countercyclical buffer rate (%)
	Exposure value under the standardised approach	Exposure value under the IRB approach	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for internal models			Relevant credit risk exposures - Credit risk	Relevant credit exposures – Market risk	Relevant credit exposures – Securitisation positions in the non-trading book	Total			
Breakdown by country:	a	b	c	d	e	f	g	h	i	j	k	l	m
Poland	264 017	-	481	-	-	264 498	14 054	36	-	14 090	176 120	94,75%	0,00%
Ukraine	2 840	-	-	-	-	2 840	172	-	-	172	2 146	1,15%	0,00%
Luxembourg	1 706	-	-	-	-	1 706	136	-	-	136	1 706	0,92%	0,50%
Sweden	880	-	-	-	-	880	70	-	-	70	881	0,47%	0,00%
Germany	798	-	-	-	-	798	64	-	-	64	800	0,43%	0,00%
Austria	606	-	-	-	-	606	48	-	-	48	606	0,33%	0,00%
Spain	525	-	-	-	-	525	42	-	-	42	525	0,28%	0,00%
Netherlands	451	-	-	-	-	451	36	-	-	36	451	0,24%	0,00%
Norway	411	-	-	-	-	411	33	-	-	33	412	0,22%	1,00%
USA	355	-	-	-	-	355	13	-	-	13	164	0,09%	0,00%
Great Britain	348	-	-	-	-	348	28	-	-	28	355	0,19%	0,00%
Denmark	347	-	-	-	-	347	24	-	-	24	294	0,16%	0,00%
Hungary	294	-	-	-	-	294	24	-	-	24	294	0,16%	0,00%
France	283	-	-	-	-	283	23	-	-	23	285	0,15%	0,00%
Czech Republic	282	-	-	-	-	282	22	-	-	22	271	0,15%	0,50%
Bahamas	205	-	-	-	-	205	16	-	-	16	205	0,11%	0,00%
Cyprus	117	-	-	-	-	117	9	-	-	9	118	0,06%	0,00%
Malta	95	-	-	-	-	95	8	-	-	8	95	0,05%	0,00%
Switzerland	71	-	-	-	-	71	6	-	-	6	69	0,04%	0,00%
Japan	40	-	-	-	-	40	2	-	-	2	20	0,01%	0,00%
Finland	35	-	-	-	-	35	3	-	-	3	35	0,02%	0,00%
Estonia	12	-	-	-	-	12	1	-	-	1	12	0,01%	0,00%
Ireland	5	-	-	-	-	5	0	-	-	0	6	0,00%	0,00%
Belgium	3	-	-	-	-	3	0	-	-	0	3	0,00%	0,00%
Italy	2	-	-	-	-	2	0	-	-	0	2	0,00%	0,00%
Slovakia	2	-	-	-	-	2	0	-	-	0	2	0,00%	1,00%
Australia	1	-	-	-	-	1	0	-	-	0	1	0,00%	0,00%
Ecuador	1	-	-	-	-	1	0	-	-	0	1	0,00%	0,00%
Belarus	1	-	-	-	-	1	0	-	-	0	1	0,00%	0,00%
South Korea	1	-	-	-	-	1	0	-	-	0	1	0,00%	0,00%
Georgia	1	-	-	-	-	1	0	-	-	0	0	0,00%	0,00%
Other	4	-	-	-	-	4	0	-	-	0	5	0,00%	-
Total	**274 737**	-	**481**	-	-	**275 218**	**14 835**	**36**	-	**14 871**	**185 886**	**100%**	

* The exposure value of 0 under the standardised approach results from rounding to the nearest PLN million and does not imply the absence of exposures for a given country.

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Table 6.2. Amount of institution-specific countercyclical capital buffer [template EU CCyB2]

		31.12.2021
		a
1	Total risk exposure amount	226 166
2	Institution specific countercyclical capital buffer rate	0,01%
3	Institution specific countercyclical capital buffer requirement	17

The systemic risk buffer is used to prevent and mitigate a long-term non-cyclical risk or macroprudential risk which may cause severe negative consequences for the financial system and the economy of a given country. Pursuant to the Regulation of the Minister of Development and Finance repealing the Regulation on the systemic risk buffer, as from 18 March 2020 the systemic risk buffer for exposures in the territory of Poland is inapplicable.

The Other Systemically Important Institution (O-SII) buffer is an additional requirement for institutions which may generate systemic risk. The Bank was identified as another systemically important institution based on the PFSA's decision of 10 October 2016. In 2021, the PFSA maintained the level of the Other Systemically Important Institution (O-SII) buffer for the Bank, applicable in 2020, at an amount equivalent to 1% of the total risk exposure amount calculated in accordance with Article 92(3) of the CRR. The buffer must be maintained both on an individual and consolidated basis.

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7. Leverage

The Bank's Group calculates the leverage ratio as one of the capital adequacy measures.

The objective of leverage risk management is to ensure a proper relationship between the amount of Tier 1 capital and the total balance sheet assets and off-balance sheet liabilities granted of the Bank and the Group. The method of leverage risk management is governed in the Bank's internal regulations. The Banking Risk Division (the Capital Adequacy and Operational Risk Department) and the Accounting and Reporting Department are responsible for assessing leverage risk.

The identification of leverage risk consists of recognizing the current and potential risk sources and factors and determining its potential impact on the activities of the Bank and the Bank's Group. For the purposes of measuring leverage risk, a leverage ratio is expressed as a percentage calculated as the Tier 1 capital measure divided by the total exposure measure. As at 31 December 2021, the leverage ratio was calculated with reference to the transitional definition of Tier 1 capital (within the meaning of the transitional arrangements regarding the mitigation of the impact of introducing IFRS 9 on own funds and the transitional treatment of unrealized gains and losses for securities at fair value through other comprehensive income in accordance with Article 468 of the CRR). The Group also discloses (in chapter 9.1 of this Report) the value the leverage ratio would have if the transitional arrangements regarding IFRS 9 were not applied.

In order to maintain the leverage ratio at an acceptable level, a strategic tolerance limit and a threshold are set, whose levels are regularly monitored and verified at least once a year. Leverage risk is considered low, when the leverage ratio is equal to or higher than the threshold; it is considered increased, when the leverage ratio is below the threshold and is equal to or higher than the strategic tolerance limit; and it is considered high, when the leverage ratio is below the strategic tolerance limit.

The leverage ratio is calculated and reported on a regular basis. In the event of a high or increased leverage risk, management activities are suggested, taking into account the current macroeconomic situation, the costs related to the activities suggested and their impact on the level of increased leverage risk. The leverage ratio is forecast during the financial planning process and takes into account the planned changes in the activities of the Bank and the Bank's Group as well as the impact of the asset structure on its level. The Bank has a list of potential tools to be used in case it needs to increase Tier 1 capital or to adjust the structure of on-balance sheet and off-balance exposures (the denominator of the leverage ratio).

In 2021, the leverage ratio remained above the internal and external limits as well as above the minimum levels recommended by the PFSA.

Table 7.1. Summary reconciliation of accounting assets and leverage ratio exposures [template EU LR1 – LRSum]

		31.12.2021
		a
		Applicable amount
1	Total assets as per published financial statements	418 086
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-2 434
3	(Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference)	-
4	(Adjustment for temporary exemption of exposures to central bank (if applicable))	-
5	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio total exposure measure in accordance with point (i) of Article 429a(1) CRR)	-
6	Adjustment for regular-way purchases and sales of financial assets subject to trade date accounting	-
7	Adjustment for eligible cash pooling transactions	-
8	Adjustments for derivative financial instruments	-766
9	Adjustment for securities financing transactions (SFTs)	-
10	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	25 458
11	(Adjustment for prudent valuation adjustments and specific and general provisions which have reduced Tier 1 capital)	-
EU-11a	(Adjustment for exposures excluded from the leverage ratio total exposure measure in accordance with point (c) of Article 429a(1) CRR)	-
EU-11b	(Adjustment for exposures excluded from the leverage ratio total exposure measure in accordance with point (j) of Article 429a(1) CRR)	-
12	Other adjustments	-410
13	**Leverage ratio total exposure measure**	439 933

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Table 7.2. Leverage ratio common disclosure [template LRCom]

		CRR leverage ratio exposures	
		31.12.2021	31.12.2020
On-balance sheet exposures (excluding derivatives and SFTs)			
1	On-balance sheet items (excluding derivatives, SFTs, but including collateral)	408 150	371 481
2	Ubruttowienie przekazanego zabezpieczenia instrumentów pochodnych, jeżeli odliczono je od aktywów bilansowych zgodnie z mającymi zastosowanie standardami rachunkowości	-	-
3	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)*	-384	-408
4	(Adjustment for securities received under securities financing transactions that are recognised as an asset)	-	-
5	(General credit risk adjustments to on-balance sheet items)	-	-
6	(Asset amounts deducted in determining Tier 1 capital)	-2 967	-3 043
7	**Total on-balance sheet exposures (excluding derivatives and SFTs)**	404 798	368 437
Derivative exposures			
8	Replacement cost associated with SA-CCR derivatives transactions (ie net of eligible cash variation margin)	3 697	1 098
EU-8a	Derogation for derivatives: replacement costs contribution under the simplified standardised approach	-	-
9	Add-on amounts for potential future exposure associated with SA-CCR derivatives transactions	5 980	2 699
EU-9a	Derogation for derivatives: Potential future exposure contribution under the simplified standardised approach	-	-
EU-9b	Exposure determined under Original Exposure Method	-	-
10	(Exempted CCP leg of client-cleared trade exposures) (SA-CCR)	-1	-
EU-10a	(Exempted CCP leg of client-cleared trade exposures) (simplified standardised approach)	-	-
EU-10b	(Exempted CCP leg of client-cleared trade exposures) (Original Exposure Method)	-	-
11	Adjusted effective notional amount of written credit derivatives	-	-
12	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-	-
13	**Total derivatives exposures**	9 677	3 389
Securities financing transaction (SFT) exposures			
14	Gross SFT assets (with no recognition of netting), after adjustment for sales accounting transactions	-	15
15	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-	-
16	Counterparty credit risk exposure for SFT assets	-	7
EU-16a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Articles 429e(5) and 222 CRR	-	-
17	Agent transaction exposures	-	-
EU-17a	(Exempted CCP leg of client-cleared SFT exposure)	-	-
18	**Total securities financing transaction exposures**	-	22
Other off-balance sheet exposures			
19	Off-balance sheet exposures at gross notional amount	79 869	72 651
20	Off-balance sheet exposures at gross notional amount	-54 411	-50 031
21	(General provisions deducted in determining Tier 1 capital and specific provisions associated associated with off-balance sheet exposures)	-	-
22	Off-balance sheet exposures	25 458	22 619
Excluded exposures		-	-
EU-22a	Exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) CRR)	-	-
EU-22b	(Exposures exempted in accordance with point (j) of Article 429a(1) CRR (on and off balance sheet))	-	-
EU-22c	(Excluded exposures of public development banks (or units) - Public sector investments)	-	-
EU-22d	(Excluded exposures of public development banks (or units) - Promotional loans)	-	-
EU-22e	(Excluded passing-through promotional loan exposures by non-public development banks (or units))	-	-
EU-22f	(Excluded guaranteed parts of exposures arising from export credits)	-	-
EU-22g	Excluded excess collateral deposited at triparty agents)	-	-
EU-22h	(Excluded CSD related services of CSD/institutions in accordance with point (o) of Article 429a(1) CRR)	-	-
EU-22i	(Excluded CSD related services of designated institutions in accordance with point (p) of Article 429a(1) CRR)	-	-
EU-22j	(Reduction of the exposure value of pre-financing or intermediate loans)	-	-
EU-22k	Total exempted exposures)	-	-
Capital and total exposure measure			
23	Tier 1 capital	38 524	38 816
24	Total exposure measure	439 933	394 468
Leverage ratio			
25	Leverage ratio (%)	8,76%	9,84%
EU-25	Leverage ratio (excluding the impact of the exemption of public sector investments and promotional loans) (%)	8,76%	9,84%
25a	Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) (%)	8,76%	9,84%
26	Regulatory minimum leverage ratio requirement (%)	3,00%	Not applicable
EU-26a	Additional own funds requirements to address the risk of excessive leverage (%)	Not applicable	Not applicable
EU-26b	of which: to be made up of CET1 capital	Not applicable	Not applicable
27	Leverage ratio buffer requirement (%)	Not applicable	Not applicable
EU-27a	Overall leverage ratio requirement (%)	3,00%	Not applicable
Choice on transitional arrangements and relevant exposures			
EU-27b	Choice on transitional arrangements for the definition of the capital measure	Transitional	Transitional
Disclosure of mean values			
28	Mean value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables	65	
29	Quarter-end value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables	-	
30	Total exposure measure (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	439 998	
30a	Total exposure measure (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	439 998	
31	Leverage ratio (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	8,76%	
31a	Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	8,76%	

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Table 7.3. Split-up of on balance sheet exposures* (excluding derivatives, SFTs and exempted exposures) [template EU LR3 – LRSpl]

		31.12.2021
		a
		CRR leverage ratio exposures
EU-1	**Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:**	408 150
EU-2	Trading book exposures	2 959
EU-3	Banking book exposures, of which:	405 191
EU-4	Covered bonds	-
EU-5	Exposures treated as sovereigns	112 063
EU-6	Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	15 877
EU-7	Institutions	1 918
EU-8	Secured by mortgages of immovable properties	106 634
EU-9	Retail exposures	70 794
EU-10	Corporate	63 433
EU-11	Exposures in default	5 135
EU-12	Other exposures (eg equity, securitisations, and other non-credit obligation assets)	29 336

* Balance sheet exposures for the calculation of the leverage ratio as defined in the CRR (excluding derivatives and securities financing transactions)

In 2021, strategic decisions had an indirect impact on the leverage ratio.

The factors affecting the leverage ratio:

1) an increase in exposure as a result of:
   a) an increase in the value of loans and advances to customers;
   b) changes in the value of Treasury bonds;
2) changes in the amount of own funds as a result of including the Group's profit for the first half of 2021 in the funds and applying transitional solutions regarding unrealized gains and losses measured at fair value through accumulated comprehensive income.

8. Internal capital (Pillar II)

In 2021, the Bank's Group determined its internal capital in accordance with:
1) the CRR;
2) the Banking Law;
3) the Regulation of the Minister of Finance, Funds and Regional Policy of 27 July 2021 on the detailed method of estimating internal capital and conducting reviews of estimation strategies and procedures and maintaining a permanent level of internal capital by banks;
4) the Act on macroprudential supervision;

and the internal regulations of the Bank and the Bank's Group.

Internal capital is the amount of capital required to cover all the identified material types of risk which occur in the business activities of the Bank and the Bank's Group and the effect of changes in the business environment, taking into account the expected risk level.

The objective of estimating internal capital is to maintain own funds at the level specified in the Strategy, ensuring the safety of the activities, taking into account changes in the profile and scale of the activities and unfavourable stress conditions and to enable more effective management of the Bank and the Bank's Group oriented towards improving the profitability of the operations and the return on capital invested.

For each risk considered material, the Bank's Group develops and uses appropriate methods for its assessment and measurement. The Bank monitors the materiality of individual risk types related to the business activities of the Bank and the Bank's Group on a regular basis. The internal capital to cover individual risk types is determined in accordance with the methods specified in the internal regulations.

The total internal capital of the Bank's Group is the total of the internal capital required to cover all the material risk types to which the Bank and the Bank's Group, including the entities subject to prudential consolidation, are exposed. The ratio of correlation between the individual risk types and the individual entities in the Bank's Group, used to calculate internal capital, is 1.

The internal capital to cover the Bank's credit default risk is determined as the value of the own funds requirement for credit risk estimated using the IRB approach and the standardised approach to calculating the capital requirement for credit risk, set out in the CRR. Internal capital for credit risk of a CCP's central counterparty is estimated in accordance with the approach described in the CRR for calculating the capital requirement for exposures to an eligible central counterparty, including the preferential risk weighting. In the case of non-standard credit risk exposures of financial institutions and countries in the Bank's portfolio, for which internal capital assessment is required, the solutions described in the CRR apply. The internal capital to cover the Bank's credit default risk is determined for on-balance and off-balance sheet exposures subject to credit risk. The entities in the Bank's Group in which credit risk is material determine the internal capital for credit risk on the basis of the value of the own funds requirement for credit risk. The total internal capital to cover credit default risk is the total of the internal capital determined for separate exposure portfolios and the entities in the Bank's Group in which the internal capital for credit risk is estimated.

Internal capital to cover the risk of foreign currency mortgage loans is estimated based on the value of projected losses from customer litigation resolutions less losses from disputes and settlements already included in the Bank's results, and reduced by the estimated value of internal capital for operational risk in respect of the cost of legal risk of the portfolio of CHF currency loans related to credit risk.

Internal capital for market risk comprises internal capital amounts for interest rate risk in the banking book, interest rate risk in the trading book and foreign exchange risk.

The calculation of internal capital for interest rate risk in the banking book uses measures of interest income sensitivity, measures of economic value sensitivity and the results of stress tests on the sensitivity of credit spreads from activities included in the banking book (CSRBB).

The VaR method, taking into account the results of stress tests, is used to calculate internal capital for interest rate risk in the trading book.

The internal capital for foreign exchange risk is calculated using the Value-at-Risk method, taking into account the results of stress tests.

The internal capital to cover the interest rate risk and foreign exchange risk of the Bank's Group is calculated using a method similar to that used for the Bank, taking into account the specific nature of the entities for which the internal capital is calculated.

The internal capital to cover liquidity risk includes the total estimated cost of liquidating a portfolio of securities quickly in order to cover stress-test outflows and the cost of obtaining additional funds to finance the amount of liquid assets necessary to meet the level of liquid assets required at the Bank. The total internal capital for the liquidity risk of the Bank's Group is the total of the internal capital of the Bank and the entities in the Bank's Group for which liquidity risk was considered material. The internal capital for the entities in the Bank's Group is calculated using a method similar to that used for the Bank, taking into account their specific nature.

The internal capital to cover the Bank's operational risk is equal to the level of the Bank's operational risk calculated using the AMA and the BIA. The internal capital to cover the operational risk of the entities in the Bank's Group is adopted for the entities in the Bank's Group subject to prudential consolidation, which assessed operational risk as being material – at the amount of the capital estimated by those entities.

The internal capital to cover the Bank's business risk is determined on the basis of the analysis of the historical volatility of deviations of the actual net business revenue from the forecast amounts, in accordance with the Earnings at Risk concept, and the results of a scenario analysis.

The internal capital to cover the business risk of the entities in the Bank's Group is adopted for the entities in the Bank's Group which assessed business risk as being material. The internal capital to cover the business risk of the Bank's Group is determined as the total of the Bank's internal capital and the internal capitals of the entities in the Bank's Group.

The Bank and Group entities where the risk of macroeconomic changes is significant, shall determine the internal capital to cover the risk of macroeconomic changes on the basis of the results of comprehensive stress tests. The internal capital is equal to the arithmetic mean of the amounts of the total own funds requirement in the shock scenario, which cause the total capital ratio TCR to fall below the level resulting from the base scenario, calculated for four consecutive quarters.

The internal capital to cover the model risk of the Bank and the entities in the Bank's Group is determined on the basis of a ratio specifying the amount of the internal capital to cover model risk, depending on the model risk level.

Capital adequacy from an internal capital perspective is determined in relation to own funds. The current own funds of the Bank and the Bank's Group cover these requirements with a significant safety margin.

9. Capital adequacy

Capital adequacy is a process aimed at ensuring that the level of the risk which the Bank and the Bank's Group take on in connection with the development of their business activities may be covered with the available capital, taking into account a specific risk tolerance level and time horizon. The capital adequacy management process covers, in particular, complying with the applicable regulations of the supervisory and control authorities, as well as the risk tolerance level defined in the Bank and the Bank's Group and the capital planning process, including the policy for the sources of raising capital.

Major regulations applicable in the capital adequacy assessment process include:
1) the Banking Law;
2) the CRR;
3) the Act on macroprudential supervision;
4) the Regulation of the Minister of Finance, Funds and Regional Policy of 8 June 2021 on the risk management and internal control systems and remuneration policy in banks;
5) the Regulation of the Minister of Finance, Funds and Regional Policy of 27 July 2021 on the detailed method of estimating internal capital and conducting reviews of estimation strategies and procedures and maintaining a permanent level of internal capital by banks;

The objective of capital adequacy management is to maintain a level of own funds which is adequate to the scale and risk profile of the activities of the Bank and the Bank's Group on an ongoing basis.

Managing the capital adequacy of the Bank's Group includes:
1) specifying and pursuing the Bank's capital targets;
2) identifying and monitoring material risk types;
3) measuring or estimating internal capital to cover individual risk types of risk and total internal capital;
4) determining threshold values for capital adequacy measures;
5) forecasting, monitoring and reporting the level and structure of equity and capital adequacy;
6) managing the structure of the balance sheet to optimize the quality of the Bank's own funds;
7) emergency measures with regard to capital;
8) stress-tests;
9) forecasting of own funds and internal capital requirements, assessment of the profitability of business areas and customer segments.

Capital adequacy measures include:

1) total capital ratio (TCR);
2) Tier 1 capital ratio (T1);
3) Tier 1 core capital ratio (CET1);
4) the ratio of own funds to internal capital;
5) leverage ratio;
6) MREL ratio – TREA;
7) MREL ratio – TEM.

The objective of monitoring the level of capital adequacy measures is to determine the degree of compliance with supervisory standards and to identify cases which require initiating capital emergency measures or a capital protection plan.

Pursuant to Article 92 of the CRR, the minimum capital ratio levels maintained by the Bank's Group are:
1) total capital ratio (TCR) – 8.0%;
2) Tier 1 capital ratio (T1) – 6.0%;
3) Tier 1 core capital ratio (CET1) – 4.5%.

Pursuant to the CRR and the Act on macroprudential supervision, the Bank's Group is required to maintain a combined buffer requirement which is the total of the applicable buffers. Detailed information on capital buffers is presented in chapter 6 of this Report.

Moreover, the Bank and the Group must maintain own funds to cover the additional capital requirement for the risk of foreign currency mortgage loans for households, the so called "additional capital requirement":

1) for the total capital ratio: 0.12% for the Bank and 0.11% for the Bank's Group;
2) for the Tier 1 capital ratio: 0.09% for the Bank and 0.08% for the Bank's Group;
3) for the Tier 1 core capital ratio: 0.07% for the Bank and 0.06% for the Bank's Group;

Additionally, the Bank and the Bank's Group are required to maintain own funds to cover an additional capital requirement in order to hedge against the risk arising from regulatory charges, i.e. a capital conservation buffer (2.5%), specific countercyclical buffer (0.01%), the OSII buffer imposed on the Bank (1%), and an individual add-on in respect of the risk of foreign currency mortgage loans for each ratio for the Bank and for the Bank's Group.

Therefore, as at 31.12.2021 the capital ratios should be no lower than:

1) TCR – 11.63% for the Bank and 11.62% for the Bank's Group;
2) T1 – 9.60% for the Bank and 9.59% for the Bank's Group;
3) CET1 – 8.08% for the Bank and 8.07% for the Bank's Group.

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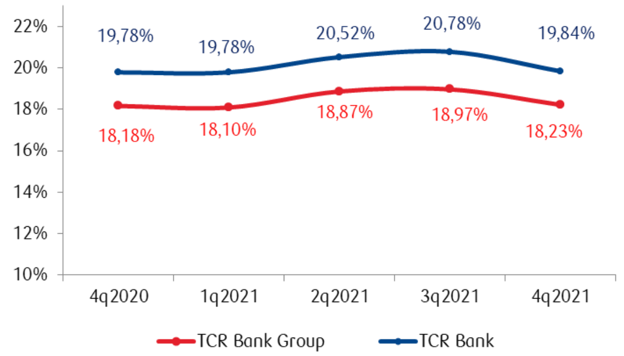
Table 9.1. Capital ratios

Capital ratios	31.12.2021	31.12.2020
Total amount of risk exposure	226 166	228 413
Common Equity Tier 1 (CET1)	38 524	38 816
Tier 2 (T2) capital	2 700	2 700
Total capital (TC=T1+T2)	41 224	41 516
CET1 ratio (%)	**17,03%**	**16,99%**
T1 ratio (%)	**17,03%**	**16,99%**
TCR (%)	**18,23%**	**18,18%**

The Bank and the Bank's Group met the PFSA's requirements for minimum capital ratios in 2021 and 2020 and maintained a safe capital base, above supervisory and regulatory limits.

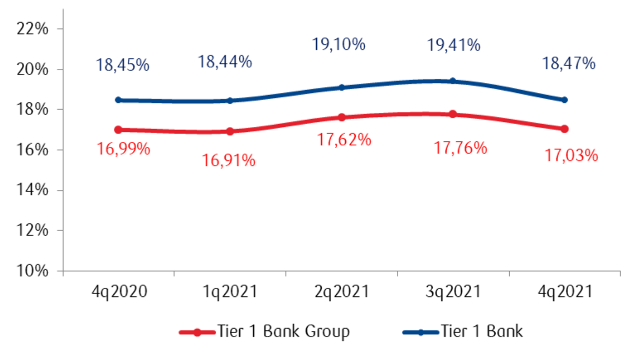
The chart below presents changes in the total capital ratio of the Bank and the Bank's Group.

Chart 9.1. Total capital ratio



The chart below presents changes in the Tier 1 capital ratio (Common Equity Tier 1 capital ratio)[12] of the Bank and the Bank's Group.

Chart 9.2. Tier I capital ratio (T1)/common equity Tier I (CET1) capital ratio



On 2 December 2021, PKO Bank Polski S.A. received a letter from the Bank Guarantee Fund (BGF) on the minimum requirement for own funds and eligible liabilities (MREL). The BGF set the target MREL requirement for the Bank based on the consolidated data at the total risk exposure amount (TREA) and the total exposure measure (TEM), which must be fulfilled at the end of 2023. Additionally, the BGF set interim targets

Table 9.2. MREL levels

in %	31.12.2021	31.12.2022	31.12.2023
MREL (TREA)	12,02	13,91	15,80
MREL (TEM)	3,00	4,46	5,91

In 2021, the values of capital adequacy measures remained above the internal and external limits.

[12] The Tier 1 capital ratio and the Common Equity Tier 1 capital ratio of the Bank and the Bank's Group are equal.

9.1. Impact of transitional arrangements on capital adequacy

The PKO Bank Polski S.A. Group applies the following transitional solutions in the calculation of own funds:

- transitional adjustment to minimize the impact of implementing IFRS 9 on own funds, in accordance with Article 473 a of the CRR;
- provisional treatment of unrealized gains and losses on securities measured at fair value through OCI in connection with the COVID-19 pandemic (according to Art. 468 of the CRR)

9.1.1. Transitional adjustment to minimize the impact of implementing IFRS 9 on own funds

On 1 January 2018, IFRS 9 "Financial Instruments", which replaced IAS 39 "Financial Instruments", entered into force. Changes were made to the classification and measurement of financial instruments, recognition and calculation of their impairment, and hedge accounting.

The impact of the implementation of IFRS 9 on own funds and capital adequacy measures is governed in Regulation 2017/2395[13] of the European Parliament and of the Council. According to this regulation, banks may apply transitional provisions as regards own funds and increase Common Equity Tier 1 capital related to the implementation of the new impairment model over the next 5 years as from 1 January 2018, with the scaling factor decreasing from period to period.

Moreover, on 27 June 2020 Regulation 2020/873[14] of the European Parliament and of the Council entered into force. This provision allows to mitigate the impact on the write-offs recorded as of 1 January 2020 on Tier 1 capital. Such arrangement may be used until 2024 inclusive, with the scaling factor assigned to this value decreasing from period to period.

The Bank decided that in the light of Art. 473a (7a) of the CRR implemented by the aforesaid Regulation, it would apply an option according to which the adjustment mitigating the impact of the introduction of IFRS 9 on own funds would receive a risk weight equal to 100% and the resulting value would be added to the total exposure.

The Bank's Group decided to apply the transitional provisions in full and to spread the impact of the adjustments for the implementation of IFRS 9 on own funds and capital adequacy measures over time.

9.1.2. Provisional treatment of unrealized gains and losses on securities measured at fair value through OCI

According to Article 468 of the CRR (as amended by the aforementioned Regulation 2020/873), banks may apply the provisional treatment of unrealized gains and losses measured at fair value through other comprehensive income in connection with the COVID-19 pandemic. This approach enables excluding from the calculation of the Bank's common equity position the portion of the unrealized gains and losses accumulated from 31 December 2019 included in the balance sheet under "changes in fair value of debt instruments measured at fair value through OCI", corresponding to exposures to central governments, regional governments or local authorities, and to public sector entities, excluding those financial assets that are impaired due to credit risk. The Bank's Group has decided to apply the above provisional treatment from December 2021 data onwards and has notified the Polish Financial Supervision Authority about its decision.

[13] Regulation (EU) 2017/2395 of the European Parliament and of the Council of 12 December 2017 amending Regulation (EU) No 575/2013 as regards transitional arrangements for mitigating the impact of the introduction of IFRS 9 on own funds and for the large exposures treatment of certain public sector exposures denominated in the domestic currency of any Member State.

[14] Regulation 2020/873 of the European Parliament and of the Council of 24 June 2020 amending Regulations (EU) No 575/2013 and (EU) 2019/876 as regards certain adjustments in response to the COVID-19 pandemic.

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Table 9.3 Comparison of the institution's own funds and capital ratio and leverage ratio with and without the application of IFRS 9 transitional arrangements and corresponding expected credit losses [Template MSSF 9-FL]

		31.12.2021	30.09.2021	30.06.2021	31.03.2021	31.12.2020
Available capital (amounts)						
1	Common Equity Tier 1 capital (CET1)	38 524	39 715	38 016	38 523	38 816
2	Common Equity Tier 1 (CET1) capital if the IFRS 9 transitional arrangements or similar expected credit losses were not applied	37 042	38 233	36 582	37 089	37 164
2a	Common Equity Tier 1 capital (CET1) if the provisional treatment of unrealized gains and losses measured at fair value through other comprehensive according to Article 468 of the CRR	37 289	39 715	38 016	38 523	38 816
3	Tier 1 capital (T1)	38 524	39 715	38 016	38 523	38 816
4	Tier 1 capital if the IFRS 9 transitional arrangements or similar expected credit losses were not applied	37 042	38 233	36 582	37 089	37 164
4a	Tier 1 capital if the provisional treatment of unrealized gains and losses measured at fair value through other comprehensive income according to Article 468 of the CRR	37 289	39 715	38 016	38 523	38 816
5	Total capital	41 224	42 415	40 716	41 223	41 516
6	Total capital, if the IFRS 9 transitional or similar expected loan losses were not applied	39 742	40 933	39 282	39 789	39 864
6a	Total capital, if the provisional treatment of unrealized gains and losses measured at fair value through other comprehensive income according to Article 468 of the CRR	39 989	42 415	40 716	41 223	41 516
RWAs (amounts)						
7	Total RWAs	226 166	223 614	215 780	227 774	228 413
8	Total RWAs if the IFRS 9 transitional or similar expected credit losses were not applied	224 684	222 132	214 345	226 340	226 767
Capital ratios						
9	Common Equity Tier 1 capital (as a percentage of the risk exposure amount)	17,03%	17,76%	17,62%	16,91%	16,99%
10	Common Equity Tier 1 capital (as a percentage of the risk exposure amount) if the IFRS 9 transitional arrangements or similar expected credit losses were not applied	16,49%	17,21%	17,07%	16,39%	16,39%
10a	Common Equity Tier 1 capital (as a percentage of the risk exposure amount) if the provisional treatment of unrealized gains and losses measured at fair value through other comprehensive income, according to Art. 468 of the CRR	16,49%	17,76%	17,62%	16,91%	16,99%
11	Tier 1 capital (as a percentage of the risk exposure amount)	17,03%	17,76%	17,62%	16,91%	16,99%
12	Tier 1 capital (as a percentage of the risk exposure amount) if the IFRS 9 transitional arrangements or similar expected credit losses were not applied	16,49%	17,21%	17,07%	16,39%	16,39%
12a	Tier 1 capital (as a percentage of the risk exposure amount) if there was no provisional treatment of unrealized gains and losses measured at fair value through other comprehensive income, according to Article 468 of the CRR	16,49%	17,76%	17,62%	16,91%	16,99%
13	Total capital (as a percentage of the risk exposure amount)	18,23%	18,97%	18,87%	18,10%	18,18%
14	Total capital (as a percentage of the risk exposure amount) if the IFRS 9 transitional or similar expected credit losses were not applied	17,69%	18,43%	18,33%	17,58%	17,58%
14a	Total capital (as a percentage of the risk exposure amount), if there was no provisional treatment of unrealized gains and losses measured at fair value through other comprehensive income, according to Article 468 of the CRR	17,68%	18,97%	18,87%	18,10%	18,18%
Leverage ratio						
15	The leverage ratio total exposure measure	439 933	431 594	418 209	402 805	394 468
16	Leverage ratio	8,76%	9,20%	9,09%	9,56%	9,84%
17	The leverage ratio if the IFRS 9 transitional arrangements or similar expected credit losses were not applied	8,45%	8,89%	8,78%	9,24%	9,46%
17a	The leverage ratio if the provisional treatment of unrealized gains and losses measured at fair value through other comprehensive income, according to Article 468 of the CRR	8,48%	9,20%	9,09%	9,56%	9,84%

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10. Remuneration policy

10.1. Main elements of the remuneration policy and ways of their application [EU REMA formula]

10.1.1. Bodies supervising the remuneration policy

The objective of the Appointments and Remuneration Committee of the Supervisory Board (SBARC) at the Bank is to support the Supervisory Board in the performance of its statutory duties and tasks arising from legal regulations. The SBARC is composed of members of the Bank's Supervisory Board.

The Appointments and Remuneration Committee of the Supervisory Board at PKO Bank Polski S.A.

No.	Name and surname	Function
1.	Wojciech Jasiński	Chairman of the Committee
2.	Dominik Kaczmarski	Deputy Chairman of the Committee
3.	Andrzej Kisielewicz	Member of the Committee
4.	Tomasz Kuczur	Member of the Committee
5.	Bogdan Szafrański	Member of the Committee

In particular, the SBARC is responsible for carrying out the following tasks:

1) reviewing the policy of remunerating persons holding managerial positions at the Bank on a periodical basis and presenting the results of the review to the Supervisory Board;
2) presenting to the Supervisory Board proposals of principles for remunerating Members of the Management Board;
3) giving opinions on the general rules of the policy of remunerating persons whose professional activities have a material impact on the Bank's risk profile, which are subject to approval by the Supervisory Board;
4) reading the report on the review of implementation of the remuneration policy, carried out by the Internal Audit Department;
5) preparing a draft report on the assessment of the functioning of the remuneration policy at the Bank, which is presented to the General Meeting by the Supervisory Board.

In 2021, SBARC held 12 meetings.

The remuneration policy for employees of the Bank and the PKO BP S.A. Group approved by the resolution of the Supervisory Board No. 28/2021 of 18 March 2021 is applied in the Bank and the Group Companies taking into account the principle of proportionality based on the following criteria: the legal form of the business conducted, its size, the risk associated with the business conducted, the internal organization and the nature and complexity of the business conducted. The remuneration policy is applied to foreign branches to the extent consistent with local regulations.

In the process of identifying positions with a significant impact on the risk profile of the Bank, a Group Company of the Bank or the entire Bank's Group (MRT), the positions of:

1) members of the Bank's Management and Supervisory Boards;
2) members of the Management Boards and Supervisory Boards of the Bank's Group Companies, are considered to be positions with significant influence on the risk profile of the Bank, the Bank's Group Companies or the entire Bank's Group respectively.

MRT positions in the Bank, other than those listed above, are identified by the Bank's Management Board and, in the case of Group Companies, MRT positions are identified by the Management Board of a given Group Company, taking into account, in particular, the provisions of the European Commission's Delegated Regulation, pursuant to which MRTs are in particular:

1) senior management executives responsible for material business units, for managing specific risk categories and for control functions;
2) positions responsible for providing internal support, which are decisive to conducting the operations by exposing the Bank to a material operational risk and other types of risk;
3) positions generating credit risk and market risk, identified using criteria based on competence limits.

In order to identify MRT positions in the Bank's Group companies, the materiality of the Company's impact on the risk profile of the Group Company or the Group as a whole is determined, taking into account the risk management strategy and the requirements of common law. For Group Companies with subsidiaries, the identification of MRT positions within its group is performed by the parent company.

10.1.2. Structure of the remuneration system

The policy ensures a consistent remuneration system by:

1) using a remuneration system in line with market trends;
2) recruiting optimal job candidates;
3) adjusting mechanisms, tools and salary levels to the Bank's and Bank Group's strategy and goals;
4) taking into account the capabilities of the Bank's Group in shaping the desired remuneration mechanisms and levels;
5) setting permanent salaries on the basis of job valuations;

6) shaping the remuneration structure based on the employees' performance and an assessment of their competences;
7) building the employees' responsibility for the tasks they carry out, on the basis of objectivized criteria;
8) guaranteeing that variable remuneration components are parameterized so that they take into account the cost of risk, the cost of capital and liquidity risk of the Bank and the Bank's Group in the long-term;
9) ensuring that the monetary or non-monetary forms of remuneration do not encourage the persons involved to favour their own interests or the interests of the Bank and the entities in the Bank's Group to the detriment of customers.

The Management Board adopts the Policy, and is responsible for implementing the principles resulting from the Policy in the Bank and in the Group Companies – through appropriate internal banking regulations and through cooperation with the individual Group Companies. The Supervisory Board approves the Policy.

The Company Collective Labour Agreement (ZUZP) concluded with the trade union organizations on 28 March 1994 (as amended) provides the basis for granting the following remuneration components to the Bank employees:

- base remuneration;
- additional remuneration for working overtime and under conditions which are particularly onerous and detrimental to health;
- bonuses and rewards for special career achievements.

Variable remuneration may be reduced, to the point of total disqualification, as a result of the following actions on the part of the MRT up to the date of payment (in particular during an assessment period equal to at least the last three years):

1) significant breaches of contractual obligations;
2) malperformance of the professional tasks assigned;
3) significant non-compliance with legal regulations or customer service standards;
4) significant behaviour towards other employees which violates the principles of social coexistence.

When deciding on the payment of variable remuneration for all MRTs, a decision can be made about:

1) possibly limiting the amount of funds for variable remuneration, taking into account:
    a) the effect on regulatory capital, solvency ratio and equity so that the payment of variable remuneration does not limit the possibility of enhancing them;
    b) the effect on the cost of capital so that the payment of variable remuneration does not limit the possibility of maintaining an adequate capital base;
    c) the desired risk profile, including the related costs;
    d) the financial performance with regard to long-term development plans.
2) a temporary change, in the event of extraordinary and unforeseen circumstances that require taking a conservative approach to variable remuneration of the MRT:
    a) the proportion of deferred variable remuneration to non-deferred in favour of increasing the deferred variable remuneration;
    b) extending the deferral periods with respect to the payment of variable remuneration specified in the MRT remuneration principles and the dates as of which:
       - the base value of variable remuneration is converted into the value of financial instruments;
       - the value of financial instruments will constitute the basis for converting a financial instrument into cash to be paid out;
    c) the proportion between the cash and the financial instrument component of variable remuneration in favour of an increase in the financial instrument component of variable remuneration.

Before the end of the deferred remuneration period, the Management Board determines whether and in which period the conditions for a reduction in variable remuneration (malus) for the assessment period (i.e. the deferred remuneration instalment) occurred – using the following assessment scheme:

1) significant deterioration in performance due to:
    a) balance sheet loss or threat of balance sheet loss;
    b) the emergence of a threat of insolvency or loss of liquidity (taking into account the cost of risk, cost of capital and long-term liquidity risk);
2) determination that there has been a material adverse change in equity;
3) a breach of a provision of law, rules and regulations, procedures or obligations arising from the MRT's employment relationship or the MRT committing material errors, e.g. non-compliance with an internal code of conduct, compliance guidelines or core values, particularly in areas of risk management;
4) adjustment of the MRT's performance/objectives and degree of achievement of results/objectives;
5) deterioration in the performance of structures supervised by the MRT;
6) having awarded variable remuneration on the basis of incorrect, misleading information or as a result of fraud by the MRT concerned.

As part of the assessment of the functioning of the remuneration policy, in its resolution of 9 May 2021, based on the recommendation of the SBARC, the Supervisory Board adopted a report for 2020 which indicates that in 2020, the Bank and the Group continued the remuneration policy leading to a coherent and transparent remuneration system, based on the alignment of remuneration levels to the different grade groups and comparing them to market remuneration. The Bank continues its policy in line with the job evaluation method, relating to the determination of individual job weights according to: skills, problem solving and impact on results, and the programme for recommending job candidates.

In the Remuneration Policy for employees of the Bank and the PKO BP Group, in 2021, changes were approved by resolution of the Supervisory Board No. 28/2021, consisting primarily of:

- organizing the competences within the Policy by introducing the leading role of the Human Resources Management Division in the implementation of consistent remuneration principles at the level of the entire Group;
- eliminating the mechanism of automatic cessation of the MRT non-competition clause in the event of taking up employment in another State Treasury company, outside the Bank's Group, given the absence of such a requirement in generally applicable regulations, i.e. in the Act of 9 June 2016 on principles of shaping remuneration of persons managing certain companies (as amended);
- limitation of provisions on the loss of the right to severance pay in the event of accepting employment in the Bank's Group Companies;
- necessary editorial corrections of the Policy.

Employment on a position, termination of the employment contract and change in the terms and conditions of the employment contract with respect to a position, made in accordance with the employer's decision concerning the head of the internal audit function or the head of the compliance unit – requires prior approval of the Supervisory Board. Determination of the amount of basic remuneration and changes thereto made with respect to such persons are approved by the Supervisory Board or its competent committee, respectively.

– Termination of an employment contract and changes in the terms and conditions of the employment contract with respect to a position or changes resulting in a reduction of the basic remuneration, made at the employer's initiative with respect to an employee of the internal audit function or an employee of the compliance unit, require prior approval of the President of the Management Board.

The level of remuneration of persons performing independent control functions should enable the institution to employ qualified and experienced staff to perform these functions, which is taken into account in the job evaluation process. The remuneration of persons performing independent control functions should be predominantly fixed and should reflect the nature of the duties performed, which is taken into account at the goal-setting stage.

Guaranteed variable remuneration components are exceptional and occur only at the time of initiating an employment relationship or concluding a different contract forming the basis for the provision of work, and are limited to the first year of employment.

A member of the Management Board or MRT may be granted a severance payment (not resulting from the generally applicable regulations) related to the termination of employment, in an amount not exceeding three times the fixed remuneration (arising from the contract on the last day of employment), provided that:

- the person was employed for an appropriate period;
- the contract was terminated for any reason other than a breach of fundamental contractual obligations.

If severance pay is granted, its amount should reflect the assessment for the last three years.

10.1.3. Decription of how current and future risks are taken into account in the remuneration processes

The Bank applies the *ex ante* and *ex post* adjustment mechanisms described in section 10.1.2 above.

When deciding on payment, the Bank assesses the relation of the payment to: the Bank's capital requirement, the Bank's equity, the total capital ratio.

The consideration of risk in the process of shaping the MRT remuneration is also visible in the bonus targets set for MRT, which are linked to the level of risk in the Bank's business (see section 10.1.5).

10.1.4. Ratio of fixed to variable components of remuneration

The total amount of the MRT's variable remuneration for a given bonus period may not exceed 100% of the defined fixed remuneration for the time the MRT remains in post. The Bank applies the *ex ante* and *ex post* adjustment mechanisms described in section 10.1.2 above.

The impact of risk on variable remuneration is hedged in the target-setting process, as described in 10.1.5. below.

10.1.5. Description of the institiution's efforts to link the level of remuneration to the results achieved during the performance measurement period

MRTs are covered by the Management by Objectives System "MbO". The objectives set for MRTs include both institutional level objectives as well as individual level objectives specific to the business area and are assigned for the bonus period. The objectives assigned are intended to ensure that the Bank's business cycle and risks are taken into account both by setting appropriate, risk-sensitive performance evaluation criteria and by reducing or not providing variable remuneration in the event of deteriorated financial performance, loss or deterioration of other indicators. MRT's bonus targets also include quantitative as well as qualitative criteria, and are set in a way that ensures:

1) motivating work and behaviour in such a way that the Bank and the Group achieve the best possible stable financial results in the long term;
2) supporting proper and effective risk management and discouraging excessive risk-taking beyond the risk appetite approved by the Supervisory Board;
3) supporting the implementation of the business strategy and limiting conflicts of interest.

MRT's deferred and non-deferred variable remuneration consists of the following components:

1) cash, which represents 50% of variable remuneration;
2) in the form of a financial instrument (phantom shares), which represents 50% of variable remuneration.

The only financial instruments used are the Bank's phantom shares, hence there is no need for the Bank to assess the balance between the different types of instruments granted.

When deciding on the payment, the Bank applies the criteria and performance indicators indicated in section 10.1.3. In the event of "poor" performance, the Bank may apply the measures described in 10.1.2 above.

10.1.6. Description of the institution's efforts to adjust remuneration to take account of longer-term performance

The total variable remuneration for a given bonus period is determined in the form of non-deferred variable remuneration and deferred variable remuneration in a ratio of 60% to 40% below a particularly large amount and 40% to 60% above a particularly large amount. The Bank applies a deferral period of 4 years for employees and 5 years for Management Board Members, comprising annual settlement periods, following the end of the bonus period and the calculation of the total base value of all MRT variable remuneration components. Retention in the Bank is the period beginning on the first day of the year commencing after the bonus period forming the basis for the calculation of phantom shares and ending on the date on which the payment is made after the conversion of the shares into cash.

The Bank does not apply a clawback mechanism for previously paid bonuses. Before the end of the deferred remuneration period, it is determined whether and during which period the conditions for a reduction in the variable remuneration (malus) for the assessment period in question (i.e. the deferred remuneration instalment) have occurred, in accordance with point 10.1.2. above.

10.1.7. Description of the main parameters and rationale for any variable component scheme and any other non-cash benefits in accordance with Article 450(1)(f) of the CRR

The Bank applies performance measurement through appropriate target setting which takes into account:
1) Net profit of the Bank's Group;
2) C/I ratio of the Bank's Group during the period (in %);
3) ROE of the Bank's Group (in %);
4) Share of impaired receivables in the loan portfolio of the Bank's Group including loans measured at FVPL (in %);
5) Interest margin of the Bank's Group (in %);
6) Alternative target (understood as the selection of a more favourable target after final settlement);
   A. Customer Satisfaction Index presented based on Entry to Inactivity and Customer Exit Rates as defined by Finalty;
   B. Customer Satisfaction Index measured by Relational NPS.

The structure of performance indicators combines various types of KPIs, in particular quantitative and effectiveness indicators consistent with the specific nature of an organization. All performance indicators are parameterized and measurable. Due to the nature of a given managerial position, a different percentage of each objective in the overall assessment is defined by assigning weights to the aforementioned KPI types. Responsibility for long-term financial performance was used, adjusted for risk and costs with a different structure of objectives depending on the specific nature of the tasks performed. The positions responsible for control functions are assessed in terms of accomplishment of objectives which are independent of the performance of the structures being controlled.

MRT's deferred and non-deferred variable remuneration consists of the following components:

1) Cash, which represents 50% of the variable remuneration;
2) In the form of a financial instrument, which represents 50% of the variable remuneration.

10.1.8. Other remuneration policy issues

The Bank does not benefit from the derogation set out in Article 94(3) of the CRD.

10.2. Quantitative data on remuneration

The following tables present quantitative remuneration data for 2021.

Discrepancies between the total amounts of remuneration or the total number of employees and the totals of individual items are due to presentational rounding.

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Table 10.1. Remuneration awarded for the financial year [template EU REM1]

			31.12.2021			
			a	b	c	d
			MB Supervisory function	MB Management function	Other senior management	Other identified staff
1	Fixed remuneration	Number of identified staff	11	8	61	95
2		Total fixed remuneration	1,30	6,66	29,65	28,53
3		Of which: cash-based	1,30	6,66	29,65	28,53
4		(Not applicable in the EU)				
EU-4a		Of which: shares or equivalent ownership interests	-	-	-	-
5		Of which: share-linked instruments or equivalent non-cash instruments	-	-	-	-
EU-5x		Of which: other instruments	-	-	-	-
6		(Not applicable in the EU)				
7		Of which: other forms	-	-	-	-
8		(Not applicable in the EU)				
9	Variable remuneration*	Number of identified staff	-	-	-	-
10		Total variable remuneration	-	-	-	-
11		Of which: cash-based	-	-	-	-
12		Of which: deferred	-	-	-	-
EU-13a		Of which: shares or equivalent ownership interests	-	-	-	-
EU-14a		Of which: deferred	-	-	-	-
EU-13b		Of which: share-linked instruments or equivalent non-cash instruments	-	-	-	-
EU-14b		Of which: deferred	-	-	-	-
EU-14x		Of which: other instruments	-	-	-	-
EU-14y		Of which: deferred	-	-	-	-
15		Of which: other forms	-	-	-	-
16		Of which: deferred	-	-	-	-
17	Total remuneration (2 + 10)		1,30	6,66	29,65	28,53

*As at the publication date, the variable remuneration for 2021 was not yet awarded.

The quantitative data on the variable remuneration components awarded for 2021 will be published together with the information on the capital adequacy of the PKO Bank Polski S.A. Group prepared for the first half of 2022.

Table 10.2. Special payments to staff whose professional activities have a material impact on institutions' risk profile (identified staff) [Template EU REM2]

		31.12.2021			
		a	b	c	d
		MB Supervisory function	MB Management function	Other senior management	Other identified staff
Guaranteed variable remuneration awards					
1	Guaranteed variable remuneration awards - Number of identified staff	-	-	-	-
2	Guaranteed variable remuneration awards -Total amount	-	-	-	-
3	Of which guaranteed variable remuneration awards paid during the financial year, that are not taken into account in the bonus cap	-	-	-	-
Severance payments awarded in previous periods, that have been paid out during the financial year					
4	Severance payments awarded in previous periods, that have been paid out during the financial year - Number of identified staff	-	-	3	2
5	Severance payments awarded in previous periods, that have been paid out during the financial year - Total amount	-	-	0,09	0,03
Severance payments awarded during the financial year					
6	Severance payments awarded during the financial year - Number of identified staff	-	6	4	1
7	Severance payments awarded during the financial year - Total amount	-	1,14	0,56	0,04
8	Of which paid during the financial year	-	-	-	0,04
9	Of which deferred	-	1,14	0,56	-
10	Of which severance payments paid during the financial year, that are not taken into account in the bonus cap	-	-	-	-
11	Of which highest payment that has been awarded to a single person	-	0,20	0,15	0,04

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Table 10.3. Deferred remuneration [template EU REM3]

		31.12.2021							
		a	b	c	d	e	f	EU - g	EU - h
	Deferred and retained remuneration	Total amount of deferred remuneration awarded for previous performance periods	Of which due to vest in the financial year	Of which vesting in subsequent financial years	Amount of performance adjustment made in the financial year to deferred remuneration that was due to vest in the financial year	Amount of performance adjustment made in the financial year to deferred remuneration that was due to vest in future performance years	Total amount of adjustment during the financial year due to ex post implicit adjustments (i.e.changes of value of deferred remuneration due to the changes of prices of instruments)	Total amount of deferred remuneration awarded before the financial year actually paid out in the financial year	Total of amount of deferred remuneration awarded for previous performance period that has vested but is subject to retention periods
1	MB Supervisory function	-	-	-	-	-	-	-	-
2	Cash-based	-	-	-	-	-	-	-	-
3	Shares or equivalent ownership interests	-	-	-	-	-	-	-	-
4	Share-linked instruments or equivalent non-cash instruments	-	-	-	-	-	-	-	-
5	Other instruments	-	-	-	-	-	-	-	-
6	Other forms	-	-	-	-	-	-	-	-
7	MB Management function	10,97	3,05	7,91	-	-	0,77	3,83	5,11
8	Cash-based	4,33	1,53	2,80	-	-	0,02	1,55	-
9	Shares or equivalent ownership interests	-	-	-	-	-	-	-	-
10	Share-linked instruments or equivalent non-cash instruments	6,63	1,52	5,11	-	-	0,75	2,28	5,11
11	Other instruments	-	-	-	-	-	-	-	-
12	Other forms	-	-	-	-	-	-	-	-
13	Other senior management	24,38	5,99	18,39	-	-	0,92	6,91	11,55
14	Cash-based	9,89	3,04	6,84	-	-	0,04	3,08	-
15	Shares or equivalent ownership interests	-	-	-	-	-	-	-	-
16	Share-linked instruments or equivalent non-cash instruments	13,30	2,64	10,66	-	-	0,86	3,50	10,66
17	Other instruments	1,20	0,31	0,89	-	-	0,02	0,33	0,89
18	Other forms	-	-	-	-	-	-	-	-
19	Other identified staff	23,54	5,63	17,92	-	-	1,15	6,78	11,36
20	Cash-based	9,66	3,11	6,55	-	-	0,04	3,15	-
21	Shares or equivalent ownership interests	-	-	-	-	-	-	-	-
22	Share-linked instruments or equivalent non-cash instruments	13,21	2,32	10,89	-	-	1,08	3,40	10,89
23	Other instruments	0,67	0,20	0,47	-	-	0,04	0,23	0,47
24	Other forms	-	-	-	-	-	-	-	-
25	Total amount	58,89	14,67	44,22	-	-	2,85	17,51	28,02

In 2021, there were no persons in the entire PKO Bank Polski S.A. Group who received total remuneration of at least EUR 1 million, therefore the EU REM4 table has not been filled in.

Table 10.4. Information on remuneration of staff whose professional activities have a material impact on institutions' risk profile (identified staff) [template EU REM5]

		31.12.2021									
		a	b	c	d	e	f	g	h	i	j
		Management body remuneration			Business areas						
		MB Supervisory function	MB Management function	Total MB	Investment banking	Retail banking	Asset management	Corporate functions	Independent internal control functions	All other	Total
1	Total number of identified staff										155
2	Of which: members of the MB	11	8	19							
3	Of which: other senior management				3	5	7	28	12	7	
4	Of which: other identified staff				4	30	25	21	9	4	
5	Total remuneration of identified staff	1,30	14,33	15,63	8,32	28,03	8,01	36,35	11,25	10,52	
6	Of which: variable remuneration	-	7,68	7,68	4,58	14,21	2,22	14,20	4,35	4,73	
7	Of which: fixed remuneration	1,30	6,66	7,96	3,74	13,82	5,79	22,15	6,90	5,79	

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11. Glossary of terms and abbreviations

AMA (Advanced Measurement Approach)	operational risk advanced measurement approach for the purpose of defining the own funds requirements for operational risk according to the CRR.
CIRS (Currency Interest Rate Swap)	a currency interest rate swap transaction
CRD IV	Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC
CSA (Credit Support Annex)	a collateral agreement – annex to the framework agreement
EaR (Earnings at risk)	defines maximum deviation of net business income from expected value with an assumed range of confidence in a specified time horizon
EBA (European Banking Authority)	European Banking Authority
ECAI (External Credit Assessment Institutions)	External Credit Assessment Institution
FX Swap	a foreign currency exchange swap. Counterparties determine the interest rate that will apply in the future for a specified amount in the currency of the transaction for a predetermined period
IRB (Internal Ratings Based Approach)	an internal ratings method used to determine the capital requirement for credit risk
ISDA (International Swap and Derivatives Association)	the International Swap and Derivatives Association.
Internal capital	amount of capital, that is required to cover all identified significant types of risk present in the Bank's business activity and the effect of changes in its business environment, taking into account the anticipated risk level.
Key Risk Indicators, KRI	operational risk measure, defined as key for a given area of the systemic operational risk management, application or process in the context of losses resulting from operational events, i.e. monitoring the main factors affecting the level of key risks for the Bank
CVA (Credit Value Adjustment)	adjustment of the valuation of derivatives reflecting counterparty credit risk
DVA (Debt Value Adjustment)	adjustment of the valuation of liabilities and derivatives reflecting the Bank's own credit risk
LDA (Loss Distribution Approach)	an approach in which historical data on internal and external events are used, as well as the information on the development of business environment factors for statistical measurement of operational risk
LGD (Loss Given Default)	a loss suffered by the Bank in case of client's default
Total Capital Ratio (TCR)	the main measure of capital adequacy, calculated as the quotient of own funds and total own funds requirements multiplied by 12.5%.
Material Risk Takers (MRT)	members of the Management Board and key managers with a significant impact on the risk profile of the Bank
NBP	National Bank of Poland
Outsourcing	using external resources, by delegating certain tasks and actions to be performed by external companies on the basis of contracts
Banking book	contains operations not included in the trading book, specifically related to credit facilities and loans and deposits extended or accepted within the bank's basic business activity or for the purposes of liquidity and interest rate risk management
Trading book	all positions in financial instruments and commodities held by an institution either with trading intent, or in order to hedge positions held with trading intent.

Individual position for a specific foreign currency (the currency position)	the difference between total assets in a currency, off-balance sheet liabilities received and assets indexed to that currency on the one hand, and total liabilities in that currency, off-balance sheet liabilities awarded and liabilities indexed to that currency on the other hand.
Probability of Default, PD	a statistical assessment of the probability of a borrower's insolvency on the annual scale (defines the portfolio-related credit risk to become materialised in the future)
RI – additional risk indicator (Risk Indicator)	operational risk measure, not specified as a key, operational nature, supporting monitoring of operational risk level for a given area, systemic operational risk management, application or process
RTS AMA	Commission Delegated Regulation (EU) 2018/959 of 14 March 2018 supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards of the specification of the assessment methodology under which competent authorities permit institutions to use Advanced Measurement Approaches for operational risk
Business risk	the risk of loss resulting from unfavourable changes in the business environment, unfavourable decisions, improper implementation of decisions or a failure to take appropriate action in response to changes in the business environment; it specifically includes the strategic risk.
Credit risk	risk of losses resulting from customer's failure to meet obligations towards the Bank or the risk of a decrease in the economic value of the Bank's receivables as a result of deterioration of the customer's ability to service obligations
Model risk	risk of suffering losses in result of wrong business decisions taken on the basis of functioning models
Operational risk	the risk of losses resulting from inadequacy or unreliability of the internal processes, the human factor and systems, or from external events; covering legal risk and cybersecurity risk and does not include reputation risk and business risk
Liquidity risk	the risk of inability to timely discharge of liabilities due to non-availability of liquid means
Interest rate risk	risk of loss on the Bank's balance sheet and off-balance sheet items sensitive to interest rate changes, resulting from unfavourable interest rate changes on the market
Foreign Exchange (FX) risk	risk of loss due to changes in the foreign exchange rates, generated through maintaining open currency positions in individual currencies.
Macroeconomic risk	a risk of deterioration of the Bank's financial condition in result of adverse impact of changes in macroeconomic conditions.
Expected Loss, EL	a statistically assessed value of the mean (expected) credit risk loss that the bank expects to incur on the portfolio within one year.
Strategic tolerance limit	acceptable risk level defined by the Management Board
Rating method	a method for assessing the bank's credit risk involved in the financing of institutional clients, incurred when awarding or changing the essential terms of a loan transaction and in the period of performance of such transaction
Stress test	a risk management tool used for assessment of the potential impact on the bank's situation of a specific event and/or changes in the market parameters not described in the standard manner with statistical measures.
Fair value	an amount for which a specific asset might be exchanged, and a liability discharged, within a market transaction between interested and informed unrelated parties
Value at risk (VaR)	a potential loss resulting from changes in the present value of cash flows from financial instruments, or a potential loss on the maintained currency positions due to changes in the foreign exchange rates, on the assumption that a defined confidence level and holding period of the position are kept
Credit Value-at-Risk (CVaR)	a potential loss that should not be exceeded in relation to credit risk on the maintained credit portfolio, on the assumption that a defined confidence level and holding period of the position are kept.
LCR indicator	liquidity coverage requirement describes relation of high-quality liquid assets to total net cash outflows (including cash inflows) over a 30-day period under stress scenario – European measure defined in CRDIV/CRR package

NSFR indicator	Net Stable Funding Ratio describes relation of total available stable funding to total required stable funding
LTV	ratio of the credit exposure amount to the value of the real property offered as collateral of that exposure.
Tier I capital ratio	Capital adequacy measure, calculated as the ratio of Tier 1 capital and the sum of own funds requirements, multiplied by 12.5. No elements of additional Tier 1 capital are identified in the Bank and the Bank's Capital Group, consequently the Common Equity Tier 1 (CET1) ratio is equal to the Tier 1 capital ratio (T1)
Own funds requirements	total own funds requirements for particular risk types and own funds requirements for exceeded limits and other violations of norms described in the CRR and CRD, BRR and decisions of external supervisory and control bodies
PBA	the Polish Bank Association.

Representation of the Management Board of PKO Bank Polski S.A.

The Management Board of PKO Bank Polski S.A.:

- declares that, to the best of its knowledge, the information has been prepared in compliance with the internal control processes;
- declares that, to the best of its knowledge, the adequacy of risk management arrangements at PKO Bank Polski S.A. ensures that the risk management systems used are appropriate to the risk profile and strategy of the Bank and the Bank's Group;
- approves this Report "Capital Adequacy and other information subject to publication of the Powszechna Kasa Oszczędności Bank Polski Spółka Akcyjna Group as at 31 December 2021", which includes information on risk, discusses the overall risk profile of the Bank and the Bank's Group related to the business strategy and includes key indicators and figures that provide external stakeholders with a holistic view of the risk management of PKO Bank Polski S.A. and the PKO Bank Polski S.A. Group, including interactions between the Bank's risk profile and risk tolerance expressed in the form of strategic tolerance limits determined by the Management Board and approved by the Supervisory Board.

Management Board of PKO Bank Polski S.A.

on the original, the relevant signatures