Capital Adequacy and Other Information Subject to Disclosure of The Group of PKO Bank Polski SA as at 31 December 2018

Introduction

The Report "Capital Adequacy and Other Information Subject to Disclosure of the Group of Powszechna Kasa Oszczędności Bank Polski SA as at 31 December 2018", hereinafter referred to as "the Report", was prepared in accordance with the provisions of Article 111a of the Act of 29 August 1997 – Banking Law[1], hereinafter referred to as the "Banking Law", 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 and amending Regulation (EU) No 648/2012 (hereinafter referred to as "CRR"), taking into account implementing acts under the CRR, the Act of 5 August 2015 on macroprudential supervision over the financial system and crisis management[2], hereinafter referred to as the "Act on macroprudential supervision", as well as Recommendation M of the Polish Financial Supervision Authority (*Komisja Nadzoru Finansowego*, hereinafter referred to as "PFSA") on the operational risk management in banks, Recommendation P on liquidity risk management in banks and Recommendation H on internal control system at banks.

Disclosures reflect also requirements set in Commission Implementing Regulation (EU) No 1423/2013 of 20 December 2013 laying down implementing technical standards with regard to disclosure of own funds requirements for institutions according to Regulation (EU) No 575/2013 of the European Parliament and of the Council (Regulation 1423/2013), Commission Regulation (EU) 2016/200 of 15 February 2016 lying down implementing technical standards with regard to disclosure of the leverage ratio for institutions, according to Regulation (EU) No 575/203 of the European Parliament and the Council (Regulation 2016/200), Guidelines EBA/GL/2016/11 on disclosure requirements under Part Eight of Regulation (EU) No 575/2013 (Guidelines EBA/GL/2016/11), Guidelines EBA/GL/2018/01 on uniform disclosures under Article 473a of Regulation (EU) No 575/2013 as regards the transitional period for mitigating the impact of the introduction of IFRS 9 on own funds (Guidelines EBA/GL/2018/01) in the connection with application of transitional period for the implementation of IFRS 9 and Guidelines EBA/GL/2017/01 on LCR disclosure to complement the disclosure of liquidity risk management under Article 435 of Regulation (EU) No 575/2013.

Pursuant to Article 13 par. 1 of the CRR, Powszechna Kasa Oszczędności Bank Polski SA ("PKO Bank Polski SA", "the Bank") being a European parent institution, discloses information regarding capital adequacy in a separate document annually, as referred to in Part Eight of the CRR, with part of the information disclosed semi-annually.

This Report was prepared in accordance with the principles of information policy of PKO Bank Polski SA regarding capital adequacy ("The principles of information policy of PKO Bank Polski SA regarding capital adequacy", as described in the art. 431 of the CRR, available on the Bank's website (www.pkobp.pl)., as well as internal regulations adopted by the Bank, which contain detailed information related to disclosures concerning capital adequacy, rules of their verification, approval and publication.

In accordance with Commission Delegated Regulation (EU) No 183/2014, the capital adequacy calculation includes adjustments, recognized in the outturn account, which relate to credit risk for periods covered by Common Equity Tier 1 capital. For above reasons Bank included specific credit risk adjustments as of 30 September 2018, adequate adjustments were included also at capital group level.

The Report covers the year 2018 and presents data as of 31 December 2018 and is prepared in accordance with the principles described in the first paragraph as of 31 December 2018. The Report includes consolidated data[3] of the PKO Bank Polski SA Group (hereinafter referred to as the "Bank Group"). Some of the information contained in the Report refers specifically to individual data of PKO Bank Polski SA, due to Bank's significant influence on the Bank Group's risk profile.

Unless otherwise stated, the figures presented in the Report have been expressed in PLN million. Any differences in the totals and proportions result from the rounding to PLN million and to one decimal place respectively.

The Report has been prepared taking into account all of the data available as of 31 December 2018. The Report has been prepared taking into account all obligations arising from the aforementioned regulations, relating to the Bank and the Group. Lack of a reference to a particular article means that it has been deemed inapplicable.

This Report has been subject to internal verification by the Bank's internal audit.

[1] Uniform text, Journal of Laws 2018, No. 2187 with further amendments.
[2] Uniform text, Journal of Laws 2017, No. 1934/650.
[3] Data provided only for entities subject to prudential consolidation.

Table of contents

(IN PLN MILLION)

Capital Adequacy and Other Information Subject to Disclosure		CRR requirements regarding disclosures	
1.	Information on the Bank and the Group	Scope of application	Article 436
2.	Management System	Risk management objectives and policies	Article 435
2.5.13	Using external credit assessment institutions (ECAIs) and other information on counterparty credit risk exposures	Use of ECAIs	Article 444
		Exposure to counterparty credit risk	Article 439
2.5.9	Impairment of loan exposures	Credit risk adjustments	Article 442
2.5.12	Use of credit risk mitigation techniques	Use of credit risk mitigation techniques	Article 453
2.5.15	Exposures in equities not included in the trading book	Exposures in equities not included in the trading book	Article 447
2.6	Interest rate risk	Exposure to interest rate risk on positions not included in the trading book	Article 448
2.9	Operational risk	Use of the Advanced Measurement Approaches to operational risk	Article 454
3.	Own funds	Own funds	Article 437
4.	Own funds requirements	Capital requirements	Article 438
		Market risk	Article 445
		Operational risk	Article 446
5.	Unencumbered assets	Unencumbered assets	Article 443
6.	Capital buffers	Capital buffers	Article 440
7.	Leverage	Leverage	Article 451
10.	Remuneration policy	Remuneration policy	Article 450
Not applicable		Indicators of global systemic importance	Article 441
Not applicable		Exposure to securitisation positions	Article 449
Not applicable		Use of the IRB Approach to credit risk	Article 452
Not applicable		Use of Internal Market Risk Models	Article 455

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

1. Information on the Bank and the Bank Group

Pursuant to the CRR, the prudential consolidation is used for the purposes of capital adequacy, which unlike IAS-compliant consolidation, encompasses only subordinated entities that can be defined as institutions, financial institutions or ancillary services undertakings only.

Pursuant to the CRR, Bank Group for prudential consolidation purposes includes: PKO Bank Polski SA, PKO Leasing SA Capital Group, PKO BP BANKOWY PTE SA, PKO Towarzystwo Funduszy Inwestycyjnych SA, KREDOBANK SA Capital Group, PKO Finance AB, PKO BP Finat sp. z o.o., PKO Bank Hipoteczny SA, and Bankowe Towarzystwo Kapitałowe SA Capital Group.

Non-financial and insurance entities are not subject to prudential consolidation. Tables 1.1-1.2 present the differences in the scope of accounting and prudential consolidation of Group's entities as of 31 December 2018.

Table 1.1. Differences in accounting and regulatory consolidation and mapping of categories of financial statements to regulatory risk categories [template EU LI1]

The Bank Group	2018	
	a)	b)
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation
ASSETS		
Cash and balances with the Central Bank	22 925	22 955
Amounts due from banks	7 661	7 456
- measured at amortized cost	7 661	7 456
Hedging derivatives	658	657
Other derivative instruments	1 907	1 907
Securities	64 114	61 791
- held for trading	235	236
- financial instruments designated at fair value through profit or loss upon initial recognition	2 848	1 299
- measured at fair value through OCI	52 558	51 820
- measured at amortized cost	8 473	8 436
Loans and advances to customers	214 912	215 076
- not held for trading, measured at fair value through profit or loss	1 106	1 106
- measured at amortized cost	213 806	213 970
Investments in subsidiaries, associates and joint ventures	344	1 633
Non-current assets held for sale	15	8
Intangible assets	3 195	3 031
Property, plant and equipment	2 931	2 760
Current income tax receivable	4	4
Deferred income tax assets	2 135	2 127
Other assets	3 454	2 740
TOTAL ASSETS	**324 255**	**322 145**
LIABILITIES AND EQUITY		
Liabilities		
Amounts due to the Central Bank	7	7
Amounts due to banks	2 001	2 001
- measured at amortized cost	2 001	2 001
Hedging derivatives	471	471
Other derivative instruments	2 655	2 655
Amounts due to customers	242 816	241 938
- measured at amortized cost	242 816	241 938
Liabilities in respect of insurance activities	1 292	
Debt securities in issue	28 627	28 662
- measured at amortized cost	28 627	28 662
Subordinated liabilities	2 731	2 730
- measured at amortized cost	2 731	2 730
Other liabilities	3 685	3 526
Current income tax liabilities	371	368
Deferred income tax provision	52	42
Provisions	446	445
TOTAL LIABILITIES	285 154	282 845
TOTAL EQUITY		
Total equity	39 101	39 300
TOTAL LIABILITIES AND EQUITY	**324 255**	**322 145**

Balance sheet values shown according to the regulatory model differ from the values included in the published financial statements for the end of 2018 only due to the application of different scope of consolidation.

Table 1.2. Outline of differences in the scope of consolidation (of each entity) [template EU LI3]

Grupa Kapitałowa Banku		2018					
		a)	b)	c)	d)	e)	f)
No.[1]	Name of entity	Method of accounting consolidation	Method of regulatory consolidation				Description of the entity
			Full consolidation	Proportional consolidation	Neither consolidated nor deducted	Deducted[2]	
1	PKO Bank Polski SA	parent company					Banking activities
2	PKO Bank Hipoteczny SA	Full consolidation	X				Banking activities
3	PKO Towarzystwo Funduszy Inwestycyjnych SA	Full consolidation	X				Creation and management of Open-end and Closed-end Investment Funds and management of the trading book
4	PKO BP BANKOWY PTE SA	Full consolidation	X				Management of an open and voluntary pension fund
5	PKO Leasing SA	Full consolidation	X				Leasing and providing bank loans
	PKO Leasing Nieruchomości sp. z o.o.	Full consolidation	X				Leasing
	PKO Agencja Ubezpieczeniowa sp. z o.o.	Full consolidation	X				Insurance brokerage and providing bank loans within PKO Leasing Group
	PKO Leasing Finanse sp. z o.o.	Full consolidation	X				Ancillary services in the field of storing and selling post-Leasing items
	PKO Leasing Sverige AB	Full consolidation	X				Leasing
	ROOF Poland Leasing 2014 DAC[3]	Full consolidation	X				A special-purpose vehicles set up for the purpose of leasing receivables securitization.
	PKO Faktoring SA	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 SA	Full consolidation				X	Life insurance
	Ubezpieczeniowe Usługi Finansowe sp. z o.o.	Full consolidation			X		Service activities
8	PKO Towarzystwo Ubezpieczeń SA	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 SA	Full consolidation	X				Banking activities
	Finansowa Kompania „Idea Kapitał" sp. z o.o.	Full consolidation	X				Financial services

(IN PLN MILLION)

11	Qualia Development sp. z o.o.	Full consolidation			X		Real estate development
	Qualia sp. z o.o.	Full consolidation			X		General partner in a company from the Qualia Development Group
	Qualia - Residence sp. z o.o.	Full consolidation			X		Spółka w styczniu 2019 roku połączona ze spółką Qualia sp. z o.o.
	Sarnia Dolina sp. z o.o.	Full consolidation			X		Real estate development
12	ZenCard sp. z o.o.	Full consolidation				X	Technology company dealing in services and products in the field of IT and business support - not included in prudential consolidation pursuant to Art. 19 par. 1 of the CRR
13	Operator Chmury Krajowej sp. z o.o.	Full consolidation				X	Comprehensive services in respect of data storage and remote processing based on a subscription model Spółka założona w celu świadczenia usług przechowywania i zdalnego przetwarzania danych - not included in prudential consolidation pursuant to Art. 19 par. 1 of the CRR
14	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 3 S.K.A. w likwidacji	Full consolidation			X		
	Molina spółka z ograniczoną odpowiedzialnością 4 S.K.A.	Full consolidation			X		
	Molina spółka z ograniczoną odpowiedzialnością 5 S.K.A.	Full consolidation			X		
	Molina spółka z ograniczoną odpowiedzialnością 6 S.K.A.	Full consolidation			X		
15	NEPTUN - fizan	Full consolidation			X		Placing funds collected from fund participants
	Bankowe Towarzystwo Kapitałowe SA	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
	„CENTRUM HAFFNERA" sp. z o.o.	Full consolidation			X		Real estate management of subsidiaries
	„Sopot Zdrój" sp. z o.o.	Full consolidation			X		Real estate management
16	PKO VC - fizan	Full consolidation			X		Placing funds collected from fund participants

[1] „Numbered" entities other than PKO Bank Polski SA are entities directly dependent on PKO Bank Polski SA; other entities – indirect subsidiaries.
[2] The „deducted" item points at capital exposures of the Bank (other than in entities subject to prudential consolidation) taken into account during calculation of deductions of own funds of the Bank Group. Since the Group's exposure in Common Equity Tier 1 instruments of financial sector entities did not exceed the thresholds defined in the CRR, Common Equity Tier 1 capital of the Bank Group for prudential consolidation as of 31 December 2018 was not reduced by the aformentioned exposures. These exposures, in accordance with CRR requirements, were included in risk weighted assets with risk weight of 250%. The Bank Group did not have any exposured deducted from Tier 2 capital.
[3] PKO Leasing SA in accordance with IFRS 10 exercises control over the above-mentioned compay, although PKO Leasing SA has no capital commitment.

In 2018, PKO Bank Polski SA Group included new entities (under the accounting consolidation):
1) PKO VC – non-public assets closed investment fund (PKO VC - fizan) of which PKO Bank Polski SA is the sole investor, fund is managed by PKO Towarzystwo Funduszy Inwestycyjnych SA, executes policy competent for venture capital type fund and the subject of his interest are entities offering technological financial innovations in the banking related sector as well as other innovative solutions for enterprises.
2) Operator Chmury Krajowej sp. z o.o.4 – company was founded in November 2018 to provide comprehensive data storage and processing services, the product offer includes in particular services: cloud, transformation and security for enterprises and public institutions.

The above-mentioned entities operate on the territory of the Republic of Poland. New entities were not included in prudential consolidation as of 31 December 2018. PKO VC – fizan does not meet the definition of an institution, financial institution nor ancillary services undertaking while Operator Chmura Krajowa sp. z o.o. has been excluded on the basis of art. 19(1) of CRR (from prudential consolidation entities with total amount of assets and off-balance sheet items are less than EUR 10 million may be excluded).

In 2018 PKO Bank Polski SA conducted also a squeeze-out procedure from minority shareholders of KREDOBANK SA becoming the only shareholder of this company, a merge of GAMMA Towarzystwo Funduszy Inwestycyjnych SA[5] (company being acquired) and PKO Towarzystwo Funduszy Inwestycyjnych SA (an acquiring company) and a merge of Net Fund Administration sp. z o.o. (company being acquired) and PKO BP Finat sp. z o.o. (an acquiring company). Company Finansowa Kompania "Prywatne Inwestycje" sp. z o.o. became a company directly dependent on Bankowe Towarzystwo Kapitałowe SA.

Parent Company of the Bank Group is PKO Bank Polski SA whose share in the consolidated balance sheet amounted to 85.74%[6].

PKO Bank Hipoteczny SA is a specialized bank conducting activity based on the Act on Covered Bonds and Mortgage Banks dated 29 August 1997. Specializes in granting residential mortgage loans as well as purchases receivables from such loans from PKO Bank Polski SA. The basic objective of PKO Bank Hipoteczny SA is the issue of covered bonds which are to constitute the main source of long-term financing of loans secured by real estate. The company operates on the territory of the Republic of Poland while mortgage bonds are issued as part of the National and the International Program.

The PKO Leasing SA Group (i.e. PKO Leasing SA together with its subsidiaries) operates mainly in the leasing and factoring areas. Companies of this group operate almost exclusively on the territory of the Republic of Poland, Sweden (PKO Leasing Sverige) and Ireland (ROOF Poland Leasing 2014 DAC).

KREDOBANK SA pursues banking operations in the territory of Ukraine and is subject to Ukrainian banking supervision. KREDOBANK SA is a universal bank, oriented on servicing retail clients and enterprises operating mainly in the western part of Ukraine and in Kiev. At the same time, it strives to acquire corporate clients with high creditworthiness.

The company offers services in the areas of, i.a.: keeping accounts of natural persons and business entities, collecting deposits, granting loans, sureties and guarantees, leasing, check and bill of exchange transactions, FX market and securities market operations. Since 2012 KREDOBANK SA has become the sole shareholder of Finansowa Kompania „Idea Kapitał" sp. z o.o. and has established the capital group.

Remaining companies listed in Table 1.2, forming the Bank's Group (subject to prudential consolidation) operate almost exclusively on the territory of the Republic of Poland, Ukraine (Finansowa Kompania „Prywatne Inwestycje" Sp. z o.o. and Inter-Risk Ukraina Sp z d.o.) and Sweden (PKO Finance AB).

PKO Bank Polski SA operates also in Germany through its branch (PKO Bank Polski SA Niederlassung Deutschland) and in Czech Republic (PKO BP S.A., Czech Branch).

Detailed information on all entities of the Group, subject to the Bank's share in the equity capital of individual entities is contained in the consolidated financial statements of the Group for the year ended 31 December 2018, published on 04 March 2019 (note 43 Structure of the PKO Bank Polski SA Group and scope of activities of the Group entities).

Within the Bank Group, some limitations exist (described below) in regard to premature settlement of liabilities by subordinated companies [7] as well as to the transfer of funds in the form of dividend payments:
1) In view of a difficult political and economic situation in Ukraine, together with related volatilities on the foreign exchange market in 2018, a series of administrative limitations introduced in the previous years have been prolonged, potentially influencing rapid transfer of funds and settlement of liabilities between Ukrainian entities of PKO Bank Polski SA Group and their parent company. Restrictions include a ban on premature repayment of FX liabilities.
2) In accordance with the resolution of the Extraordinary General Shareholders' Meeting of KREDOBANK SA commenced 29 January 2009 and continued 23 February 2009, a moratorium was introduced with respect to dividend payments. The moratorium is valid until revoked under an appropriate resolution. In 2018 the moratorium on dividend payment remained in force.
3) The strategy of PKO Bank Hipoteczny SA for 2017-2020 (approved by the Supervisory Board) does not assume any dividend payments during those years.
4) Selected credit agreements signed by the Group companies involve additional covenants concerning restrictions on dividend payment prior to the credit's maturity.

Moreover, in terms of dividend payments, PKO Bank Polski SA and its subordinated companies are bound by law and recommendations of the PFSA. Supervisory expectations in terms of capital adequacy measures were described in detail in chapters: "6. Capital buffers" and "9. Capital adequacy" of this Report.

[4] Company has been registered in National Court Register on 4th of February 2018; as of end of 2018 company in organization.
[5] Until February 2018 company appeared under KBC Towarzystwo Funduszy Inwestycyjnych SA name.
[6] Share has been calculated taking into account consolidated balance sheet of entities included in prudential consolidation before adjustments and consolidation eliminations as of 31 December 2018.
[7] Other than redemption of bonds or covered bonds at the request of the issuer before the maturity date.

2. Management system

The management system is a set of principles and mechanisms related to the decision-making process taking place in the Bank, as well as to the assessment of conducted banking activities. The Bank's management system comprises the risk management and internal control systems.

2.1. Risk management

Risk management is one the most important internal processes both in PKO Bank Polski SA, including the Bank's foreign branches, and in other entities of the Bank Group. Risk management aims at ensuring profitability of business activity, while ensuring control of the risk level and maintaining it within the risk tolerance and limits applied by the Bank and the Bank Group, in the changing macroeconomic and legal environment. The expected risk level is an important factor in the planning process.

The goals of risk management by striving to maintain the risk level within the accepted tolerance are:
1) protection of shareholder capital,
2) protection of customer deposits,
3) support for the Bank Group in conducting effective operations.

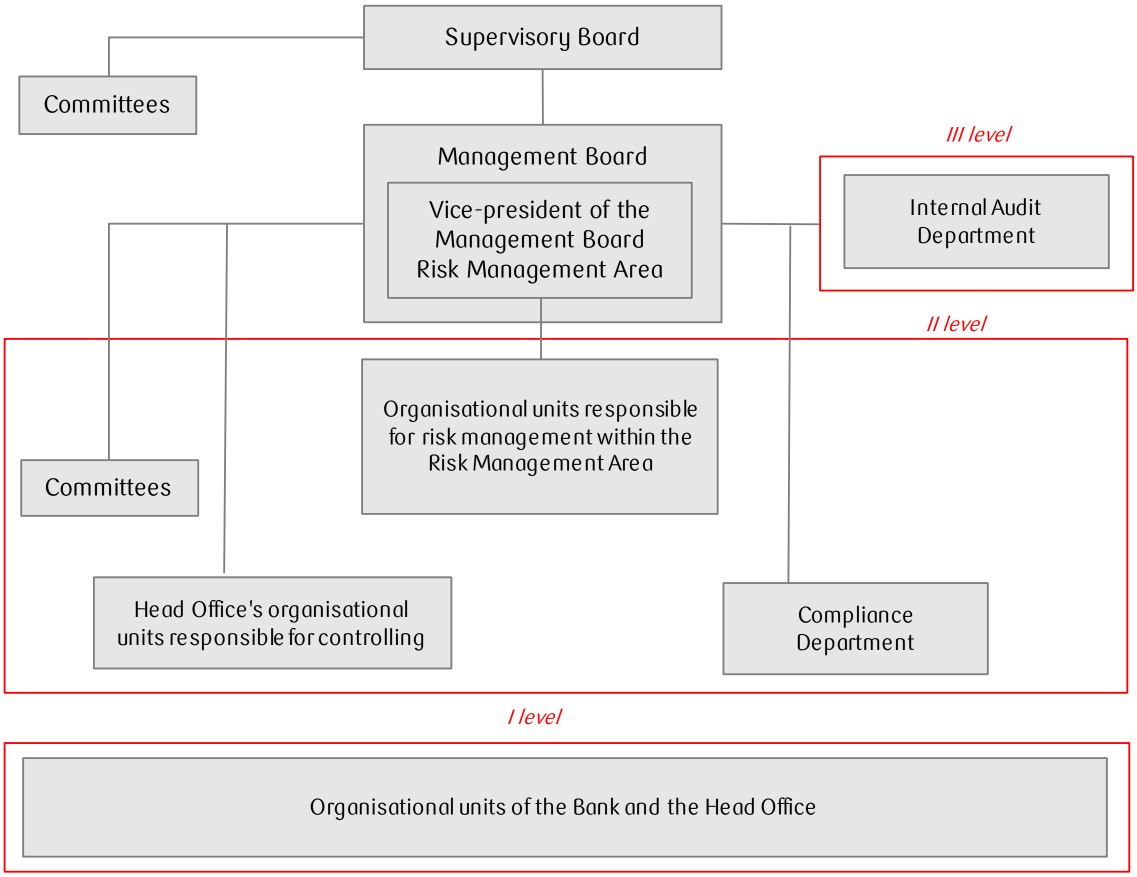
The objectives of risk management are achieved in particular by providing appropriate risk information so that decisions can be made with full awareness of the individual risks they carry.

Risk management in the Bank Group is based in particular on the following principles:
1) the Bank Group manages all defined risks,
2) the risk management process is adequate to the volume of activities and to the materiality, level and complexity of the risk concerned and it is adjusted to new risk factors and sources of risk on an ongoing basis,
3) risk management methods (in particular models and their assumptions) and risk measurement and assessment systems are adjusted to the volume and complexity of the risk and they are reviewed and validated periodically,
4) organisational separation of the risk management area from business functions is maintained,
5) risk management is integrated with the planning and controlling systems,
6) the risk level is monitored and controlled on an ongoing basis,
7) the risk management process supports the pursuit of the Bank's Strategy while being compliant with the risk management strategy, in particular with regard to the risk tolerance level.

The risk management process in the Group includes:
1) risk identification which consists of recognition of both current and potential sources of the risk and assessment of significance of its potential impact on the activities of the Bank and of the Bank Group. The assessment of risk materiality and analysis of the impact of individual risks on the Bank's and Group entities' business operations are carried out at least on an annual basis. In the event of emergence of new risks, significant changes in the Bank's or the Bank Group's strategy and plans or in the external environment, materiality assessment may be carried out more frequently. Materiality assessment is carried out by determining the degree of occurrence of individual factors affecting a risk, determining whether the analysed risk is a material risk that has a material impact on profitability and capital necessary to cover it, or whether it is a risk subject to monitoring. As far as prudential consolidation is concerned, the following risks are considered material in the Bank Group: credit risk, foreign exchange risk, interest rate risk, liquidity risk, including financing risk, operational risk, business risk, macroeconomic risk and model risk. For the risks recognised as material, the method of estimating internal capital is determined at the subsequent stage. For the risks recognized as being subject to monitoring by the Bank and Bank Group entities, annual comparisons are made between the current values of materiality indicators and their thresholds. The Bank Group entities may consider other risks to be material in these entities, taking into account the specificities and scale of their operations and the market in which an entity operates. For these risks, the Bank reviews the risk materiality at the Bank Group level. The Bank Group entities participate in assessing the materiality of risks, which is initiated by the parent and assessed at the Bank Group level.
2) risk measurement and assessment – risk measurement that includes determining risk measures adequate to the risk, its materiality and data availability, as well as to the quantitative measurement of the risk by means of defined measures, and risk assessment that involves determination of the risk volume or scope from the perspective of risk management objectives; risk measurement involves tasks related to risk measurement for the purposes of pricing policy as well as stress tests and reverse stress tests, which are elements of a reliable risk assessment. Stress tests are carried out in order to determine the expected impact of the assumed events on the results of the Bank and of the Bank Group (such as profits or capital, etc.). A reverse stress test is, on the other hand, a rigorous test of the Bank's and the Bank Group's ability to survive. Moreover, the Bank also performs comprehensive stress tests (CST), which include an analysis of the impact of changes in the Bank's environment and functioning on the financial position of the Bank and of the Bank Group.
3) risk control – involves defining the tools used in the diagnosis and mitigation of risk levels in individual business areas of the Bank and of the Bank Group. Risk control involves determining risk controls adapted to the scale and complexity of operations of the Bank and of the Bank Group, in particular in the form of monitored strategic tolerance limits for individual risks, and undertaking management actions in case such limits are exceeded.
4) risk forecasting and monitoring – consists in preparing risk level forecasts on a cyclical basis and monitoring deviations from forecasts or assumed reference points (e.g. limits, thresholds, plans, measurements from the previous period, recommendations and guidance issued by the regulator), as well as conducting specific and comprehensive stress tests. Risk forecasting is subject to review. Risk monitoring is performed at a frequency appropriate for the materiality and volatility of a risk.
5) risk reporting – involves reporting to the Bank's governing bodies on a cyclical basis on the results of risk measurement or risk assessment, activities undertaken and recommended activities. The scope, frequency and form of reporting are adjusted to the management level of addressees. In the event of potential liquidity problems of the Bank, significant operating events or security incidents, the Supervisory Board is notified immediately of the Bank's liquidity level, threats and undertaken remedial actions.
6) management actions – involve, in particular, issuing internal regulations that shape the management process for individual risks, define risk tolerance, limits and thresholds, issuing recommendations, making decisions, including decisions regarding the use of tools supporting risk management. Management activities are aimed at shaping the risk management process and influencing the risk level.

The risk management process takes place in all operational units of the Bank and operational units of the Head Office.

Scheme 2.1 Bank's risk management organisation



The risk management process is supervised by the Supervisory Board, which regularly receives information on the risk profile of the Bank and of the Bank Group and on the most important risk management activities.

The Supervisory Board is supported by the following committees, among others:
1) Appointments and Remuneration Committee of the Supervisory Board (SBARC),
2) Risk Committee of the Supervisory Board (SBRC),
3) Audit Committee of the Supervisory Board (SBAC).

The SBARC supports the Supervisory Board in its statutory duties and tasks regarding remuneration, as defined in law. 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, inter alia, formulating opinions on the Bank's overall, current and future readiness to take risks, as expressed in particular in the strategic limits of tolerance to particular risks, formulating opinions on solutions related to mitigating the risk of operations, supporting the Supervisory Board in supervising the implementation of the risk management system by the Management Board, in assessing the adequacy and efficiency 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 the performance of financial audit activities, and checking the independence of the statutory auditor and of the entity authorized to audit the financial statements. SBAC also supports the Supervisory Board by monitoring the operations of the Internal Audit Department and the Compliance Department and monitoring the effectiveness of the risk management system, in particular by analysing information received from the Risk Committee.

In 2018, 7 sessions of SBRC and 9 session of SBAC took place.

As far as risk management is concerned, the Management Board is responsible for strategic risk management, including supervising and monitoring activities taken by the Bank in the area or risk management. The Management Board takes the most important decisions affecting the Bank's risk profile and passes the Bank's internal regulations concerning risk management.

The Management Board is supported in risk management by the following committees:
1) Risk Committee (RC),
2) Assets & Liabilities Committee (ALCO),

3) Bank's Credit Committee (BCC),
4) Operational Risk Committee (ORC).

RC monitors the integrity, adequacy and efficiency of the risk management system, the capital adequacy and implementation of the risk management principles, in compliance with the Bank's strategy, analyses and evaluates compliance with strategic risk tolerance limits defined in the Risk Management Strategy of PKO Bank Polski SA and of the Bank Group. RC supports the Management Board in the risk management process by formulating recommendations and making decision on capital adequacy and efficiency of the risk control system. Four sessions of the Risk Committee took place in 2018.

ALCO manages the Bank's assets and liabilities by influencing the structure of the Bank's balance sheet and off-balance sheet items in a manner conducive to achieving the optimum financial result. The Committee supports the Management Board in both the Bank's and the Bank Group's activities related to shaping the balance sheet structure, capital adequacy management, profitability management taking into account the specificities of operations and generated risk, financial risk management, including market and liquidity risk, business risk and both settlement and pre-settlement credit risk of wholesale market transactions. In 2018, ALCO adopted decisions by circulation and during 8 sessions.

BCC issues opinions and takes 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 makes decisions related to approval of credit risk models, credit risk parameters and results of validation of such models, with representatives of the Finance and Accounting Area included in the decision making process. In 2018, BCC adopted decisions by circulation and during 73 sessions.

ORC supports the Management Board in operational risk management by taking decisions concerning the *AMA* approach applied in the Bank and operational risk management tools, issuing recommendations and opinions regarding activities related to operational risk management. ORC formulates opinions and recommendations regarding operational risk management in Bank Group entities, which are forwarded as part of the Bank's ownership supervision of those entities. In 2018, ORC adopted decisions by circulation and during 10 sessions.

The ALCO, BCC, OCR, RC, the Management Board, SBRC, and the Supervisory Board receive cyclical reports concerning individual risks and capital adequacy.

The risk management process takes place on three independent, mutually complementary levels:

1) the first level comprises organizational structures responsible for product management, product sales and customer support as well as other structures which carry on risk-generating operating tasks and operate under internal regulations. The function is performed in all of the Bank's organisational units, in the organisational units of the Head Office and in Bank Group entities. The organizational units of the Head Office implement appropriate risk controls, in particular limits, which have been designed by Head Office organizational units situated on the second level, and ensure, through appropriate controls, compliance with such limits. At the same time, Bank Group entities are obliged to comply with the principles of consistency and comparability of risk assessment and control in the Bank and Bank Group entities, taking into account the specific nature of the entity's business and market in which it operates,
2) the second level comprises activities of the compliance unit, as well as identification, measurement, assessment or control, monitoring and reporting of material risks and identified hazards and irregularities; those tasks are carried out by specialized organizational structures operating under the Bank's internal regulations; the purpose of those structures is to ensure that operations carried out on the first level are properly regulated in the Bank's internal regulations, and that they effectively mitigate risk, support risk measurement, assessment and analysis and efficiency of operations. The second level is supported by activities aimed at elimination of adverse deviations from the financial plan of measures affecting the strategic risk tolerance limits included in the financial plan. This function is carried out in particular in the Risk Management Area, Compliance Department and relevant committees,
3) the third level comprises the internal audit which conducts independent audits of the Bank's management system, including the risk management system and the internal control systems; the internal audit operates separately from the first and second level and can support them through consultations but may not affect any of the decisions taken. This function is carried out in accordance with the Bank's internal regulations concerning the functioning of the internal control system.

The independence of the levels means that they remain independent in organisational terms 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 directly to the President of the Management Board[8]

In 2018, the Bank's Head Office organisational units responsible for the management of material risk as well as risk of excessive leverage and concentration risk within the scope of their respective competencies were located in the Banking Risk Division, Corporate Receivables Department, Restructuring and Debt Collection Centre, Retail Client Credit Risk Centre and Corporate Client Credit Risk Centre, which are supervised by the Vice-President responsible for the Risk Management Area.

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

The Banking Risk Division is responsible in terms of risk management for the following, in particular:

1) identifying risk factors and sources of risk,
2) risk measurement, assessment, control and cyclical monitoring and reporting on the risk level,
3) coordinating Strategy-related activities,
4) capital adequacy measurement and assessment,
5) preparing recommendations for the Management Board or committees on the acceptable risk level,
6) developing and reviewing the Bank's internal regulations relating to 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 Group,
9) validating models used in risk management[9].

[8] In the reporting period, this function reported to the Management Board Vice-President responsible for the Legal and Compliance Area.
[9] Model validation is under direct supervision by the Vice-President of the Management Board responsible for the Risk Management Area

The Corporate Receivables Department is responsible for, in particular:
1) managing acquired non-performing receivables, as defined in the Bank's separate internal regulations, which includes developing and implementing the optimal means for their recovery,
2) cooperating with Bank Group entities in terms of client and transaction risk assessment and development of a strategy regarding the treatment of non-performing receivables from the same clients,
3) developing proposals for outsourcing the recovery or sale of non-performing receivables,
4) foreclosing property as a result of recovery of receivables,
5) reviewing and classifying receivables managed by the Department and off-balance sheet liabilities and defining the amount of write-downs for impairment related to the risk of the Bank's operations.

The Restructuring and Debt Collection Centre is responsible for, in particular:
1) preparing 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 effectiveness of such activities,
3) outsourcing the monitoring and debt collection activities and managing the property foreclosed as a result of recovering the Bank's receivables, as well as efficient disposal of receivables,
4) intervention activities within the monitoring of delays in repayment of receivables of individual and institutional clients of the Retail Market Area.

The Retail Client Credit Risk Centre is responsible for, in particular:
1) designing and developing an effective credit risk assessment system in connection with the financing of Retail Market Area clients, including credit risk assessment models, the Bank's internal regulations regarding the credit risk assessment policies and methodologies as well as tools that support the processes,
2) assessing and taking credit risk within granted powers and monitoring the credit risk of clients and transactions

The Corporate Client Credit Risk Centre is responsible for, in particular:
1) assessing and taking credit risk within granted powers and monitoring the credit risk of clients and transactions,
2) streamlining and optimizing credit processes and IT tools used in the performed tasks,
3) developing an effective corporate client risk assessment system that ensures an adequate level of the cost of risk,
4) designing and shaping the credit policy assumptions for client credit portfolios as well as measuring the risk parameters of corporate portfolios,
5) managing the concentration risk for the Bank.

The Bank supervises the functioning of individual Bank Group entities. Within this supervisory function, the Bank oversees their risk management systems and supports the development of such systems; and also takes the risk level of the activity of individual entities into account as part of the risk monitoring and reporting system at the Bank Group level.

The policies and procedures for assessment of individual risks in Bank Group entities are defined by internal regulations implemented by those entities. Bank Group entities develop and update internal regulations concerning the management of individual risks after consultation with the Bank, taking into account the recommendations formulated by the Bank as well as the provisions of the Risk Management Strategy for PKO Bank Polski SA and for the Bank Group. Bank Group entities' internal regulations on risk management take into account:
1) the rule of consistency and comparability of assessment of individual risks in the Bank and Bank Group entities,
2) the scope and types of relationships between Bank Group entities,
3) the specificities and scale of operations of a Bank Group entity and market in which it operates,
4) the risks subject to management in Bank Group entities, which arise from the specificities of their operations.

No less than once a year, the Risk Area organizational units of the Head Office and the Compliance Department conduct a review of the Risk Management Strategy for PKO Bank Polski SA and the Bank Group, in particular regarding the strategic tolerance limits for risk, for the purpose of their alignment to the current and forecasted market conditions as well as the needs of the Bank and of the Bank Group. In justified cases related to significant shifts in macroeconomic conditions or on the basis of outcomes of the conducted stress test, the review may be conducted more frequently than on an annual basis. Moreover, the management methods for material risks as well as risk measurement or assessment systems are adjusted to scale and complexity of risk, and to the Bank's operations, as currently conducted and planned, and its environment, and are periodically reviewed and validated.

Supervision of risk management in Bank Group entities is carried out, in particular, through the involvement of the Head Office organisational units as well as Risk Management Area specialist organisational units, the Compliance Department, the Planning and Controlling Department or relevant committees operating in the Bank in the process of reviewing transactions of Bank Group entities in accordance with the Bank's separate internal regulations. A list of key Bank Group entities that have a significant impact on the risk profile of the Group, is prepared at least annually. For those entities, Head Office organization units, Risk Management Area specialized units, the Compliance Department and the Planning and Controlling Department review, in accordance the Bank's separate internal regulations, the approach regarding strategic tolerance limits for risks specific to each entity and the manner of reporting on them.

The Bank Group's priority is to keep its strong capital position, including to manage capital adequacy effectively, to support Polish companies, client satisfaction, innovations, involvement in creating new market standards, cybersecurity activities, while maintaining at the same time priorities in the areas of operational efficiency and efficient cost control, adequate level of own funds and appropriate risk assessment and level. As a consequence, the following activities took place in 2018:
1) In 2018, the PKO Bank Polski SA Group increased its portfolio of issued short-term bonds (mainly 3-6 month bonds) from PLN 3.3 billion at the end of 2017 to PLN 4.1 billion at the end of 2018.
2) On 8 February 2018, the Bank repaid the credit facility granted by Nordea Bank AB (publ) under the agreement of 1 April 2014; the Bank informed about the conclusion of the agreement with Nordea Bank AB (publ) and the terms and conditions under which it was concluded in

current report No 26/2014. The credit facility was originally granted for a period of 7 years, and thus the Bank repaid it 3 years before the original maturity date.

3) On 28 February 2018, the Bank placed an issue of subordinated bonds with the total nominal value of PLN 1,000 million. The nominal value of one bond is PLN 0.5 million, and the issue price of bonds is equal to the nominal value of bonds. The bonds have a semi-annual interest period, with interest calculated on the bond's nominal value at the variable interest rate equal to WIBOR 6M plus 150 bp margin per annum throughout the entire issue period. On 8 March 2018, the Polish Financial Supervision Authority agreed to allocate funds obtained from the issue of subordinated bonds for an increase in the Bank's Tier 2 capital.
4) On 8 March 2018, the Polish Financial Supervision Authority approved the allocation of funds obtained from the issue of subordinated bonds carried out on 5 March 2018 with a total nominal value of PLN 1,000 million for an increase in the Bank's Tier 2 capital pursuant to Article 127(2)(2) of the Banking Law Act in connection with Article 63 of the Regulation of the European Parliament and of the Council (EU) No 575/2013 of 26 June 2013 on prudential requirements for credit institutions and investment firms, amending Regulation (EU) No 648/2012
5) On 23 October 2018, the Bank raised from the European Investment Bank (EIB) approximately PLN 646 million of funding with maturity in October 2023. Additionally, in 2018, PKO Leasing SA raised EUR 40 million of funding from the EIB and EUR 50 million of funding from CEB with maturity in March 2023 and November 2023, respectively. The Bank included the 2017 profit of PLN 2,086 million in its own funds following the decision of the Annual General Meeting of the Bank (while allocating PLN 687.5 million for a dividend for shareholders), with a portion of the 2017 profit (PLN 1,822 million) already recognized in the Bank's own funds as at 31 December 2017 in connection with the fact that the Bank obtained the PFSA's approval for including the net profit for 3 quarters of 2017 in common equity Tier I capital, after taking into account the expected charges.
6) Following the PFSA's relevant approvals, the Bank recognized its net profit for 3 quarters 2018 of PLN 1,635 million, after taking into account the expected charges, in its common equity Tier 1 capital.
7) Within the Bank Group, portfolios of mortgage loan previously granted by PKO Bank Polski SA are gradually transferred to PKO Bank Hipoteczny SA. The value of the portfolio transferred in 2018 amounted to PLN 2.5 billion.
8) In 2018, PKO Bank Hipoteczny SA conducted three issues of PLN mortgage bonds addressed to institutional investors with a total nominal value of PLN 1,590 million and maturity of between approx. 4 and approx. 10 years from the issue date. The mortgage bonds were purchased by both the domestic and foreign investors. The mortgage bonds issued by PKO Bank Hipoteczny SA are one of the safest debt instruments on the Polish financial market. As a result, Moody's awarded them with the highest possible rating available for Polish securities, namely Aa3. Moreover, in 2018, PKO Bank Hipoteczny SA conducted one issue of EUR denominated mortgage bonds addressed to institutional investors with a nominal value of EUR 500 million and maturity of approx. 6 years from the issue date.
9) The inter-company transactions conducted in 2018 with related parties had no significant effect on the Bank's risk profile.

2.2. Comprehensive stress tests and reverse stress tests

Comprehensive stress tests are complementary to other stress tests specific to particular types of risks and provide an integral element to the risk management the Bank Group. Tests include collectively identified risks, in particular from the point of view of the Bank and the Group remaining as significant. Tests include analysis of the impact of changes in the macroeconomic environment or Group's functioning on the financial situation of the Group, in particular: profit and loss account, statement of financial position, own funds, capital adequacy (including own funds requirements), internal capital, capital adequacy measures, credit portfolio quality and selected liquidity measures. Calculations are performed using Bank's internal models, taking into account the adopted macroeconomic assumptions. The data is analysed on a high level of detail, including portfolio and product type segmentation.

Comprehensive stress tests comprise cyclical and supervisory tests as well as tests necessary to prepare recovery plans in accordance with the requirements of Bank Law. Cyclical tests are performed on an annual basis in a 3-year time horizon. Cyclical tests' stress scenarios assume a shock weakening of the economy in comparison to the baseline scenario, reflecting historical cases of world financial crises. Supervisory tests are conducted on commission of outside supervisory authorities, for a given time horizon and macroeconomic and financial parameters set out in a provided scenario. Tests which are essential for recovery plans preparation, are used for the purpose of evaluation the impact of harsh changes happening in macroeconomic environment or in functioning of the Bank and the Group or the situation of the Bank and the Group in critical conditions, conducted in order to verify the effectiveness of recovery operations.

Complex stress-tests collectively include the following risks considered to be relevant by the Bank, including:

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

Reverse comprehensive stress tests (RCST) provide a supplementary role to the comprehensive stress tests and are conducted in order to evaluate the Bank's resilience to macroeconomic changes. RCST are performed in the form of sensitivity analysis and require formulation of potential, negative scenarios related to the Bank's liquidity and capital adequacy, and then finding events contributing to their materialization.

Bank participated in another edition of European stress tests conducted by European Banking Authority (EBA), where PFSA was involved in. Tests are aimed to ensure the authorities and market participants, clear and comparable data about resistance of European banks in situation when adverse market conditions take occur. The results of stress tests, published by EBA, ensure that PKO Bank Polski is the most resistant bank in Europe when it comes to negative macroeconomic scenarios.

2.3. Internal control

The Bank's internal control system constitutes a part of Bank's management system. The Bank's Management Board is responsible for its design, implementation and functioning. The Supervisory Board is monitoring the maintaining and functioning of internal control system as well as its capital adequacy and effectiveness, including the control function, the compliance and internal audit body. The Supervisory Board evaluates the internal control system on the basis of specified criteria and in accordance with information from the Management Board, Supervisory Board's Audit Committee, compliance body, internal audit body, the arrangements being made by external auditor and arrangements connected with procedures made by entitled supervisory bodies and other information and documents, which are significant from adequacy and effectiveness internal control system's point of view. The Bank's Supervisory Board is supported in this scope by Supervisory Board's Audit Committee, who is in particular responsible for monitoring the effectiveness of internal control system.

The goal of the internal control system is to ensure:
1) efficacy and efficiency of the Bank's operations,
2) credibility of financial reporting,
3) adherence to the Bank's risk management principles,
4) compliance with generally applicable laws, internal regulations and supervisory recommendations as well as market standards adopted by the Bank.

The Bank's internal control system is based on three independent levels:
1) the first level comprises the Bank's organizational structures responsible for operational activities, in particular: product sales and customer support as well as other organizational structures that perform risk generating operational activities, operating under separate internal regulations,
2) the second level comprises the compliance unit as well as identification, measurement, control, monitoring and reporting of each risk types, as well as identified threats and irregularities - tasks are carried out by specialized organizational structures, operating on the basis of applicable rules, methodologies and procedures; the purpose of these structures is to ensure that the activities implemented at the first level are properly designed and effectively reduce risk, support the measurement and analysis of risk and the efficiency of operations,
3) the third level is the activity of the internal audit unit, performing independent audits of the elements of the Bank's management system, including risk management and internal control systems; internal audit functions separately from the first and second level.

Within the internal control framework, the Bank distinguishes:
1) control function,
2) compliance unit,
3) independent internal audit unit.

The control function ensures adherence to control mechanisms relating in particular to risk management in the Bank covering all units of the Bank and their organizational positions, responsible for the realization the tasks connected with this function.

The control function comprises:
1) control mechanisms,
2) independent monitoring of control mechanisms,
3) reporting within the control function.

The specification of significant processes, which are meaningful for the purpose of realisation the control system's and business aims is distinguished by the Bank and then, Management Board is approving it and assure cyclical revision of processes, which are functioning in the Bank, regarding to its significance.

In processes functioning in the Bank as well as in supporting them applications, there are embedded control mechanisms, which are adjusted to aims of internal control systems and for the specification of activities maintained by the Bank. These mechanisms are covered by independent monitoring, including the cyclical evaluation in respect of its adequacy and effectiveness.

The compliance is specified, organisation independent body, which plays key role in the terms of ensuring compliance and managing compliance risk understood as the risk of legal sanctions, financial losses or reputational loss due to Bank's, Bank employees or entities acting on its behalf failure to comply with generally applicable laws, internal regulations and market standards adopted by the Bank.

The purpose of the compliance unit is to formulate solutions regarding compliance and management of compliance risk and identification, measurement, control, monitoring and reporting of said risk in the Bank

Internal audit constitutes an independent and objective assurance and advisory activity performed through systemic and ordered assessment of individual areas of Bank's operation as well as indication of directions of activities affecting the improvement of quality and effectiveness of the Bank's operations.

In terms of audit's functions, its purpose is to evaluate the adequacy and efficiency of the internal control system regarding the first and the second level of internal control system, including adequacy and efficiency of selected to audit mechanisms of risk control and control mechanisms and in terms of its advisory role, delivering the value and improve the processes in the Bank.

The Bank has mechanisms that ensure independence of the compliance and internal audit units:
1) Management Board and the Supervisory Board's approval of the Audit Card and the principles of compliance and compliance risk management,
2) functional subordination of the compliance unit directly to the President of Management Board[10]
3) functional subordination of the internal audit unit to the Audit Committee of the Supervisory Board and administrative subordination to the President of the Management Board,
4) ensuring that the internal audit unit (as a third level) is not subject to independent monitoring by the Bank's organizational units situated at the second level,
5) providing directors of the aforementioned cells with direct contact with members of the Management Board and Supervisory Board,

[10] In the period covered by the report, this function was subject to the Vice-President of the Management Board supervising the Legal and Compliance Area.

6) participation of the directors of the aforementioned cells in meetings of the Board,
7) participation of the directors of the aforementioned units in the meetings of the Supervisory Board and relevant Committees, where issues related to the internal control system or risk management are the subject of their meeting,,
8) appointing and dismissing as well as approving remuneration of directors of the aforementioned units with the consent of the Audit Committee of the Supervisory Board or the Supervisory Board,
9) informing the PFSA about changes in the position of directors of the aforementioned units together with an indication of the reason for the change,
10) providing employees of the aforementioned units with access to all necessary information (including confidential and sensitive), premises and IT systems (without the possibility of interference in the system's resources), as well as communication with Bank employees, to the extent that they consider it necessary to perform tasks,
11) non-participation of employees of the above-mentioned cells in the implementation of current business tasks,
12) providing remuneration guaranteeing independence and objectivity in performing their tasks and enabling the employment of people with appropriate qualifications, experience and skills,
13) protection of employees of the aforementioned units against unjustified termination of employment,
14) providing financial resources necessary for effective performance of tasks and systematic improvement of skills and qualifications by employees of the aforementioned units.

Information connected with irregularities, results of assessments and other aspects identified by particular elements of internal control systems are being presented in periodic reports for the Management Board, Audit Committee of the Supervisory Board or Supervisory Board.

On the Bank's website (www.pkobp.pl) Bank published the description of the internal control system, which take into consideration in particular the description of: aims of internal control system; role of Management Board, The Supervisory Board and Supervisory Board's Audit Committee; three, independent levels, on which the system of internal control is being organised; each elements of internal control system: control function, compliance body and internal audit body.

In the Bank's Group entities are functioning internal control systems, which are adjusted to specific and character of activities conducted by them, they also include the processes and areas of activities of these entities. These entities are compiling and introducing internal regulations, in which they specify particularly tasks, regarding to performed in regard to internal control system control activities, and the distinction of responsibility for these activities. The way of functioning of internal control systems in these subsidiaries depends on the size and the area of operations of entities involved in the Bank's Group. In most of the entities there are separate organisational units or positions which hold these duties, who are reporting directly to each subsidiaries' Management Board or to its Supervisory Board. In case, which is reasonable from the point of view of subsidiary's profile of business and its organisational structure (small entities with limited spectre of activity profile), control operations conducted by managing person, without the structural distinction of the functions or the internal control body.

2.4. Assessment of members of the management body

Members of the Management Board are assessed by the Supervisory Board, starting from the time of recruitment, throughout the term of office.

The selection of members of the Management Board and their assessment takes place on the basis of the following regulations of the Supervisory Board:

1) The policy on the suitability of members of the Management Board and key function holders in the Bank and in the Bank Group companies,
2) The rules and procedure for assessing the suitability of candidates for members of the Bank's Management Board and the suitability of members of the Bank's Management Board.

The assessment of the suitability of members of the Bank's Management Board is carried out by the Appointments and Remuneration Committee of the Supervisory Board (SBARC), by adopting a relevant assessment report. The source of data for the report are, among others, information and documents submitted by candidates for members of the Management Board or persons already appointed for these positions. In its assessment, the SBARC may be assisted by the Bank's unit responsible for human resources or an external consultant and other sources of information. The report is forwarded to the Bank's Supervisory Board, which, when this is required by the regulations and guidelines of the regulator, informs the PFSA about the results of the suitability assessments.

Verification of the suitability of members of the Bank's Management Board and candidates for members of the Bank's Management Board is made in the form of individual and collective assessment. This assessment is conducted as a preliminary assessment during the recruitment procedure, before the appointment of a Management Board member, and as a periodic assessment carried out once a year for persons already holding these positions.

The suitability assessment takes into account the criteria arising from the respective guidelines issued by national or European supervisory authorities as well as the requirements set out in generally applicable laws, while focusing primarily on the assessment of qualifications of the person concerned, which are understood as knowledge, experience and skills in the field of the relevant position, as well as in the field of Bank management rules, the Bank Group structure and the related potential conflicts of interest, as well as reputation understood as sufficiently good opinion. Additionally, the assessment involves the evaluation of integrity and adherence to ethical rules, the ability to formulate independent judgment and the ability to devote sufficient amount of time on performing the relevant duties, while taking into account the limitations in undertaking other activities.

The assessment of collective suitability, in addition to the guidelines and requirements set out in the generally applicable laws, focuses primarily on ensuring an appropriate level of knowledge, skills and experience in the context of the nature and scope of the Bank's operations and significant risks of such operations, considering the ability of the Bank's management as a whole to manage the Bank.

In the process of selecting members of the Management Board, the principle of diversification of members of the Management Board and the principles of succession management are taken into account. These principles are to ensure continuity of decision making and appropriate selection of members of the Management Board in order to reach a wide range of competences, knowledge and skills adequate to the position, which guarantees that members of the Management Board will, individually and as a body, issue and make high quality independent opinions and decisions relating to the entire scope of the Bank's operations. When assessing suitability, the Bank's Supervisory Board strives to achieve gender balance in the composition of the Bank's Management Board. The objective of diversification of the Management Board composition are, however, taken into account in selection only to the extent that it will not adversely affect the functioning and suitability of the Management Board. More information on diversity is included in the PKO Bank Polski SA Group Directors' Report for 2018 prepared together with the PKO Bank Polski SA Directors' Report for 2018, which was published on 4 March 2019 (10. Corporate Governance, 10.4 Diversity Policy).

In the course of carrying out the function of a member of the Management Board, pursuant to Article 395(2)(3) of the Code of Commercial Companies and Partnerships, the Annual General Meeting grants a discharge to each member of the Management Board once a year. A discharge is a positive assessment of a Management Board member's work, irrespective of the Annual General Meeting's approval of the Directors' Report. If a Management Board member fails to obtain a discharge, this means a negative assessment of his or her work and in consequence may lead to his or her dismissal from the composition of the Company's body.

As at 31 December 2018, there were 10 members of the Supervisory Board and 9 members of the Management Board. As at that date all members of the Bank's Management Board and Supervisory Board complied with the requirements set out in Article 22aa of the Baking Law Act

2.5. Credit risk

2.5.1. Introduction

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

The objective of credit risk management is to reduce losses on the credit portfolio as well as to minimise the risk of occurrence of non-performing loan exposures, while maintaining the expected level of the profitability and value of the loan portfolio.

The Bank and Bank Group subsidiaries apply mainly the following principles of credit risk management:
1) a lending transaction requires a comprehensive credit risk assessment expressed as an internal rating or credit scoring,
2) credit risk related to lending transactions is measured at the time of examining an application for the transaction and on a cyclical basis during the monitoring process, taking into consideration changes in external conditions and in the financial standing of borrowers,
3) the credit risk assessment of exposures that are significant due to their risk level or value is performed by credit risk assessment units, which are independent of business units,
4) the lending transaction terms and conditions offered to a client depend on the assessment of the credit risk level generated by the transaction,
5) loan decisions may be made only by authorised persons,
6) credit risk is diversified in particular in terms of geographical areas, industries, products and clients,
7) depending on the credit risk level, appropriate collateral is accepted by the Bank to minimize potential future losses.

2.5.2. Risk identification

Identification of credit risk consists in identifying current and potential sources and factors affecting the credit risk level in the current and planned lending activities of the Bank's Capital Group.

Credit risk identification involves determining factors that have a significant impact on the credit risk level in the Bank Group's operations as well as estimation of their potential impact on the Bank Group's operations.

Credit risk identification covers both existing and planned loan products offered to the clients of the Bank Group, the processes for the implementation of such products, with the use of IT tools and databases.

2.5.3. Credit risk measurement, estimation and assessment

Credit risk measurement, estimation and assessment takes place at client, single lending transaction and the Bank Group's loan portfolio levels. The measurement or estimation of credit risk involves stress tests of risk related to foreign currency and PLN credit exposures. The assumptions for conducting stress tests ensure reliable measurement or estimation of credit risk in the Bank Group.

Measurement, estimation and assessment of the portfolio credit risk involves a cyclical assessment of that risk while taking into account the total credit exposure of clients, as well as different portfolio aspects, such as client groups, lending product groups. Credit risk measurement, estimation and assessment takes place at client and portfolio levels.

2.5.4. Credit risk measurement methods

In order to assess the credit risk level and credit portfolio profitability, the Bank Group uses various credit risk measurement and assessment methods, including the following:
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 non-performing credit exposures,
7) the coverage ratio of impaired loans (Coverage Ratio),
8) credit risk cost,
9) stress testing.

PKO Bank Polski SA systematically improves the scope of its credit risk parameters, taking into account the IRB approach, as well as the scope of application of risk measures so as to fully cover the Bank's credit portfolio with those methods.

The portfolio credit risk measurement methods allow, among other things, to reflect credit risk in product pricing, determine the optimum conditions of financing availability and determine allowances for expected credit losses.

The credit risk assessment process in the Bank Group takes into account the requirements of the Polish Financial Supervision Authority, as set out in the PFSA Recommendations. The Bank conducts analyses and stress tests taking into account, in particular, PFSA Recommendation S, T and C. The Bank sets thresholds, which are an internal tool determining the appetite for credit risk and concentration risk. The thresholds are a tool that supports the management of those risks. Stress tests and analyses concern the influence of potential changes in the macroeconomic environment on the quality of the Bank's lending portfolio, and the outcomes are presented in reports for to the Bank's governing bodies. The above-mentioned information enables the Bank to identify and take measures to limit the negative impact of unfavourable market changes on the Bank's performance.

2.5.5. Rating and scoring methods

The Bank assesses the risk of individual credit 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 specialized IT applications. The manner of credit risk assessment is defined in the Bank's internal regulations, whose main purpose is to ensure uniform and objective credit risk assessment in the lending process.

The process of credit risk assessment in the Bank takes into account the PFSA requirements set out in Recommendation 'S' on Good Practices in Management of Mortgage-Secured Credit Exposures as well as Recommendation 'T' on Good Practices in Management of Retail Credit Exposure Risk.

The Bank assesses the credit risk of a client on the basis of the client's credit standing from quantitative and qualitative perspectives. The assessment of a client's credit standing in quantitative terms consists of examining the client's financial position, while the assessment of the client's credit standing in qualitative terms covers the credit scoring and assessment of the client's credit history information obtained from the Bank's internal databases as well as from external databases.

In the case of companies and corporation that meet certain criteria, the Bank assesses credit risk using the scoring method. Such assessment covers low-value, non-complex loans and is performed in two perspectives, namely the client's credit standing and creditworthiness. The credit standing assessment involves examining the client's ability to settle liabilities, whereas the creditworthiness assessment involves credit scoring and assessment of past and current conduct of the company and its owners (natural persons) in their dealings with banks. In other cases, the credit rating method is used.

The assessment of credit risk related to financing institutional clients is performed at the client and transaction level. The measures of this assessment are the assessment of the client's creditworthiness, i.e. credit rating, and the assessment of the transaction, i.e. the ability to repay the liability in a given amount and with a given time limit. The rating models for institutional clients are prepared using the Bank's internal data, which ensures that they are tailored to the risk profile of the Bank's clients. The models are based on a statistical analysis of dependence between the default and the client's risk scoring. The client's risk assessment depends on the size of the enterprise for which analysis is conducted. In addition, the Bank uses a model for the assessment of entrepreneurs credited in the specialist financing formula, which facilitates adequate credit risk assessment of large projects involving real estate financing (e.g. office space, retail areas, storage areas) and infrastructure projects (e.g. telecommunications, industrial, public utility infrastructure).

Risk assessment models are subject to monitoring at least once a quarter in accordance with the Bank's internal regulations regarding periodic 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 by the Bank in the process of credit risk management, within the system of powers to make credit decisions and within the system for credit risk measurement and reporting.

2.5.6. Credit risk control

Credit risk control consists in defining instruments for determining the credit risk level, in implementing credit risk controls to reduce that risk level and in complying with controls as part of credit risk management, both in credit and portfolio processes.

The set strategic credit risk tolerance limits and internal credit risk limits are the main tool for controlling credit risk at Bank and Bank Group levels.

Strategic credit risk tolerance limits define the maximum amount of credit risk that the Bank or the Bank Group is willing to take. The strategic credit risk tolerance limits are set out in the Strategy. Internal credit risk limits include:
1) limits that define the appetite for portfolio credit risk,
2) industry limits and
3) competence limits.

The Bank and the Bank Group set limits that define the appetite for portfolio credit risk in terms of, in particular:
1) exposures to clients operating in industry segments,
2) mortgage-secured credit exposures,
3) exposures to client groups (segments),
4) the loan portfolio quality,
5) the exposure to individual types or groups of products,
6) the maximum and individual level of the ratio of cost related to servicing credit and financial liabilities to the client's income,
7) the term of the credit transaction,
8) the exposure generated by individual credit product distribution ways (channels).

The Bank controls the level of its credit exposure to clients or groups of connected clients within the meaning of the Banking Law Act by determining competence limits that define the maximum level of powers required to make credit decisions concerning credit transactions, including changes of their terms and conditions, as referred to in the Bank's internal regulations concerning segregation of powers to make credit decisions.

The Bank and Bank Group entities monitor and control the use of strategic tolerance limits for credit risk and of limits defining the appetite for portfolio credit risk in the Bank and in the Bank Group on a monthly and quarterly basis. The outcomes of monitoring are presented in the monthly information for members of the Risk Committee of the Supervisory Board and in the quarterly report on credit risk in PKO Bank Polski SA, respectively. Where the strategic limit utilization exceeds the set threshold, the Bank initiates measures to prevent exceeding the set level.

2.5.7. Credit risk forecasting and monitoring

Credit risk forecasting and monitoring consists in preparing credit risk level forecasts and monitoring deviations of actual values from forecasts or assumed reference points (e.g. limits, thresholds, plans, measurements from the previous period, recommendations and guidance issued by the regulator), as well as conducting specific and comprehensive stress tests. Risk forecasting is subject to backtesting.
Credit risk monitoring is carried out for individual credit transactions and for portfolios.

Credit risk monitoring for individual credit transactions is defined in the Bank's internal regulations concerning:
1) assessment of the Bank's credit risk related to the financing of clients,
2) identification of groups of related entities,
3) evaluation of collaterals and inspection of projects,
4) recognising allowances for expected credit losses,
5) Early Warning System,
6) operational activities within the credit process.

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

Monitoring of the credit risk at the portfolio level involves:
1) supervising the portfolio credit risk level on the basis of the adopted credit risk measurement tools, taking into account identified sources of credit risk and the analysis of outcomes and actions taken as part of system management,
2) recommending remedial actions if an increased credit risk level is noticed.

2.5.8. Risk concentration

The objective of concentration risk management is to ensure a safe loan portfolio structure by limiting the risks resulting from excessive concentration of exposures, which has the potential to generate losses large enough to threaten the financial standing of the Bank Group or the ability to carry on basic operations or may lead to a significant change in the risk profile of the Bank Group.

The Bank Group identifies concentration at portfolio and entity levels.

The Group monitors exposure concentration risk in relation to:
1) exposures to individual clients or groups of connected clients,
2) exposures to groups of clients or credit portfolios exposed to a single risk factor.

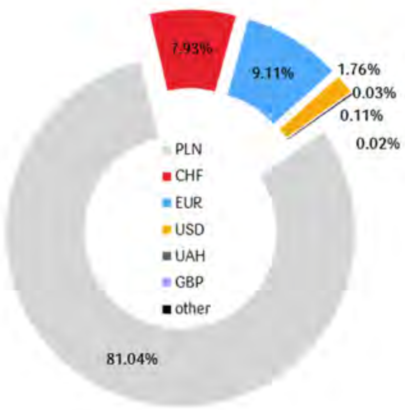
The risk of concentration of exposures to individual clients and groups of connected clients is monitored taking into account the exposure concentration limit, where the total amount of individual exposure may not exceed 25% of consolidated own funds.

In the process of monitoring the concentration of exposures at the entity level, the Bank takes into account:
1) the daily monitoring of the concentration level of large exposures within the meaning of Article 392 of CRR (if the exposure is equal to or exceeds the threshold of 10% of the Bank's capital, the Bank immediately informs the PFSA),
2) the monthly check of the utilisation of limits under Article 395(1) of CRR and Article 79a(4) of the Banking Law,
3) the quarterly check of internal limits for the risk of entity concentration,
4) identification of warning signals and initiating actions aimed at preventing the exceeding of limits,
5) performing stress tests for concentration risk (including comprehensive tests that facilitate the assessment of 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 Group analyses the concentration risk in terms of:
1) geographical regions,
2) currencies,
3) industries,
4) mortgage-secured credit exposures,
5) largest entities,
6) the largest groups.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE POWSZECHNA KASA OSZCZĘDNOŚCI BANK POLSKI SPÓŁKA AKCYJNA GROUP AS AT 31 DECEMBER 2018 (IN PLN MILLION)

Chart 2.1. Currency structure of the (on-balance-sheet and off-balance-sheet) loan portfolio



EUR-denominated exposures form the largest part of the Bank Group's foreign currency exposure and are related to the Bank's loan portfolio. The share of these loans in the foreign currency portfolio at the end of 2018 was 48%, which means an increase compared to the end of 2017 by 7%. Another group of loans are loans in CHF, which at the end of 2018 accounted for 42% of the Capital Group's currency portfolio, which means a decrease compared to the end of 2017 by 5%.

Table 2.1 Exposures to 10 largest clients

No.	2018		2017	
	Value*	Own funds percentage	Value*	Own funds percentage
1	2 859	7.6%	2 936	8.6%
2	2 777	7.3%	2 856	8.4%
3	2 710	7.2%	2 450	7.2%
4	2 274	6.0%	2 332	6.9%
5	2 169	5.7%	1 895	5.6%
6	1 899	5.0%	1 747	5.1%
7	1 898	5.0%	1 602	4.7%
8	1 669	4.4%	1 566	4.6%
9	1 539	4.1%	1 322	3.9%
10	958	2.5%	1 101	3.2%
Razem	**20 752**	**54.8%**	**19 807**	**58.2%**

* Value understood as total (on-balance-sheet and off-balance sheet) exposure to non-banking clients being the basis for comparison to the exposure concentration limit The chart does not contain any items that are excluded from the concentration limit.

Concentration limits were not exceeded as at 31 December 2018 and 31 December 2017. The largest exposure to a single entity as at 31 December 2018 accounted for 7.6% of consolidated own funds.

As at 31 December 2018, the largest concentration of the Group's exposure to a group of connected entities within the meaning of the Banking Law Act accounted for 9.7% of consolidated own funds.

Table 2.2 Exposure to 5 largest groups*

No.	2018		2017	
	Value	Own funds percentage	Value	Own funds percentage
1	3 683	9.7%	3 122	9.2%
2	3 160	8.3%	3 064	9.0%
3	2 863	7.6%	2 336	6.9%
4	2 446	6.5%	2 169	6.4%
5	2 280	6.0%	1 989	5.8%
Razem	**14 432**	**38.1%**	**12 680**	**37.3%**

* Total (on-balance-sheet and off-balance-sheet) exposure to non-banking clients being the basis for comparison to the exposure concentration limit

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE POWSZECHNA KASA OSZCZĘDNOŚCI BANK POLSKI SPÓŁKA AKCYJNA GROUP AS AT 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.3. Geographical breakdown of exposures [Template EU CRB-C]

	`	2018														
		a)	b)	c)	d)	e)	f)	g)	h)	i)	j)	k)	l)	m)	n)	o)
		Net value														
		Poland	Ukraine	Switzerland	Luksemburg	Austria	United Kingdom	Norway	Belgium	Spain	Finland	Germany	Netherlands	France	Other countries	Total
1	Central governments or central banks	65 644	530	0	0	0	0	0	0	0	0	0	0	0	0	**66 174**
2	Regional governments or local authorities	12 007	0	0	0	0	0	0	0	0	0	0	0	0	0	**12 007**
3	Public sector entities	2 981	0	0	0	0	0	0	0	0	0	0	0	0	0	**2 981**
4	Multilateral development banks	0	0	0	207	0	0	0	0	0	0	0	0	0	0	**207**
5	International organisationse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
6	Institutions	4 100	234	2 414	280	1 049	770	516	713	27	662	328	153	322	823	**12 391**
7	Corporates	78 620	673	20	612	0	9	198	0	685	0	204	286	64	173	**81 542**
8	Retail	81 040	775	1	13	1	6	1	0	0	0	5	1	0	913	**82 758**
9	Secured by mortgages on immovable property	91 744	178	7	1	0	68	4	4	1	0	16	2	6	22	**92 053**
10	Exposures in default	6 602	64	0	0	0	1	0	0	0	0	0	0	0	40	**6 708**
11	Items associated with particularly high risk	1 108	0	0	0	0	0	0	0	0	0	0	0	0	0	**1 108**
12	Covered bonds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
13	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
14	Collective investments undertakings	5	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
15	Equity exposures	834	0	0	0	0	0	0	0	0	0	0	0	0	0	**834**
16	Other exposures	15 355	217	0	0	0	0	0	0	0	0	0	0	0	0	**15 572**
17	**Total standardised approach**	360 040	2 671	2 441	1 113	1 050	855	719	717	713	663	553	443	392	1 971	**374 339**
18	**Total**	**360 040**	**2 671**	**2 441**	**1 113**	**1 050**	**855**	**719**	**717**	**713**	**663**	**553**	**443**	**392**	**1 971**	**374 339**

The exposures secured by mortgages on immovable property, as shown in the table under item 9, include retail exposures and exposures to corporates, up to the amount effectively secured by mortgages on immovable property.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE POWSZECHNA KASA OSZCZĘDNOŚCI BANK POLSKI SPÓŁKA AKCYJNA GROUP AS AT 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.4. Concentration of exposures by industry [Template EU CRB-D]

		2018																			
		Agriculture, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply; sewerage, waste management and remediation activities	Construction	Wholesale and retail trade; repair of motor vehicles and motorcycles	Transportation and storage	Accommodation and food service activities	Information and communication	Financial and insurance activities	Real estate activities	Professional, scientific and technical activities	Administrative and support service activities	Public administration and defence; compulsory social security	Education	Human health and social work activities	Arts, entertainment and recreation	Other activities	Total
1	Central governments or central banks	0	0	0	0	0	0	0	0	0	0	3 302	0	0	41 296	158	0	0	0	21 417	**66 174**
2	Regional governments or local authorities	0	0	0	0	30	1	0	0	0	0	0	0	33	0	11 735	0	99	39	70	**12 007**
3	Public sector entities	0	0	0	0	4	0	0	0	0	0	0	0	2 466	0	0	129	360	23	0	**2 981**
4	Multilateral development banks	0	0	0	0	0	0	0	0	0	0	207	0	0	0	0	0	0	0	0	**207**
5	International organisationse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
6	Institutions	0	0	0	0	0	0	0	0	0	0	3 598	0	0	0	0	0	0	0	8 792	**12 391**
7	Corporates	321	2 503	21 245	6 384	940	5 667	9 864	3 005	420	4 020	8 259	6 594	5 446	1 608	20	26	606	443	4 169	**81 542**
8	Retail	219	35	1 840	49	158	1 988	3 463	999	506	110	14 334	4 809	406	191	1	101	296	51	53 200	**82 758**
9	Secured by mortgages on immovable property	11	6	404	7	5	152	301	49	191	15	14	475	44	14	0	50	75	155	90 086	**92 053**
10	Exposures in default	51	88	1 431	203	14	460	891	289	562	47	16	585	130	79	0	18	38	40	1 766	**6 708**
11	Items associated with particularly high risk	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	1 088	**1 108**
12	Covered bonds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
13	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
14	Collective investments undertakings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	**5**
15	Equity exposures	0	0	5	0	0	0	0	0	0	0	13	0	4	0	0	0	0	0	812	**834**
16	Other exposures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15 572	**15 572**
17	**Total standardised approach**	602	2 632	24 925	6 644	1 151	8 288	14 518	4 341	1 679	4 193	29 743	12 463	8 530	43 189	11 914	323	1 475	751	196 979	**374 339**
18	**Total**	**602**	**2 632**	**24 925**	**6 644**	**1 151**	**8 288**	**14 518**	**4 341**	**1 679**	**4 193**	**29 743**	**12 463**	**8 530**	**43 189**	**11 914**	**323**	**1 475**	**751**	**196 979**	**374 339**

2.5.9. Impairment of loan exposures

In the area of impairment, the Bank applies IFRS 9, which is based on the concept of expected losses.
The impairment model is applicable to financial assets that are not measured at fair value through profit or loss, including:
1) debt financial instruments including credit exposures and securities,
2) lease receivables,
3) off-balance sheet financial and guarantee commitments.

In accordance with IFRS 9, the expected credit losses are not recognized for equity investments.
Impairment losses on credit exposures are measured as 12-month or lifetime expected credit losses from the asset. The horizon of measurement of the expected loss depends on whether credit risk increased significantly from the moment of initial recognition of the asset. Due to this criterion, financial assets are allocated to 4 stages:
1) Stage 1 – assets for which credit risk is not significantly higher than on the day of their initial recognition and no indicator of their impairment has been recognised;
2) Stage 2 – assets for which credit risk is significantly higher than on the day of their initial recognition but no indicator of their impairment has been recognised;
3) Stage 3 – assets for which an indicator of impairment has been recognised;
4) Stage 4 – assets granted or purchased with indicator of impairment recognized (on the date of granting or purchasing).

In order to evaluate the materiality of the increase in credit risk regarding retail exposures, the Bank uses a model based on the calculation of the marginal PD, meaning the probability of default during a specified month (calculated from the moment of exposure origination). The Bank identifies the indicator of a significant increase in risk for an exposure based on a comparison of probability curves of default in the horizon of the exposure as at the date of the initial recognition and as at the reporting date.

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

In order to identify the remaining indicators of a significant increase in credit risk, the complete available qualitative and quantitative information is used, including:
1) forbearance measures due to the borrower's financial distress,
2) delinquency in the repayment of a materially significant amount of principal or payment of interest of more than 30 days,
3) early warning signals identified during the monitoring process, indicating a significant increase in credit risk,
4) a significant increase in the LTV ratio,
5) an analyst's assessment within the process of an individualized analysis.

Indicators of default and impairment of a credit exposure include, in particular:
1) a delay in the repayment of a materially significant amount of capital or interest, which is longer than 90 days,
2) deterioration in the crediting period of the debtor's economic and financial position, expressed by his classification to a rating class or risk class indicating a significant threat to debt repayment,
3) conclusion of a forbearance agreement or application of a reduction in the repayment of the receivable, due to economic or legal reasons resulting from the client's distress (until the receivable is recognized as healed),
4) filing a petition in bankruptcy against the debtor, placing the debtor in liquidation or initiating enforcement proceedings against the debtor.

The Bank considers changes in the terms of the agreement, agreed with the debtor or the issuer and forced by the debtor's or the issuer's distress (forbearance measures introducing concessions that would otherwise not be granted) as forbearance and an indicator of impairment. The purpose of forbearance activities is to restore a debtor's or an issuer's ability to fulfil their obligations towards the Bank and to maximize the effectiveness of non-performing loan management, i.e. obtaining the highest recoveries while minimizing the costs of recoveries.

Changes in repayment terms made under forbearance may consist in:
1) dividing the past due debt into instalments,
2) changing the repayment formula (annuity instalments, reducing instalments),
3) extending the lending period,
4) changing the interest rate,
5) changing the margin,
6) reducing the debt.

Granting, as part of forbearance, concessions recognized as indicators of impairment results in the recognition of a default event and the classification of the credit exposure in the non-performing exposure portfolio. The exposure is excluded from this portfolio (the Bank ceases to recognise the forbearance agreement as an indicator of impairment) after 12 months from the introduction of forbearance, if all past due payments and at least 6 instalments resulting from the agreed schedule have been settled during this period, and the client's current financial condition poses, in the Bank's opinion, no threat to the client's compliance with the terms of the forbearance agreement.

Forborne exposures cease to meet the criteria for exposure with forbearance status not earlier than after 24 months from the moment when this status ceases to be recognised as an indicator of impairment if the client repaid at least 12 instalments in the target amount and has no debt past due by more than 30 days at the end of that period.

The expected loss will be determined as the product of the credit risk parameters: probability of default (PD), loss given default (LGD) and exposure at default (EAD), provided that each of the above parameters is in the form of a vector with the number of months covering the horizon of estimating the credit loss. In regard to exposures classified in Stage 1, the Bank uses a maximum 12-month horizon of estimation of the expected loss. In the case of exposures classified to Stage 2, 3 or 4, the expected loss is estimated in the horizon up to the maturity of the exposure or its renewal. With regard to retail exposures without a repayment schedule, the Bank determines this horizon based on behavioural data resulting from past observations. The expected loss both in the entire duration of the exposure and in the period of 12 months is the sum 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, the Bank adjusts the parameter determining the exposure value as at the time of default by future payments according to the repayment schedule and potential over- or underpayments.

The calculation of expected credit losses takes into account the estimates of future macroeconomic conditions. In the portfolio analysis, the impact of macroeconomic scenarios is taken into account in the amount of individual risk parameters. The methodology of calculation of risk parameters includes back-testing of the dependence of the value of the parameters on macroeconomic conditions. 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 scope of projected indicators includes the GDP growth rate, the unemployment rate, the WIBOR 3M rate, the Libor CHF 3M rate, the CHF/PLN exchange rate, the property price index, the NBP reference rate. The final expected loss is the probability-weighted average of scenarios from expected losses corresponding to individual scenarios. The Bank ensures compliance of macroeconomic scenarios used for the purposes of calculation of risk parameters with macroeconomic scenarios used in the credit risk budgeting processes.

If the Bank identifies an indicator of impairment of individually significant exposures, the expected credit loss from the exposure is determined individually, as the difference between its gross carrying amount (for off-balance-sheet credit exposure – the value of its balance-sheet equivalent) and the present value of expected future cash flows, which are determined taking into account possible scenarios regarding the performance of the agreement and the management of the credit exposure, weighted by the probability of their implementation.

The individual measurement of the expected loss is also applied to individually significant exposures that do not show any indicators of impairment, for which the use of portfolio parameters in the calculations would be unjustified due to the specificity of the case.

Both the process of evaluation of a material increase in credit risk as well as the process of calculating the expected loss is conducted on a monthly basis at the individual exposure level. It uses a dedicated computing environment that facilitates the distribution of results to the Bank's internal units.

The indicators for classifying credit exposures to the category of non-performing items are consistent with the indicators of default and impairment.

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

Impaired exposures include balance-sheet credit exposures that show indicators of impairment, except for those for which, as part of individual impairment measurement, the differences between the gross carrying amount (or the balance-sheet equivalent of its off-balance sheet portion) and the value of expected cash flows are immaterial (do not exceed the level explained by the potential error of expert estimates).

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

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.5. Total and average net amount of exposures [Template EU CRB-B]

		2018		2017	
		a)	b)	a)	b)
		Net value of exposures at the end of the period	Average net exposures over the period	Net value of exposures at the end of the period	Average net exposures over the period
1	Central governments or central banks	66 174	55 572	56 981	52 774
2	Regional governments or local authorities	12 007	10 594	10 232	10 187
3	Public sector entities	2 981	3 011	3 095	3 115
4	Multilateral development banks	207	179	355	224
5	International organisations	0	0	0	0
6	Institutions	12 391	11 439	10 538	9 504
7	Corporates	81 542	77 282	72 757	74 353
8	*Of which: SMEs*	8 110	8 025	7 751	5 489
9	Retail	82 758	96 455	107 094	105 465
10	*Of which: SMEs*	28 082	26 853	26 228	24 377
11	Secured by mortgages on immovable property	92 053	73 293	55 377	54 480
12	*W tym: MŚP*	927	932	1 166	1 000
13	Exposures in default	6 708	7 029	6 559	6 681
14	Items associated with particularly high risk	1 108	918	526	670
15	Covered bonds	0	0	0	0
16	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0
17	Collective investments undertakings	5	6	5	15
18	Equity exposures	834	971	1 349	1 170
19	Other exposures	15 572	15 404	15 480	15 158
20	**Total standardised approach**	374 339	352 154	340 348	333 796
21	**Total**	**374 339**	**352 154**	**340 348**	**333 796**

Table 2.6. Maturity of exposures [Template EU CRB-E]

		2018					
		a)	b)	c)	d)	e)	f)
		Net exposure value					
		On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
1	Central governments or central banks	0	25 355	18 870	21 949	0	**66 174**
2	Regional governments or local authorities	1 711	47	278	9 960	11	**12 007**
3	Public sector entities	2 612	12	40	316	0	**2 981**
4	Multilateral development banks	0	-0	-0	207	0	**207**
5	International organisationse	0	0	0	0	0	**0**
6	Institutions	311	7 927	3 723	430	0	**12 391**
7	Corporates	22 849	3 538	26 735	26 784	1 636	**81 542**
8	Retail	6 685	11 941	10 322	53 809	0	**82 758**
9	Secured by mortgages on immovable property	82	29	682	91 259	0	**92 053**
10	Exposures in default	968	1 063	1 654	3 004	19	**6 708**
11	Items associated with particularly high risk	0	0	0	20	1 088	**1 108**
12	Covered bonds	0	0	0	0	0	**0**
13	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	**0**
14	Collective investments undertakings	5	0	0	0	0	**5**
15	Equity exposures	0	0	0	23	812	**834**
16	Other exposures	0	7 237	28	0	8 306	**15 572**
17	**Total standardised approach**	35 223	57 150	62 333	207 762	11 872	**374 339**
18	**Total**	**35 223**	**57 150**	**62 333**	**207 762**	**11 872**	**374 339**

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.7 Credit quality of exposures by exposure classes and instruments [Template EU CR1-A]

		2018					
		a)	b)	c)	d)	e)	f)
		Gross carrying values of		Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Accumulated write-offs
		Defaulted exposures	Non-defaulted exposures				(a+b-c-d)
1	Central governments or central banks	0	66 175	1	0	0	66 174
2	Regional governments or local authorities	0	12 015	8	0	0	12 007
3	Public sector entities	0	2 989	8	0	0	2 981
4	Multilateral development banks	0	207	0	0	0	207
5	International organisations	0	0	0	0	0	0
6	Institutions	0	12 394	3	0	0	12 391
7	Corporates	0	81 962	420	0	58	81 542
8	*of which: SMEs*	0	8 163	53	0	0	8 110
9	Retail	0	83 390	632	0	8	82 758
10	*of which: SMEs*	0	28 332	250	0	2	28 082
11	Secured by mortgages on immovable property	0	92 533	480	0	0	92 053
12	*of which: SMEs*	0	958	30	0	0	927
13	Exposures in default	11 965	0	5 256	0	1 396	6 708
14	Items associated with particularly high risk	0	1 108	0	0	0	1 108
15	Covered bonds	0	0	0	0	0	0
16	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0
17	Collective investments undertakings	0	5	0	0	0	5
18	Equity exposures	0	834	0	0	0	834
19	Other exposures	0	15 572	0	0	0	15 572
20	**Total standardised approach**	11 965	369 184	6 810	0	1 463	374 339
21	**Total**	**11 965**	**369 184**	**6 810**	**0**	**1 463**	**374 339**
22	*Of which: Loans**	10 582	190 174	6 102	0	1 463	194 654
23	*Of which: Debt securities**	0	51 035	0	0	0	51 035
24	*Of which: Off-balance-sheet exposures**	340	57 270	124	0	0	57 486

* concerns PKO Bank Polski SA

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.8. Credit quality of exposures by industry [Template EU CR1-B]

	2018					
	a)	b)	c)	d)	e)	f)
	Gross carrying values of		Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Net values
	Defaulted exposures	Non-defaulted exposures				(a+b-c-d)
Agriculture, forestry and fishing	72	580	49	0	11	602
Mining and quarrying	99	2 549	16	0	23	2 632
Manufacturing	1 859	23 655	589	0	133	24 925
Electricity, gas, steam and air conditioning supply	275	6 469	100	0	1	6 644
Water supply; sewerage, waste management and remediation activities	29	1 146	23	0	11	1 151
Construction	891	7 963	566	0	99	8 288
Wholesale and retail trade; repair of motor vehicles and motorcycles	1 458	13 802	742	0	164	14 518
Transportation and storage	272	4 254	185	0	31	4 341
Accommodation and food service activities	856	1 149	327	0	32	1 679
Information and communication	45	4 181	33	0	6	4 193
Financial and insurance activities	66	71 049	76	0	2	71 039
Real estate activities	686	12 048	272	0	18	12 463
Professional, scientific and technical activities	314	8 439	223	0	5	8 530
Administrative and support service activities	95	1 892	94	0	5	1 893
Public administration and defence; compulsory social security	0	11 920	7	0	0	11 914
Education	27	312	15	0	2	323
Human health and social work activities	53	1 459	38	0	3	1 475
Arts, entertainment and recreation	51	717	17	0	3	751
Other activities	4 817	195 600	3 438	0	912	196 979
Total	**11 965**	**369 184**	**6 810**	**0**	**1 463**	**374 339**

The gross carrying amount includes loans and borrowings, shares, bills, bonds, interbank deposits, derivative instruments, other assets and off-balance-sheet items. The exposures presented in the table take into account a breakdown by industry, without a breakdown by counterparty type.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.8a. Credit quality of exposures for the construction sector and the construction-related sector, such as developers, housing communities and cooperatives (according to the internal classification used by the Bank)

	2018				
	a)	b)		c)	d)
	Defaulted exposures	Non-defaulted exposures		Specific credit risk adjustment	Net values
	Gross carrying values of	Gross carrying values of	Off-balance sheet value		(a+b-c)
Construction (including: motorways, streets, bridges, finishing works)	284	850	2 507	209	3 431
Developers	1 022	7 127	4 279	620	11 818
Housing cooperatives	68	5 385	652	17	6 089

Exposures to the construction sector in the total amount of PLN 3,641 million include balance-sheet exposures of PLN 1,134 million and off-balance-sheet exposures of PLN 2,507 million.

Table 2.9. Credit quality of exposures by geography [Template EU CR1-C]

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

		2018					
		a)	b)	c)	d)	e)	f)
		Gross carrying values of		Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Net values
		Defaulted exposures	Non-defaulted exposures				(a+b-c-d)
1	Poland	11 819	354 911	6 690	0	1 460	360 040
2	Ukraine	64	2 635	28	0	0	2 671
3	Switzerland	0	2 441	0	0	0	2 441
4	Luksemburg	0	1 117	4	0	0	1 113
5	Austria	0	1 050	0	0	0	1 050
6	United Kingdom	3	855	3	0	2	855
7	Norway	0	719	0	0	0	719
8	Belgium	0	717	0	0	0	717
9	Spain	0	713	0	0	0	713
10	Finland	0	663	0	0	0	663
11	Germany	0	556	4	0	0	553
12	Netherlands	0	444	1	0	0	443
13	France	1	392	1	0	0	392
14	Other countries	76	1 973	78	0	1	1 971
15	Total	**11 965**	**369 184**	**6 810**	**0**	**1 463**	**374 339**

Table 2.10. Ageing of past-due exposures [Template EU CR1-D]

		2018					
		a)	b)	c)	d)	e)	f)
		Gross carrying values					
		≤ 30 days	> 30 days ≤ 60 days	> 60 days ≤ 90 days	> 90 days ≤ 180 days	> 180 days ≤ 1 year	> 1 year
1	Loans	4 875	234	118	459	669	5 610
2	Debt securities	0	0	0	0	0	0
3	**Total exposures**	**4 875**	**234**	**118**	**459**	**669**	**5 610**

Table 2.11. Non-performing and forborne exposures in PKO Bank Polski SA [EU CR1-E]

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

PKO Bank Polski SA		2018												
		a)	b)	c)	d)	e)	f)	g)	h)	i)	j)	k)	l)	m)
		Gross carrying values of performing and non-performing exposures							Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
			Of which performing but past due > 30 days and <= 90 days	Of which performing forborne	Of which non-performing				On performing exposures		On non-performing exposures		On non-performing exposures	Of which forborne exposures
						Of which defaulted	Of which impaired	Of which forborne		Of which forborne		Of which forborne		
010	Debt securities	51 035	0	0	0	0	0	0	0	0	0	0	0	0
020	Loans and advances	200 756	488	282	10 582	10 582	10 187	8 067	-58	-42	-4 811	-4 451	351	115
030	Off-balance-sheet exposures	60 607	21	0	340	340	318	40	0	0	-35	-7	30	1

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.12. Changes in stock of general and specific credit risk adjustments [Template EU CR2-A]

		2018
		a)
		Accumulated specific credit risk adjustment
1	**Opening balance**	-7 087
2	Increases due to amounts set aside for estimated loan losses during the period	-14 559
3	3 Decreases due to amounts reversed for estimated loan losses during the period	17 550
4	Decreases due to amounts taken against accumulated credit risk adjustments	1 463
5	Transfers between credit risk adjustments	0
6	Impact of exchange rate differences	0
7	Business combinations, including acquisitions and disposals of subsidiaries	0
8	Other adjustments	-4 177
9	**Closing balance**	**-6 810**
10	Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	31
11	Specific credit risk adjustments directly recorded to the statement of profit or loss	0

Table 2.13. Changes in stock of defaulted and impaired loans and debt securities [Template EU CR2-B]

		2018
		a)
		Gross carrying value defaulted exposures
1	**Opening balance**	12 455
2	Loans and debt securities that have defaulted or impaired since the last reporting period	2 189
3	Returned to non-defaulted status	592
4	Amounts written off	-1 463
5	Other changes	-1 809
6	**Closing balance**	**11 965**

2.5.10. Credit Risk Reporting

Credit risk reporting comprises 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 about the credit risk level for the Bank Group entities for which a material credit risk level has been identified (the KREDOBANK SA Group, the PKO Leasing SA Group, PKO Bank Hipoteczny SA, among others).

Moreover, the Bank prepares daily, weekly, monthly and quarterly reports on credit exposures on account of derivative transactions concluded with financial institutions and non-financial institutional entities, provided that monthly and quarterly reports also concern the Bank Group. The reports contain information on credit exposures on account of derivative transactions concluded with financial institutions and non-financial institutional entities and information on the utilisation of limits. The recipients of the reports include mainly 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 Group.

Management actions in credit risk management include, in particular:
1) issuing internal regulations governing the credit risk management system in the Bank and the Bank Group,
2) issuing recommendations, rules of conduct, explanations and interpretation of internal regulations of the Bank and the Bank Group,
3) making decisions regarding the acceptable level of credit risk, including, in particular, credit decisions,
4) developing and improving credit risk control tools and mechanisms to maintain the credit risk level within the limits acceptable by the Bank and the Bank Group,
5) developing and monitoring the functioning of controls in credit risk management,
6) developing and improving credit risk assessment methods and models,
7) developing and improving IT tools used in credit risk management,
8) planning activities and issuing recommendations.

The main credit risk management tools used by the Bank include in particular:
1) the minimum transaction requirements (risk parameters) determined for a given type of transaction (e.g. minimum LTV, maximum loan amount, required collateral),

2) the rules of defining credit availability, including cut-offs - the minimum number of points awarded as a result of the creditworthiness assessment process with the use of a scoring system (for retail clients, companies and corporations) or the client's rating class (for institutional clients) from which a credit transaction may be effected with the client,
3) concentration limits – as defined in Article 395(1) of the CRR and also in the Banking Law Act or internal limits defining the appetite for concentration risk,
4) industry-related limits - limits defining the appetite for credit risk, which reduce the level of risk related to financing institutional clients carrying on business activities in industries characterised by high level of credit risk,
5) limits defining appetite for portfolio credit risk resulting from Recommendations S and T, among others,
6) credit limits defining the Bank's maximum exposure to a counterparty or country in respect of wholesale operations and settlement limits and limits for the period of exposure,
7) competence limits defining the maximum level of powers required to take credit decisions with respect to the Bank's clients; the limits depend mainly on the Bank's credit exposure amount to a client (or a group of connected clients) and the period of credit transaction; the competence limits depend on the level at which the credit decision is made (within the Bank's organisational structure),
8) minimum credit margins - credit risk margins related to a credit transaction concluded by the Bank with an institutional client, provided that the interest rate offered to the client cannot be lower than the reference rate plus credit risk margin.

The collateral policy plays special role in determining the terms and conditions of credit transactions. The purpose of the collateral policy implemented by the Bank and by the Bank Group is to secure appropriately the credit risk to which the Bank Group is exposed, and in the first place to establish the most liquid collateral. Collateral may be considered liquid if it is possible to sell it without a significant price reduction and at a time that does not expose the Bank to a change in the collateral value due to the price fluctuation typical of the collateral. The Bank Group strives to diversify its collateral (both in terms of the forms and the underlying object). The Group assesses collateral in terms of actual possibility of its use as the source from which its claims may be satisfied.

2.5.12. Use of credit risk and counterparty credit risk mitigation techniques

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

The collateral policy of the PKO Bank Polski SA Group defines the rules for collateral and the procedures to be followed if the applicable limits are exceeded in order to hedge against the risk. The appropriate methods set out in the internal regulations of the PKO Bank Polski Group are applied.

The market value forms the basis for assessment of value of immovable property, tangible collateral and rights. Pursuant to separate regulations regarding the appraisal of collateral, including immovable property, the market value is determined on the basis of the Bank Group's assessment or estimation by an independent appraiser.

The following factors are taken into account in collateral assessment:
1) the property, financial and economic or social and financial position of entities that issued the personal collateral,
2) the condition and the market value of the underlying objects of a tangible collateral and their susceptibility to depreciation during of the life of collateral (the impact of technological obsolescence of the underlying object of the collateral on its value),
3) the potential economic benefits arising from a particular method of securing debts, in particular, the ability to reduce impairment write-downs,
4) method of collateral establishment, including the typical duration and complexity of formalities, as well as necessary costs (cost of holding the collateral and enforcement against the collateral), using the Bank's internal regulations relating to collateral assessment,
5) complexity, time-intensity as well as economic and legal conditions relating to the effective enforcement against the collateral, in the context of enforcement limitations and existing rules of distribution of amounts obtained from individual enforcement or in bankruptcy proceedings, debt seniority.

The type of collateral depends on the product and the client segment.

In granting housing and commercial loans, collateral is obligatorily established in the form of a mortgage on the property.

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

When granting consumer loans, the Bank usually accepts personal collateral (a guarantee under civil law or an aval) or establishes security on the client's bank account, car or securities.

Collateral for loans intended to finance firms and enterprises as well as corporate clients is established, among other things, on business receivables, bank accounts, movables, immovable property or securities or in the form of a guarantee granted by Bank Gospodarstwa Krajowego (commonly used for firms and enterprises).

When calculating the own funds requirement for credit risk, the Bank does not use credit derivatives as collateral of risk in accordance with the CRR (Article 453 d).

The PKO Bank Polski SA Group does not identify significant exposures to the risk of unfavourable correlations, and its level is monitored on an ongoing basis.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.14. Credit Risk Mitigation Techniques – overview [Template EU CR3]

		2018				
		a)	b)	c)	d)	e)
		Exposures unsecured – Carrying amount	Exposures secured – Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
1	Total loans*	316 579	6 725	4 950	1 775	0
2	Total debt securities	51 035	0	0	0	0
3	**Total exposures**	**367 614**	**6 725**	**4 950**	**1 775**	**0**
4	Of which defaulted	6 319	390	263	127	0

* The 'Total loans' line shows all exposures less debt securities, which are included in a separate line

Table 2.15. Standardised approach – credit risk exposure (without derivatives) and Credit Risk Mitigation (CRM) effects [Template EU CR4]

		2018					
		a)	b)	c)	d)	e)	f)
		Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
Exposure classes		On-balance-sheet amount	Off-balance-sheet amount	On-balance-sheet amount	Off-balance-sheet amount	RWAs	RWA density
1	Central governments or central banks	66 144	1	67 575	55	6 390	9%
2	Regional government or local authorities	10 151	1 857	10 252	414	2 144	20%
3	Public sector entities	368	2 613	296	40	168	50%
4	Multilateral development banks	207	0	207	0	0	0%
5	International organisations	0	0	0	0	0	0%
6	Institutions	6 965	3 171	6 965	1 772	2 303	26%
7	Corporates	47 223	33 292	43 240	6 503	48 485	97%
8	Retail	66 897	15 859	65 989	2 908	47 332	69%
9	Secured by mortgages on immovable property	91 670	383	91 616	40	62 023	68%
10	Exposures in default	6 403	305	6 044	97	7 557	123%
11	Exposures associated with particularly high risk	1 108	0	1 108	0	1 662	150%
12	Covered bonds	0	0	0	0	0	0%
13	Institutions and corporates with a short-term credit assessment	0	0	0	0	0	0%
14	Collective investment undertakings	5	0	5	0	5	100%
15	Equity	834	0	834	0	2 070	248%
16	Other items	15 565	7	15 565	3	4 571	29%
17	**Total**	**313 541**	**57 486**	**309 696**	**11 831**	**184 710**	**57%**

The total exposure value does not include derivative instruments, repurchase transactions, securities or commodities lending or borrowing transactions, long settlement transactions and margin lending transactions in the amount of PLN 3,312 million.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.16 Standardised approach - breakdown of exposures by asset class and risk weight [Template EU CR5]

	Exposure classes	2018																	
		Risk weight																Total	Of which unrated
		0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others	Deducted		
1	Central governments or central banks	64 786	0	0	0	1	0	0	0	0	524	0	2 346	0	0	0	0	**67 657**	64 786
2	Regional government or local authorities	0	0	0	0	10 629	0	37	0	0	0	0	0	0	0	0	0	**10 666**	5 345
3	Public sector entities	0	0	0	0	1	0	335	0	0	0	0	0	0	0	0	0	**336**	336
4	Multilateral development banks	207	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**207**	207
5	International organisations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0
6	Institutions	730	0	0	0	7 439	0	2 108	0	0	148	1	0	0	0	0	0	**10 426**	730
7	Corporates	0	0	0	0	0	0	579	0	0	50 190	0	0	0	0	0	0	**50 769**	2 744
8	Retail	0	0	0	0	0	0	0	0	68 898	0	0	0	0	0	0	0	**68 898**	68 898
9	Secured by mortgages on immovable property	0	0	0	0	0	64 417	530	0	0	1 375	25 335	0	0	0	0	0	**91 657**	91 657
10	Exposures in default	0	0	0	0	0	0	0	0	0	3 310	2 831	0	0	0	0	0	**6 141**	6 141
11	Exposures associated with particularly high risk	0	0	0	0	0	0	0	0	0	0	1 108	0	0	0	0	0	**1 108**	1 108
12	Covered bonds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0
13	Institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0
14	Collective investment undertakings	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	**5**	5
15	Equity	0	0	0	0	0	0	0	0	0	11	0	824	0	0	0	0	**834**	834
16	Other items	10 761	0	0	0	295	0	0	0	0	4 512	0	0	0	0	0	0	**15 569**	15 569
17	**Total**	**76 484**	**0**	**0**	**0**	**18 365**	**64 417**	**3 590**	**0**	**68 898**	**60 074**	**29 274**	**3 170**	**0**	**0**	**0**	**0**	**324 272**	**258 358**

Table 2.16a presents the total exposure amount of on-balance-sheet and off-balance-sheet items of the Bank Group of PLN 324,272 million, which is the total exposure net of specific credit risk adjustments and impairment losses and after applying appropriate conversion factors for off-balance sheet exposures, i.e. after multiplying the exposure amounts of off-balance items by the corresponding factors of 0%, 20%, 50% or 100%.

	2018										
	Exposures net provisions and imparment losses	Credit risk mitigation techniques affecting exposure (funded protection)	Fully adjusted exposure value			Off-balance sheet exposures by CCF value				Off-balance sheet exposures after CCF	Exposure value
				of which:							
				Balance sheet exposure	Off-balance sheet exposures	0%	20%	50%	100%		
	(a)	(b)	(c = a-b)	(d)	(e = f+g+h+i)	(f)	(g)	(h)	(i)	(J = f*0%+g*20%+h*50%+i*100%)	(k = d+j)
Total exposure	374 339	4 950	369 390	312 441	56 949	20 941	24 215	9 607	2 185	11 831	324 272

As at 31 December 2018, the Bank did not use on- and off- balance sheet netting pursuant to Article 205 of the CRR, therefore the provisions of Article 453(a) of the CRR, regarding the policies and processes for, and an indication of the extent to which the entity makes use of, on- and off- balance sheet netting, are not applicable.

As at 31 December 2018, 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 contractors. They provide for the settlement, also in the event of the insolvency of one of the parties, of all transactions covered by the agreement with one amount being the sum of the market values of individual transactions. The contractual netting agreements used meet the conditions of Articles 295-297 of the CRR.

2.5.13. Using external credit assessment institutions (ECAIs) and other information on counterparty credit risk exposures

In the process of calculating own funds requirements, the Bank uses the credit assessments assigned by the following external credit assessment institutions (rating agencies):
1) Moody's Investors Service,
2) Standard and Poor's Ratings Services,
3) Fitch Ratings.

The PKO Bank Polski SA Group does not use the assessments of export credit agencies in the process of calculating own funds requirements.

When calculating the own funds requirements for credit risk, the PKO Bank Polski SA Group uses credit assessments granted by credit rating institutions (ECAIs). 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 governments or local authorities.

The rules for using external ratings and the process used to transfer the issuer and issue credit assessments onto individual exposures are in line with the CRR.

The process used to transfer the issuer and issue credit assessment onto items not included in the trading book for the purpose of calculating own funds requirements is in line with the provisions of Part Three, Title II, Chapter 2 of the CRR.

PKO Bank Polski SA cooperates on the wholesale market with financial institutions having their registered offices in the territory of more than 69 countries. The Bank may enter, within the set limits, into transactions with 384 counterparties, including domestic and foreign banks, insurance companies, pension funds and investment funds. Transactions include loan and deposit transactions, securities transactions, foreign exchange operations and derivative transactions.

The Bank has access to two clearing houses (in one clearing house, as an indirect participant, and in the other - as a direct participant), through which it clears interest rate derivative transactions specified in the EMIR[11], with selected domestic and foreign counterparties.

In order to limit the credit risk of derivative transactions and transactions in securities, the Bank enters into framework agreements with counterparties (according to the Polish Bank Association, ISDA and ICMA standards). They enable the offsetting of the parties' mutual due (reduction of settlement risk) and undue obligations (reduction of 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 the occurrence 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 specified in the agreement, undertakes to establish appropriate collateral together with the right to its netting.

For credit transactions with financial institutions having their registered office outside the Republic of Poland, the international standards on loan agreements of the Loan Market Association are applied.

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

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

According to the methodology in force at the Bank, the amount of limits for financial institutions depends on the counterparty 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 the client's demand for hedging transactions.

The Bank manages the risk of adjustment to the valuation of derivatives for counterparty credit risk as part of credit risk management. 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 insolvency of counterparties being a financial institution, a country or a central bank is determined based on the balance-sheet equivalent of on-balance sheet and off-balance sheet transactions. Depending on the rating, exposures are classified in the relevant credit quality step and assigned the relevant risk weight calculated using the internal methods. Monitoring and reporting of internal capital levels for counterparty risk is considered one of the elements of managing that risk.

As at 31 December 2018, CSA collateral agreements existed between the Bank and its counterparties, in which the collateral value was made dependent on the Bank's credit rating. In case of a downgrade of the Bank's rating below the level defined in the agreement, the value of the collateral (posted by the Bank on a daily basis) may be modified according to the methodology described in the agreement or additional margin may be required. As at the date of the Report, the outflow amount on account of posting additional collateral in case of the Bank's rating being downgraded by 3 notches would amount to ca. PLN 1,200 million.

As at 31 December 2018, a positive gross value of derivative transactions concluded with financial institutions amounted to PLN 1,439 million. The above amount was calculated as the sum of 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 644 million (excluding centrally cleared transactions). The profits from

[11] 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 entered into force on August 16th, 2012

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

netting amounted to PLN 795 million. The value of collateral accepted from the counterparties under CSA agreements and PBA collateral agreements was PLN 593 million.

As at 31 December 2018, the Bank had no credit derivatives.

As at 31 December 2018, the Bank recognized adjustments for credit valuation in the valuation of financial derivatives concluded with non-financial business entities based on the analysis of recoverability of exposures. In the adjustment the Bank took into account the market value of credit risk as assessed by the Bank. The analysis covered all significant exposures on account of a positive valuation, for the Bank, of financial derivatives contracted with non-financial business entities. In particular, the adjustment included the risk of non-performance of agreements concluded with a counterparty, based on, for example, an analysis of the business and financial standing of entities, the probability of repayment of individual contracts, and the recoverable amount of collateral.

The financial institutions with which the Bank enters into transactions on the interbank market have different external ratings between AAA and BBB (Table 2.17).

Table 2.17. Quality of exposures* to financial institutions**

	PKO Bank Polski SA	
Rating	**2018**	**2017**
AAA	9.6%	6.3%
AA	23.1%	24.7%
A	32.6%	51.7%
BBB	31.4%	10.9%
BBB	0.1%	0.0%
B	0.0%	0.0%
CCC	0.0%	0.0%
No rating	3.2%	6.4%
Total	100.0%	100.0%

* Exposure is the sum of the nominal exposure on account of deposits and securities and the sum of valuations of derivatives after their netting for counterparties with whom framework netting agreements are effective
** Exposures to institutions from outside the Bank Group

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

The value of counterparty risk exposures is computed by market value method according to the 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.

At the end of 2018, The PKO Bank Polski SA Group did not have any credit derivatives used to reduce capital requirements.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.18 Analysis of the counterparty credit risk (CCR) exposure by approach (excluding capital requirements or exposures cleared through a CCP) [Template EU CCR1]

		2018						
		a)	b)	c)	d)	e)	f)	g)
		Notional	Replacement cost/current market value	Potential future credit exposure	EEPE	Multiplier	EAD post CRM	RWAs
1	Mark to market		381	2 210			2 727	1 398
2	Original exposure	0					0	0
3	Standardised approach		0			0	0	0
4	IMM (for derivatives and SFTs)				0	0	0	0
5	*Of which securities financing transactions*				0	0	0	0
6	*Of which derivatives and long settlement transactions*				0	0	0	0
7	*Of which from contractual cross-product netting*				0	0	0	0
8	Financial collateral simple method (for SFTs)						0	0
9	Financial collateral comprehensive method (for SFTs)						18	18
10	VaR for SFTs						0	0
11	**Total**							**1 416**

Table 2.19. Exposures to CCPs [Template EU CCR8]

		2018	
		a)	b)
		EAD post CRM	RWAs
1	**Exposures to QCCPs (total)**		43
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	388	5
3	(i) OTC derivatives	385	5
4	(ii) Exchange-traded derivatives	3	0
5	(iii) SFTs	0	0
6	(iv) Netting sets where cross-product netting has been approved	0	0
7	Segregated initial margin	52	
8	Non-segregated initial margin	0	0
9	Prefunded default fund contributions	25	0
10	Alternative calculation of own funds requirements for exposures		38
11	**Exposures to non-QCCPs (total)**		**0**
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	0	0
13	(i) OTC derivatives	0	0
14	(ii) Exchange-traded derivatives	0	0
15	(iii) SFTs	0	0
16	(iv) Netting sets where cross-product netting has been approved	0	0
17	Segregated initial margin	0	
18	Non-segregated initial margin	0	0
19	Prefunded default fund contributions	0	0
20	Unfunded default fund contributions	0	0

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.20. Credit valuation adjustment (CVA) capital charge [Template EU CCR2]

		2018	
		a)	b)
		Exposure value	RWAs
1	Total portfolios subject to the advanced method	0	0
2	(i) VaR component (including the 3× multiplier)		0
3	(ii) SVaR component (including the 3× multiplier)		0
4	All portfolios subject to the standardised method	993	308
EU4	Based on the original exposure method	0	0
5	Total subject to the CVA capital charge	0	0

Table 2.21. Standardised approach - Impact of netting and collateral held on exposure values [Template EU CCR5-A]

		2018				
		a)	b)	c)	d)	e)
		Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
1	Derivatives	2 565	1 445 708	0	621 166	0
2	SFTs	101	0	101	94	7
3	Cross-product netting	0	0	0	0	0
4	**Total**	**2 666**	**1 445 708**	**101**	**621 261**	**7**

Table 2.22: Composition of collateral for exposures to counterparty credit risk [Template EU CCR5-B]

	2018					
	a)	b)	c)	d)	e)	f)
	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		
Total	660	0	467	0	51	50

Table 2.23. Credit derivatives exposures [Template EU CCR6]

	2018		
	a)	b)	c)
	Credit derivative hedges		Other credit derivatives
	Protection bought	Protection sold	
Notionals			
Single-name credit default swaps	0	0	0
Index credit default swaps	0	0	0
Total return swaps	0	0	0
Credit options	0	0	0
Other credit derivatives	0	0	0
Total notionals	0	0	0
Fair values	0	0	0
Positive fair value (asset)	0	0	0
Negative fair value (liability)	0	0	0

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.24. Standardised approach - counterparty credit risk exposures by exposure category and risk weight [Template EU CCR3]

		2018												
Exposure classes		Risk weight											Total	Of which unrated
		0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Inne kwestie		
1	Central governments or central banks	28	0	0	0	0	0	0	0	0	0	0	**28**	28
2	Regional government or local authorities	0	0	0	0	0	0	0	0	0	0	0	**0**	0
3	Public sector entities	0	0	0	0	0	0	0	0	0	0	0	**0**	0
4	Multilateral development banks	0	0	0	0	0	0	0	0	0	0	0	**0**	0
5	International organisations	0	0	0	0	0	0	0	0	0	0	0	**0**	0
6	Institutions	729	0	0	0	308	650	0	0	2	0	0	**1 688**	729
7	Corporates	0	0	0	0	0	0	0	0	1 027	0	0	**1 027**	7
8	Retail	0	0	0	0	0	0	0	2	0	0	0	**2**	2
9	Institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0	0	0	0	0	**0**	0
10	Other items	0	0	0	0	0	0	0	0	0		0	**0**	0
11	**Total**	**757**	**0**	**0**	**0**	**308**	**650**	**0**	**2**	**1 028**	**0**	**0**	**2 745**	**765**

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

2.5.14. Exposure to securitisation positions

Detailed information in this respect can be found in consolidated financial statements of the Bank Group for the year ended 31 December 2018, which was published on 4 March 2019 (Note 74: Information on securitisation of the lease portfolio and package sale of receivables). As a result of securitization, there was no risk transfer outside the Bank Group.

2.5.15. Exposures in equities not included in the trading book

PKO Bank Polski SA and its subsidiaries included in prudential consolidation have equity exposures[12] in other entities, which are classified in the banking book.

The exposures included in the banking book as at 31 December 2018, due to the nature of the exposure and the purpose of the acquisition, are broken down into the following groups[13]:

1) exposure to subsidiaries not covered by prudential consolidation - this group includes companies that complement the Bank's basic offer with insurance services and provide services in the area of information and computer technologies, closed-end investment funds set up to optimize management and sales activities related to supervised assets, and also new entities that became part of the Bank Group in 2018,
2) the Bank's exposures to financial companies and financial market infrastructure companies – investments in companies being joint-ventures, associates and minority-interest companies which provide financial services or services supporting the development of financial markets; this group includes Centrum Elektronicznych Usług Płatniczych eService Sp. z o.o., together with which PKO Bank Polski SA offers comprehensive services relating to POS terminals and settlement of transactions made with the use of these terminals and payment instruments,
3) units in investment funds - mainly investments of PKO Towarzystwo Funduszy Inwestycyjnych SA (PKO TFI SA) in units of new investment funds managed by it; assets are acquired to provide the funds required to establish a fund,
4) other equity exposures - the Bank's investments and investments of subsidiaries included in prudential consolidation, mostly intended for sale; this group includes shares acquired as part of the restructuring of loan receivables, including collected collateral.

Table 2.25 Equity exposures - banking book

	2018		2017	
	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)	1 633	1 590	1 093	1 102
Including: shares in entities listed on regulated market	0	0	19	22
Shares in other entities, this includes also equity investments in entities revealed as fixed assets items for sale**	25	25	339	343
Equity securities	284	284	176	263
Shares in entities listed on regulated market	43	43	49	49
Shares in entities not listed on regulated market***	241	241	127	214
Participation units in PKO TFI SA investment funds	5	5	5	5
Participation units in collective investment undertakings of PKO Banku Polski SA	0	0	252	252
Razem	1 947	1 903	1 864	1 964

* The estimated fair value, including for shares admitted to trading on a regulated market, is market value; 2017 and 2018 values include fair value measurement of financial assets of non-public entities according to new valuation models developed for the purposes of implementing IFRS 9.
** The exposure disclosed in 2017 under non-current assets held for sale was reclassified in 2018 to subsidiaries accounted for under the equity method in prudential consolidation.
*** This line also includes shares not admitted to trading on the regulated market of public companies.

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

Investments in subsidiaries not included in prudential consolidation, joint ventures and associates are measured using the equity method, except when they are reported as non-current assets held for sale. The Bank Group's share in the financial results of the entities listed above from the date of acquisition has been recognised in the profit and loss account, and its share in changes in other comprehensive income from the date of acquisition has been recognised in other comprehensive income. The carrying amount of investments is adjusted by total changes in individual equity items from the date of acquisition.

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

Investments in subsidiaries not included in prudential consolidation, companies constituting joint ventures and associates disclosed as non-current assets held for sale are measured at the lower of the carrying amount or at fair value less costs to sell.

[12] This information concerns equity exposures in the form of shares, units, investment certificates and participation units in collective investment undertakings. The Bank classifies the following in the banking book under prudential consolidation: subsidiaries not covered by prudential consolidation, associates, joint ventures and the aforementioned securities and equity securities being financial assets not held for trading.
[13] Until April 2018, the Bank had equity exposure in The 2020 European Fund for Energy, Climate Change and Infrastructure (Marguerite I Fund) - the fund units disclosed as participation units in collective investment undertakings. The fund units have been sold.

Shares in other companies are measured at fair value determined according to the 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[14].

Units in investment funds and participation units in collective investment undertakings are measured at fair value with the effect 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 Group for 2018 in the notes on the fair value hierarchy.

In 2018, the Bank Group (according to prudential consolidation) realized the accumulated gains on the disposal of securities constituting equity exposures of the banking book in the amount of PLN 70.3 million. The total value of unrealized gains of the Bank Group on the revaluation of the equity exposure of the banking book (as at the end of 2018, it amounted to PLN 401.7 million). The aforementioned value includes the Bank Group's unrealized gain of PLN 178.5 million on account of revaluation to the fair value of the purchase price of shares in one of the companies.

In 2018, PKO Bank Polski SA received a gross dividend in the total amount of PLN 33.6 million on account of shares constituting equity exposures of the banking book.

2.6. Interest rate risk

2.6.1. Introduction

Interest rate risk is the risk of loss on the Bank Group's balance sheet and off-balance sheet items sensitive to interest rate changes, resulting from unfavourable interest rate changes on the market. Interest rate risk is actively managed by the Bank that results from both positions which belong to trading book and positions which are not the part of trading book.

The purpose of interest rate risk management is to mitigate the possible losses due to changes in the market interest rates to an acceptable level through appropriate shaping of the structure of the balance sheet and off-balance sheet items.

2.6.2. Interest rate risk identification, measurement and assessment

Interest rate risk identification consists in identification of its current and potential sources and estimation of significance of its potential impact on the Bank's and the Bank Group's activities.

In order to determine the level of interest rate risk, the Bank uses interest income sensitivity measure, economic value sensitivity measure (BPV), the value at risk model (VaR), shocks analysis and repricing gaps.

The process and organization of interest rate risk management in the Bank Group are compliant 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 Bank's and the Capital Group's risk profile as well as the most important actions taken in the area of interest rate risk management. The Supervisory Board also approves reports confirming compliance between the interest rate risk profile and the tolerance to the interest rate risk set at the level of the Bank and the Capital Group. The Management Board is responsible for managing the Bank's interest rate risk, including supervision and monitoring of the actions taken by the Bank in the area of interest rate risk management. The Management Board adopts internal regulations on interest rate risk management.

The risk management Strategy of PKO Bank Polski SA and the PKO Bank Polski SA Group defines an acceptable level of interest rate risk in both the Bank and the Bank Group and defines the principles of interest rate risk management in the Bank Group. Additionally, the interest rate risk management Strategy specifies the approach to interest rate risk management in this portfolio.

The assignment of transactions to business models according to IFRS 9 and the breakdown between the trading and banking portfolio is determined by the Bank's Investment Policy.

The Bank supervises the functioning of interest rate risk management in individual subsidiaries of the Bank 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 individual entities within the framework of the interest rate risk monitoring and reporting system at the level of the Capital Group.

The interest rate risk generated by the Bank's core activity is transferred using a transfer pricing system for the purpose of centralized management of this risk. The Bank's business model assumes active interest rate risk management by means of appropriate shaping of the product offer and use of available financial instruments within the limits adopted at the Bank and threshold values for interest rate risk.

In order to estimate the interest rate sensitivity Bank uses the measurement of interest revenue, measurement of sensitivity of economic value, model of value at risk (VaR), shock analysis and repricing gaps.

The interest income sensitivity is a measure defining a change in the interest income resulting from stepwise interest rate changes. The measure takes into account the different repricing dates of individual interest items in each of selected time horizons.

Economic value sensitivity measure (Basis Point Value – BPV) is defined as fair value change of the financial instrument caused by parallel upward movement of the profitability curves by one basis point.

The value at risk (VaR) is the potential loss resulting from maintained structure of balance sheet and off-balance sheet items and changes in interest rates or as potential value of loss on the maintained currency positions due to changes in interest rates or foreign exchange rates, with an assumed probability level and taking account of a correlation between risk factors. VaR for market risk management purposes is calculated with the 99%

[14] The principles described above are effective from January 1, 2018

confidence level and 10-day holding. For interest rate risk management purposes, the following, among other things, are applied: the VaR value determined for individual financial instruments and for the Bank's portfolios, and by individual types of business activity of the Bank.

Shocks analysis (stress tests, crash tests) are used to assess potential losses resulting from the maintained structure of the balance sheet and off-balance sheet items where market situation occurs that is not described in a standard manner using the statistical measures. Additionally, the Bank utilized shock analysis in the form of reverse stress tests related to interest rate risk.

The following scenarios are applied at the Bank:
1) hypothetical stress tests – within which fluctuations in interest rates are assumed arbitrarily: parallel shift of the interest rate curves for the individual currencies by ±50 bps, by ±100 bps, by ±200 bps, values over 200 bps and deflection scenarios (nonparallel peak- and twist- type deflections) of profitability curves.
2) historical stress tests – within which fluctuations in interest rates are assumed on the basis of fluctuations in interest rates observed in the past, including: the biggest historical change, deflection of the interest rate curve, the biggest historical nonparallel movement of interest rate curves for securities and for derivatives hedging those securities,
3) crash tests – within which fluctuations in interest rates are assumed on the basis of fluctuations in interest rates observed in the past so as to maximise the Bank's potential loss,
4) reverse stress tests – which the purpose is to determine such profitability curves movement scenario that results will be corresponding with given change of the Bank's balance sheet and off-balance sheet items.

The repricing gap is the difference between the current value of assets and liabilities positions exposed to interest rate risk, reprised in a given time interval, with the items shown as at the transaction date.

In the process of interest rate risk measurement, in relation to credit and deposit balances with indefinite repricing, the Bank assumed the approach based on replicated interest rate profiles, while taking account of instability of balances of this products (defined on the basis of their past structure). Moreover, the Bank cyclically monitors the impact of past due repayment of credits on interest rate risk measures – currently considered immaterial, based on the latest analysis.

2.6.3. Interest rate risk monitoring

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

2.6.4. Monitoring the interest rate risk

The Bank's interest rate risk is monitored on a daily basis, while the Capital Group is monitored on a monthly basis. In 2018, interest rate risk of the Bank Group was determined mainly by the mismatch of repricing dates of assets and liabilities.

As at 31 December 2018 the mismatch of reassessment dates of the Bank Group in case of PLN interest rate and USD, EUR and CHF interest rate comprised mainly the Bank's mismatch. The mismatch of interest rate repricing dates for these currencies that was generated by the other Group entities had no significant impact on the interest rate risk for the entire Group and consequently, it did not change its risk profile significantly.

The Tables 2.26 – 2.29 present the repricing gaps of the Bank and the Group as at 31 December 2018 by currencies.

Table 2.26 PLN repricing gap (in PLN million)

2018	0-1 month	1-3 months	3-6 months	6-12 months	1-2 years	2-5 years	over 5 years	Total
PKO Bank Polski SA								
Periodic gap	36 321	31 150	-5 437	-5 381	-3 335	-28 350	4 909	29 877
Cummulative gap	36 321	67 471	62 034	56 653	53 318	24 968	29 877	0
Bank subsidiaries								
Periodic gap	-1 074	3 168	-1 909	75	72	53	5	390
Cumulative gap	-1 074	2 094	185	260	332	385	390	0
Total - Periodic gap	35 247	34 318	-7 346	-5 306	-3 263	-28 297	4 915	30 269
Total - Cumulative gap	35 247	69 566	62 219	56 914	53 651	25 354	30 269	0

Table 2.27 USD repricing gap (in USD million)

2018	0-1 month	1-3 months	3-6 months	6-12 months	1-2 years	2-5 years	over 5 years	Total
PKO Bank Polski SA								
Periodic gap	1 157	-779	-166	-235	-113	-101	0	-237
Cummulative gap	1 157	378	212	-23	-136	-237	-237	0
Bank subsidiaries								
Periodic gap	1	-2	-2	0	9	2	1	10
Cumulative gap	1	0	-2	-2	7	10	10	0
Total - Periodic gap	1 158	-780	-168	-235	-104	-98	1	-226
Total - Cumulative gap	1 158	378	210	-25	-129	-227	-226	0

Table 2.28 EUR repricing gap (in EUR million)

2018	0-1 month	1-3 months	3-6 months	6-12 months	1-2 years	2-5 years	over 5 years	Total
PKO Bank Polski SA								
Periodic gap	2 111	-1 618	-82	-260	-234	-74	-18	-175
Cummulative gap	2 111	493	411	151	-83	-157	-175	0
Bank subsidiaries								
Periodic gap	70	-55	-4	8	6	4	0	29
Cumulative gap	70	15	11	20	25	29	29	0
Total - Periodic gap	2 181	-1 673	-86	-251	-228	-70	-17	-145
Total - Cumulative gap	2 181	508	422	171	-57	-128	-145	0

Table 2.29 CHF repricing gap (in CHF million)

2018	0-1 month	1-3 months	3-6 months	6-12 months	1-2 years	2-5 years	over 5 years	Total
PKO Bank Polski SA								
Periodic gap	-731	1 093	79	-15	-3	-125	0	298
Cummulative gap	-731	362	441	426	423	298	298	0
Bank subsidiaries								
Periodic gap	1	-2	0	0	0	0	0	-1
Cumulative gap	1	-1	-1	-1	-1	-1	-1	0
Total - Periodic gap	-730	1 091	79	-15	-3	-125	0	298
Total - Cumulative gap	-730	362	441	426	423	298	298	0

The Bank's VaR and analysis of stress test scenarios of the Bank Group's exposure to the interest rate risk as at 31 December 2018 and 31 December 2017 respectively are presented below.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.30 Sensitivity of financial assets exposed to interest rate risk

	2018		2017	
	10-day VaR	Stress-test ±200 p.b.*	10-day VaR	Stress-test ±200 p.b.*
PKO Bank Polski SA	241	1 531	301	2 097
Group subsidiaries	0	1 552	0	2 151

*The table presents the absolute value of most adverse stress test among all scenarios: shift of FX rates in particular currencies by 200 BPS up and by 200 BPS down

As at 31 December 2018, the 10-day VaR on the interest rate was PLN 241.5 million for the Bank. As of 31 December 2017, the Bank's VaR was PLN 301.5 million.

The results of stress tests showing changes in the market value resulting from shifts of the yield curves by individual currencies are presented in Table 2.31.

Table 2.31 Tests results* - value of Bank's portfolio as a result of parallel shift of interest rate curves by ±200 base points (depending on which scenario generates greater loss)

	Bank		Group subsidiaries		Total	
Currency	2018	2017	2018	2017	2018	2017
PLN	-1 346	-1 809	-3	-48	-1 349	-1 857
EUR	-81	-142	-11	-5	-92	-147
USD	-40	-30	-7	-1	-47	-31
CHF	-70	-111	0	0	-70	-111
GBP	0	0	0	0	0	0

* Main foreign currency values have been shown in PLN equivalents

Given the nature of business activity of the other entities of the Group generating significant interest rate risk and the specific nature of the market on which they operate, the Group does not determine the consolidated VaR. The companies use their own risk measures to manage interest rate risk. The 10-day VaR measure for interest rate for main currencies is used by KREDOBANK SA, its value as at 31 December 2018 was PLN 12.2 million, while as at 31 December 2017 – ca. PLN 9.6 million.

2.6.5. Interest rate risk reporting

The Bank prepares daily, weekly, monthly and quarterly interest rate risk reports, but the monthly and quarterly reports refer also to the Bank Group. The reports contain information on interest rate risk exposure and on the risk limits utilisation. Assessment of interest rate risk for the Bank is prepared on a daily basis. The recipients of such reports are mainly ALCO, RC, the Management Board, Supervisory Board's Risk Committee and Supervisory Board.

2.6.6. Management actions related to interest rate risk

The basic interest rate management tools used in the Bank Group are as follows:
1) interest rate risk management procedures,
2) limits and threshold values by individual market risk types,
3) defining characteristics and level of exposure for the interest rate risk for particular types of products,
4) defining the allowed types of transactions exposed to interest rate risk.

The Group defined limits and thresholds for interest rate risk, that is among other, interest income sensitivity, economic value sensitivity as well as limits and thresholds of losses, and limits for instruments sensitive to interest rate fluctuations.

The methods of interest rate management in the Group entities are defined by internal regulations that are implemented by companies in which the interest rate risk is significant. Such provisions are developed with consultations with the Bank and taking account of the recommendations of the Bank.

The acceptable level of risk at both the Bank and the Bank's Group level is determined within the framework of the Risk Management Strategy in PKO Bank Polski SA and the PKO Bank Polski SA Group.

At least once a year, the Bank reviews the risk management process to verify the consistency of the interest rate risk management process with the process of managing other risks, regulatory requirements and the degree of adjustment to the scale and complexity of the interest rate risk to which the Bank is exposed, ensuring 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

FX risk is the risk of loss due to changes in the foreign exchange rates, generated through maintaining open currency positions in individual currencies.

The purpose of FX risk management is to mitigate possible losses resulting from changes of FX rates to an acceptable level through appropriate structuring of balance sheet and off-balance sheet items. The acceptable level of risk for both the Bank and the Bank Group is determined within the framework of the Risk Management Strategy of PKO Bank Polski SA and the PKO Bank Polski SA Group, introduced by the Management Board and approved by the Supervisory Board.

The overall structure of risk management, including currency risk, is included in Chapter 2.1 of this Report. According to the currency risk management Principles, introduced by the Management Board, the currency position generated by banking operations (ex. repayment of foreign currency loan in PLN by the customer, currency conversion) is transferred to the Treasury Department on a daily basis. As a consequence, the Bank's currency position at the end of the day may consist only of the uncovered position in banking operations generated on that day and of a limited currency position derived from trading activities, ensuring that the Bank's exposure to currency risk remains low

2.7.2. Foreign exchange risk identification, measurement and assessment

FX exchange risk identification consists in identification of both current and potential risk sources and estimation of the significance level of its potential impact on the Bank's and the Bank Group's activities.

The process and organization of currency risk management in the Bank Group are compliant with the principles described in section 2.1.

The currency risk management process is supervised by the Supervisory Board, which regularly receives information on the Bank's and the Capital Group's risk profile as well as the most important actions taken in the area of interest rate risk management. The Supervisory Board also approves reports confirming compliance between the currency risk profile and the tolerance to the currency risk set at the level of the Bank and the Capital Group. The Management Board is responsible for managing the Bank's currency risk, including supervision and monitoring of the actions taken by the Bank in the area of currency risk management. The Management Board adopts internal regulations on currency risk management.

The risk management strategy at PKO Bank Polski SA and the PKO Bank Polski SA Group defines an acceptable level of currency risk in both the Bank and the Bank Group and defines the principles of currency risk management in the Bank Capital Group.

The Bank supervises the functioning of currency risk management in individual subsidiaries of the Bank Group.

As part of the supervision, the Bank influences the methods of currency risk management in these entities and supports their development. The Bank also takes into account the level of currency risk in the operations of individual entities within the framework of the currency risk monitoring and reporting system at the level of the Capital Group.

In order to determine the level of FX rate risk, the Bank uses the value at risk model (VaR) and shock analysis.

Shock analysis (stress tests and crash tests) for FX risk are used to assess potential losses on taken currency positions where extraordinary market situation occurs that is not described in a standard manner using the statistical measures. The shock analysis in the form of reverse stress test for foreign exchange risk were launched in the Bank in 2016.

There are stress test analysis, crash test analysis and reverse stress test analysis applied at the Bank with the following foreign exchange rates changes scenarios:

1) hypothetical scenarios – within which the historical appreciation or depreciation of foreign exchange rates is assumed (by 20% and 50%),
2) historical scenarios – scenarios of fluctuations in exchange rates observed in the past,
3) reverse stress tests – exploring potential changes in the foreign exchange rates resulting in the Bank's losses at the specified level of the own funds.

2.7.3. The foreign exchange risk control

The main instruments to control FX risk for both the Bank and the Bank Group are strategic levels of the foreign exchange risk and the acceptable level of the foreign exchange risk exposure of the particular Bank's portfolios defined by limits introduced by ALCO.

The Bank Group defined limits and thresholds for FX risk, that is among others, FX positions, 10-day VaR and daily losses on the FX market.

2.7.4. Monitoring of the foreign exchange risk

In 2018, the FX risk of the Bank Group was low as it is the Bank's policy to close currency positions in the main currencies, that is EUR, USD, CHF and GBP. 10-day VaR for FX position of the Bank at the end of 2018 amounted to PLN 3.7 million. The VaR and stress-test analysis in respect of the Bank's and the Bank Group's financial assets (total for all currencies) exposed to FX risk as at 31 December 2018 and 31 December 2017 respectively was as follows:

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.32 Sensitivity of financial assets exposed to FX risk

	2018		2017	
	10-day VaR	Stress-test ±20%*	10-day VaR	Stress-test ±20%*
PKO Bank Polski SA	4	229	3	184
Group subsidiaries	0	225	0	3

* The table presents the absolute value of most adverse stress test among all scenarios: PLN appreciation by 20% and PLN depreciation by 20%

As in the case of interest rate risk, given the nature of business activity of the Bank Group entities generating significant FX risk and the specific nature of the market on which they operate, the Bank does not determine the consolidated VaR sensitivity measure. The companies use their own risk measures to manage FX risk. The 10-day VaR measure is used by KREDOBANK SA, as at 31 December 2018 its value was ca. PLN 0.24 million while as at 31 December 2017 – PLN 0.11 million.

2.7.5. Reporting of the foreign exchange risk

The Bank prepares daily, weekly, monthly and quarterly FX risk reports, but the monthly and quarterly reports refer also to the Bank Group. The reports contain information on FX risk exposure and on the use of these risk limits. The recipients of such reports are mainly ALCO, RC, the Management Board, Supervisory Board's Risk Committee and Supervisory Board.

2.7.6. Management actions related to foreign exchange risk

The basic FX risk management tools used in the Bank Group are as follows:
1) FX risk management procedures,
2) limits and thresholds for FX risk,
3) defining the allowed types of FX transactions and FX rates used in such transactions.

The methods of FX risk management in the Bank Group entities are defined by internal regulations implemented by companies in which FX risk is significant. Such regulations are prepared after consultation with the Bank and taking into account recommendations of the Bank.

The acceptable level of currency risk at both the Bank and the Bank Group level is determined within the framework of the Risk Management Strategy of PKO Bank Polski SA and the PKO Bank Polski SA Group.

At least once a year, the Bank conducts a review of the risk management process to verify the consistency of the currency risk management process with the process of managing other risks, regulatory requirements and the degree of adjustment to the scale and complexity of currency risk to which the Bank is exposed, which ensures that hedging instruments and risk mitigation measures continue to be effective. In addition, the effectiveness of the risk management process is constantly monitored in the reports specified in Section 2.7.5 of this Report.

2.8. Liquidity risk including financing risk

2.8.1. Introduction

Liquidity risk is the risk of inability of timely discharge of liabilities due to absence of liquid cash and equivalents. The lack of liquidity may result from an improper balance sheet structure, cash flows mismatch, non-payment by contractors, and sudden withdrawal of funds by the clients or other market events.

The purpose of liquidity risk management is to secure necessary means through appropriate structuring of balance sheet and off-balance sheet items to discharge the current and future (also potential) liabilities to the nature of business activity and any needs that may result from a changing market environment.

Liquidity risk management in the Bank includes:
1) financing risk management, which includes the risk of loss of financing, the risk of inability of renewal of financing and loss of access to new sources of financing,
2) product liquidity risk, for calculation of which, the cost of sale of liquid securities is assessed, later used in main risk measures, liquidity and stress testing as well as within internal transfer prices system.

The process and organization of liquidity risk management in the Bank Group are compliant with the principles described in section 2.1.

The liquidity risk management process is supervised by the Supervisory Board, which regularly receives information on the Bank's and the Capital Group's risk profile as well as the most important actions taken in the area of interest rate risk management. The Supervisory Board also approves reports confirming compliance between the liquidity risk profile and the tolerance to the liquidity risk set at the level of the Bank and the Capital Group. The Management Board is responsible for managing the Bank's liquidity risk, including supervision and monitoring of the actions taken by the Bank in the area of liquidity risk management. The Management Board adopts internal regulations on liquidity risk management.

The risk management strategy at PKO Bank Polski SA and the PKO Bank Polski SA Group defines an acceptable level of liquidity risk in both the Bank and the Bank Group and defines the principles of liquidity risk management in the Bank Capital Group.

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

The Bank's treasury functions and liquidity risk management are distributed between its Corporate Banking and Investment Areas, whereas both of these functions are centralized in selected Group entities. Internal liquidity transfer within the Group is restricted to the level of reported need for financing and previously granted limits.

The Bank Group has different sorts of the long-term, external financing sources including credits acquired from international financial institutions, bond issuances on the domestic and international market related to The Own Bond Issuance Project of PKO Bank Polski SA and Euro Medium Term Notes (EMTN) programme, bond issuances on the foreign market through PKO Finance AB related to EMTN programme and bonds issued by PKO Bank Hipoteczny SA and asset securitisation by PKO Leasing S.A.

2.8.2. Liquidity risk identification, measurement and assessment

The liquidity risk identification consists in identification of both current and potential risk sources and estimation of the significance level of its potential impact on the Bank's and the Bank Group's activities.

The Bank Group's liquidity policy is based on maintenance of adequate level of liquidity surplus by increase in the liquid securities portfolio and stable financing sources (in particular stable deposit base). Moreover, money market instruments, including operations of the open market of the National Bank of Poland are used for liquidity risk management.

The Bank Group uses, for instance the following liquidity risk measures:
1) contractual liquidity gap – listing of all balance sheet items by their adjusted maturity,
2) adjusted liquidity gap – listing of individual balance sheet categories by their adjusted maturity,
3) Liquidity Coverage Ratio (LCR) – defining the relation of high-quality liquid assets to net outflows in the 30 days horizon in stress conditions (supervisory measure specified in the CRR Regulation),
4) Net Stable Funding Ratio (NSFR) - a measure defining the relationship of items providing stable funding to items requiring stable financing,
5) liquidity reserve – the difference between the most liquid assets and expected and potential liabilities that mature in a given period,
6) liquidity surplus – a measure defining the Bank's ability to maintain liquidity for each day of the "survival horizon" period, in adverse conditions, taking into account scenarios of various severity and probability,
7) national supervisory ratios M1-M4 - measures specified in resolution 386/2008 of the Polish Financial Supervision Authority regarding liquidity standards for the banks,
8) stable financing to non-liquid assets ratio indicator – ratio of stable deposits, own funds and stable market financing sources to loans, fixed assets and non-liquid securities,
9) long-term market financing sources concentration ratio – relation of long-term financing sources, grouped by defined period of maturity to deposit base and all long-term financial sources,
10) early warning indicators – monitored with a purpose of early detection of adverse events of probable negative impact on liquidity of the Bank or the financial sector,
11) stability measures of deposit and loan portfolio,
12) liquidity stress tests.

The main goal of the stress tests performed under the liquidity risk framework is to identify and determine main factors constituting the greatest risk to the Bank's liquidity and to assess their impact on the Bank's liquidity, should they materialise.

The following scenarios are applied at the Bank:

1) survival horizon stress tests,
2) scenarios of mass withdrawal of deposits by non-financial clients,
3) scenarios of sensitivity of in- and outflows to changing market conditions,
4) scenarios of impact of stress tests on expected losses on mortgage portfolio,
5) scenarios of forecasted liquidity risk in shock conditions,
6) scenarios of additional collateral for derivatives concluded in the event of a downgrade of the Bank's credit rating,
7) reverse stress tests,

Results of stress tests are used in particular in the:

1) monitoring of Bank's exposure to liquidity risk,
2) process of establishment of limits and threshold values set on the liquidity risk measures,
3) control over liquidity maintenance for each day of the "survival horizon" period,
4) planning financial process in the Bank,
5) determination of symptoms triggering liquidity contingency plan in the Bank.

2.8.3. The liquidity risk control

The control of the liquidity risk encompasses establishing the strategic limits of tolerance for risk, limits and thresholds that specified acceptable level of risk exposure for the Bank Group entities of the current, mid- and long-term liquidity., adjusted to the scale and complexity of both the Bank and the Bank Group.

2.8.4. Monitoring the liquidity risk

The adjusted liquidity gaps presented below include a list of matured assets, payable liabilities, and selected balance sheet items for a proper presentation of the liquidity status of the Bank and the companies of the Bank Group.

Subject to adjustment were the following:
1) the core deposits (interbank market excluded) and their payability - clients' deposits (current accounts, savings accounts and fixed term deposits) have been classified to appropriate tenors according to their stability (maintenance of an appropriate balance or revolving after payability),
2) the core deposits on the current accounts of non-financial entities and their maturity - overdrafts have been classified to appropriate tenors according to their possibility of revolving,
3) liquid securities and their maturity – liquid securities have been classified into the tenor of up to 7 days according to the possible date of their liquidation (pledging, sale).

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

The tables below present data concerning periodic gap and cumulative periodic gap of the Bank and of the companies of the Bank Group as at 31 December 2018 and 31 December 2017 respectively.

Table 2.33 Adjusted liquidity gap* - assets and liabilities

2018	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	22 921	25 839	-1 358	1 498	11 224	17 386	21 296	-98 807
Cummulative gap	22 921	48 760	47 402	48 900	60 124	77 511	98 807	0
Bank subsidiaries								
Periodic gap	85	4 294	-1 285	-1 472	568	-4 412	-6 442	8 664
Cumulative gap	85	4 379	3 094	1 623	2 191	-2 221	-8 664	0
Total - Periodic gap	**23 006**	**30 133**	**-2 643**	**26**	**11 792**	**12 974**	**14 854**	**-90 143**
Total - Cumulative gap	**23 006**	**53 140**	**50 497**	**50 523**	**62 315**	**75 289**	**90 143**	**0**

2017	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	15 256	22 934	-1 927	1 912	12 096	10 242	34 258	-94 771
Cummulative gap	15 256	38 190	36 263	38 175	50 271	60 513	94 771	-
Bank subsidiaries								
Periodic gap	755	4 286	1 056	-2 089	-6 006	-92	-3 858	5 947
Cumulative gap	755	5 041	6 097	4 008	-1 997	-2 090	-5 947	-
Total - Periodic gap	**16 011**	**27 220**	**-871**	**-177**	**6 091**	**10 150**	**30 401**	**-88 824**
Total - Cumulative gap	**16 011**	**43 231**	**42 360**	**42 182**	**48 273**	**58 423**	**88 824**	**0**

* Set as a sum of real-terms liquidity gap of PKO Bank Polski SA and contractual liquidity gaps of the other companies of the Bank Group

In all tenors, the cumulative adjusted liquidity gap of the Bank Group showed positive values. This means a surplus of matured assets over matured liabilities.

The table below presents data concerning contractual off-balance sheet liquidity gap of derivatives of the Bank Group.

Table 2.34. Contractual off-balance sheet liquidity gap for derivatives for the Bank Group

2018	0-1 month	1-3 months	3-6 months	6-12 months	1-2 years	2-5 years	over 5 years	Total
Total - Periodic gap	-107	72	36	-355	343	982	35	1 006
Total - Cumulative gap	-107	-35	1	-354	-11	972	1 006	-
2017	**0-1 month**	**1-3 months**	**3-6 months**	**6-12 months**	**1-2 years**	**2-5 years**	**over 5 years**	**Total**
Total - Periodic gap	-120	7	-43	96	551	1 389	500	2 380
Total - Cumulative gap	-120	-113	-156	-60	491	1 880	2 380	-

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

The table below presents the Bank's liquidity reserve and liquidity surplus as at 31 December 2018 and 31 December 2017.

Table 2.35. Bank's liquidity surplus

SENSITIVITY MEASURE	2018	2017
Liquidity surplus in 30-day horizon	21 323	14 318

The Bank maintains high and safe level of high quality unencumbered liquid assets which are the hedge in case of scenarios of extreme liquidity (liquidity surplus) accomplishment. Easy to dispose assets includes: cash (reduced by minimal balance kept at the ATM's and in the Bank's branches), funds on the Bank's nostro accounts (excepted the average reserves required level), interbank deposits located in the others banks and liquid securities.

Table 2.36 Liquidity surplus items

CATEGORY	2018	2017
Cash	5 075	4 617
Nostro accounts and deposits	16 335	6 005
Treasury bills and bonds	39 884	33 134
Monetary bills	2 900	4 199
Other liquid securities	988	1 627

The table below represents supervisory liquidity measures as of 31 December 2018 and 31 December 2017.

Table 2.37 Additional liquidity measures [LIQ 2 template]

PKO Bank Polski SA		
Measure	2018	2017
M3	17.44	13.92
M4	1.22	1.19
Bank subsidiaries		
Measure	2018	2017
LCR	132.0%	156.0%
NSFR	117.7%	113.9%

During the period ranging from 31 December 2017 to 31 December 2018 values of supervisory measures remained above the supervisory limits.

The structure of the Bank's funding has been described in the Financial Statement for 2018, published on the 4 March 2019 (note 68. Liquidity risk management, Financial sources structure). Bank uses strategy which consists of using as the basic source of financing in every currency the stable part of deposit base. The EUR, CHF, PLN and USD denominated bond issues as well as mortgage bonds denominated in EUR and PLN constitute a significant portion of financing of the Bank and the Bank Group (in particular in the case of foreign currencies). Surplus funds obtained from the market in a given currency (securities issues) are used to manage the Bank's currency liquidity needs using derivative transactions (mainly CIRS, FX swap).

Table 2.38. – Liquidity Coverage Ratio for the Capital Group (average for 2018) [LIQ1 template]

		2018							
Scope of consolidation (~~solo~~/consolidated) Currency and units (PLN million)		Total unweighted value (avg)				Total weighted vlaue (avg)			
Quarter ending on (DD Month YYY)		**31-03-2018**	**30-06-2018**	**30-09-2018**	**31-12-2018**	**31-03-2018**	**30-06-2018**	**30-09-2018**	**31-12-2018**
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)					46 128	46 504	46 295	47 203
CASH-OUTFLOWS									
2	Retail deposits and deposits from small business customers, of which:	149 323	149 362	149 772	151 601	10 446	10 453	10 466	10 712
3	*Stable deposits*	109 367	110 097	111 073	111 663	5 468	5 505	5 554	5 583
4	*Less stable deposits*	39 951	39 256	38 684	39 920	4 973	4 939	4 898	5 110
5	Unsecured wholesale funding	59 957	63 046	65 953	68 806	17 479	18 253	18 913	20 557
6	*Operational deposits (all counterparties) and deposits in networks of cooperative banks*	52 652	55 562	58 505	54 785	12 099	12 501	12 893	11 811
7	*Non-operational deposits (all counterparties)*	6 537	6 647	6 700	13 192	4 612	4 915	5 271	7 917
8	*Unsecured debt*	767	837	748	829	767	837	748	829
9	Secured wholesale funding					0	1	3	3
10	Additional requirements	48 938	46 129	45 605	46 689	8 929	8 500	8 466	8 631
11	*Outflows related to derivative exposures and other collateral requirements*	3 403	3 684	3 862	3 950	3 403	3 684	3 862	3 950
12	*Outflows related to loss of funding on debt products*	45 535	42 446	41 743	42 739	5 525	4 816	4 605	4 682
13	*Credit and liquidity facilities*	45 535	42 446	41 743	42 739	5 525	4 816	4 605	4 682
14	Other contractual funding obligations	2 104	2 401	2 378	2 329	1 319	1 610	1 520	1 454
15	Other contingent funding obligations	17 523	18 283	18 726	18 710	3 868	3 644	3 657	3 656
16	**TOTAL CASH OUTFLOWS**					42 040	42 461	43 025	45 014
CASH-INFLOWS									
17	Secured lending (eg reverse repos)	847	610	644	478	59	43	45	33
18	Inflows from fully performing exposures	8 354	8 894	10 003	11 267	6 095	6 690	7 634	8 745
19	Other cash inflows	2 147	1 983	1 928	1 761	1 498	1 305	1 219	1 023
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	11 348	11 487	12 575	13 505	7 652	8 038	8 898	9 802
EU-20a	*Fully exempt inflows*	0	0	0	0	0	0	0	0
EU-20b	*Inflows subject to 90% cap*	0	0	0	0	0	0	0	0
EU-20c	*Inflows Subject to 75% Cap*	11 348	11 487	12 575	13 505	7 652	8 038	8 898	9 802
		TOTAL ADJUSTED VALUE							
21	LIQUIDITY BUFFER					46 128	46 504	46 295	47 203
22	TOTAL NET CASH OUTFLOWS					34 388	34 424	34 127	35 213
23	LIQUIDITY COVERAGE RATIO (%)					135%	135%	136%	134%

The net liquidity coverage ratio is determined individually for each entity of the Bank Group subject to the requirement to determine this ratio and on a consolidated basis for the Capital Group. The list of companies included in the consolidation is determined in accordance with the scope of prudential consolidation.

As at the end of December 2018, the Bank Group had 3 currencies for which the value of liabilities in a given currency to the total value of liabilities in all currencies amounted to at least 5%: PLN, EUR and CHF. The Capital Group had a LCR above 100% for all foreign currencies in total and for PLN currency.

As at the end of December 2018, outflows from derivative instruments calculated in accordance with the CRR Regulation amounted to PLN 0.5 billion, while the impact of the unfavourable market scenario on derivatives, financing transactions and other agreements accounted for 0.8% of the total unweighted outflows recognized in the liquidity coverage ratio.

At the end of December 2018, the Bank provided PKO Bank Hipoteczny SA with standby line of credit in the amount of PLN 1.5 billion, of which PLN 0.6 billion remained unutilized.

2.8.5. Liquidity risk reporting

The Bank prepares daily, weekly, monthly and quarterly liquidity risk reports, but the monthly and quarterly reports refer also to the Bank Group. The reports contain information on liquidity risk exposure and on the risk limits utilisation. The recipients of such reports are mainly ALCO, RC, the Management Board, Supervisory Board's Risk Committee and the Supervisory Board.

2.8.6. Management actions related to liquidity risk

The basic liquidity risk management tools used by the Bank Group are as follows:
1) liquidity risk management procedures including contingency plans,
2) limits and threshold values for liquidity risk,
3) deposit, investment, derivative transactions, including structured FX transactions and security sell and buy transactions,
4) transactions ensuring long-term financing of credit activities.

Liquidity risk management methods in the Group's entities are defined in the internal regulations introduced by the companies for which the liquidity risk is significant.

These regulations have been developed after consultations with the Bank and after considering the recommendations of the Bank.

The acceptable level of risk at both the Bank and the Bank's Group level is determined within the framework of the Risk Management Strategy in PKO Bank Polski SA and the PKO Bank Polski SA Group.

At least once a year, the Bank reviews the risk management process (with regard to ILAAP guidelines) if the liquidity risk management process is adjusted to the scale and complexity of the interest rate risk to which the Bank is exposed, and consistent with the risk management and regulations. This action ensures 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 defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Operational risk includes legal risk, however, it does not include reputation risk and business risk.

The purpose of operational risk management is to increase the security of Bank's Group operational activity through improvement of effective, adjusted to the profile and volume of activity, mechanisms of identification, assessment and measurement, control, as well as monitoring, mitigation and reporting on operational risk.

Ongoing operational risk management is carried out by each employee of the Bank Group in the scope of their duties and obligations and consist in preventing the materialization of operational events arising in servicing products, conducting processes, using IT applications and reacting on operational events occurrence. Reacting includes:

1) identifying operational events and explaining reasons for their occurrence,
2) defining consequences of operational events,
3) recording data on operational risk events and their consequences,
4) monitoring information on operational events and their consequences,
5) minimizing the negative consequences of operational risk events,
6) implementation of corrective and preventive actions.

Operational risk profile of the Bank and of the Bank Group is defined as the volume and structure of exposure to operational risk, determined by strategic limits for operational risk tolerance.

The Bank's internal regulations clearly define the distribution of duties between the Supervisory Board and Management Board in the area of operational risk management. The Supervisory Board supervises the risk management process, i.a. by:

1) approving strategic tolerance limits for operational risk within the Bank and the Capital Group,
2) approving operational risk management strategy,
3) evaluating the operational risk management process, in particular on the basis of cyclical operational risk reports taking into account annual assessment of the adequacy and effectiveness of operational risk management.

In accordance with these regulations, all issues related to operational risk management are supervised by the Management Board that:

1) sets the objectives of operational risk management,
2) shapes operational risk management strategy,
3) adopts resolutions on operational risk management principles, strategic limits for operational risk tolerance and the extensions and significant changes for the AMA,
4) accepts the value of the management adjustment of the own funds requirement for operational risk according to the AMA,
5) accepts reports and information related to operational risk.

Operational risk management process is cyclically validated through:

1) review of the strategy and operational risk management processes, verifying adequacy and efficacy of operational risk management system,
2) self-assessment of compliance with the AMA requirements,
3) validation of the AMA,
4) internal audit.

The Bank Group entities manage operational risk in accordance with the principles of managing operational risk of the Bank, taking into account the scope and type of connections between entities belonging to the Bank Group as well as the specific nature and scale of activity these entities.

2.9.2. Operational risk identification, measurement and assessment

2.9.2.1. Operational risk identification, method of measurement and assessment

For the purpose of operational risk management, the Bank gathers internal and external data on operational events together with causes and results of their occurrence, data on business environment factors, results of self-assessment connected, data on operational risk indicators and data on the quality of internal control.

Operational risk self–assessment includes identification and assessment of operational risk arising in the products, processes and IT applications of the Bank, as well as resulting from organisational changes. Self-assessment is conducted periodically before the introduction of new or changed products, processes and applications of the Bank by using collected data on operational events and information obtained during the measurement, monitoring, reporting of this risk (including internal audit and audit security reports) or through cooperation with the Bank Group's entities.

In 2018 a dominant influence on the operational risk profile of the Bank's Group have had PKO Bank Polski SA and the PKO Leasing SA. Group.

Operational risk measurement in the Bank is aimed to define the scale of threats related to the operational risk by using defined risk measures. Operational risk measurement includes:

1) calculation of operational risk indicators: *KRI* and *RI*,

2) calculation of own funds requirement for operational risk under the AMA (for the Bank) and BIA (for the branches in the Federal Republic of Germany and Czech Republic as well as Capital Group entities subject to prudential consolidation),
3) stress tests,
4) calculation of internal capital for the Bank Group.

The BIA requirement regarding operations conducted by the Bank, falling under BIA approach, is calculated in accordance with the CRR (part III, title III) and applies only to the part of the Bank's activities, for which the PFSA's consent for a joint AMA and BIA calculation of own funds requirements related to operational risk has been granted.

The Bank assesses parameters of distributions used for measurement of the operational risk on the basis of internal and external information on operational events. The estimating algorithm of these parameters takes account of existing thresholds of losses for which information on operational events are gathered. The value of a threshold for internal events was established by taking into account the economic costs related to gathering information on operational events and their added-value for operational risk measurement. Used external data on operational events come for instance from the consortium database (called ZORO) maintained by the Polish Bank Association. Moreover, the operational risk measurements include macroeconomic data and data related to the volume of the Bank's operational and business activities.

Own funds requirement for operational risk according to the AMA corresponds to the VaR in respect to operational risk plus the result of scenario analysis and corrected by the value of adjustments related to changes in quality of internal audit and management adjustment according to the following formula:

$$AMA = (LDA+SbAMA) *(1+IC) +MA$$

where:

AMA	-	own funds requirement for operational risk according to the AMA,
LDA	-	value at risk,
SbAMA	-	scenario based AMA,
IC	-	adjustment related to changes in quality of internal control,
MA	-	management adjustment.

The AMA captures potentially severe tail events, achieving a standard comparable to a 99,9% confidence interval over a one year period.

Calculations of value at risk are made under a loss distribution approach (LDA) framework. On the basis of historical internal and external information on operational events and about business environment, this approach measures potential loss that is not to be exceeded within coming year.

The purpose of the scenario based AMA is to extend the AMA calculation to capture operational risk related to operational events that have not been covered with the LDA.

Adjustment related to the changes in quality of internal control allows to assess the potential deterioration of the quality of Bank's internal control that would result in an increase of the frequency or severity of operational risk events.

The purpose of management adjustment is to cover the requirement of extraordinary events in the AMA calculation, if due to their specific nature such events were not included into LDA or AMA calculation.

Risk measurement includes stress tests referring to potential consequences of extremely unfavourable, yet possible, scenarios. Its aim is to define the sensitivity of the Bank's results to the fulfilment of a test scenario and to determine if the AMA covers the total amount of losses resulting from the accomplishment of such scenarios.

The previous results of stress tests do not challenge the sufficient conservatism of the AMA.

Moreover, the Bank performs backtesting of the AMA calculation. Backtest results confirm the sufficient conservatism of the AMA.

Furthermore, the AMA is validated by an independent organisational unit of the Head Office (Model Validation Department). The aim of validating AMA approach is an independent assessment of the extent to which the model meets the business needs known at the time of validation.

2.9.2.2. The Bank's insurance policy

To minimize negative financial impact of operational events, PKO Bank Polski SA has an insurance policy that requires that a continuing and effective insurance cover is granted in return for an acceptable cost. PKO Bank Polski SA endeavours to apply uniform insurance principles to the whole Bank Group, in order to optimise the scope and costs of the insurance cover using of effects of scale.

The Bank's insurance programme is regularly monitored in order to identify needs of essential changes.

2.9.2.3. Impact of insurance

While calculating the own funds requirement for operational risk, the Bank includes the impact of insurance.

The insurance policies used by the Bank to reduce own funds requirement for operational risk, fulfil the criteria defined in Article 323 of CRR and also comply with internal regulations of the Bank regarding calculation of own funds requirement reduction due to insurance. The Bank's insurance policies refer mainly to all risk property insurance and the Bank's civil liability insurance. The Bank takes deductibles and franchises into account, while calculating deductions related to purchased insurance policies.

In compliance with Article 323 of CRR the reduction in own funds requirements from the recognition of insurances shall not exceed the maximum value equal to 20% of the own funds requirement for operational risk before the recognition of risk mitigation techniques are taken into account.

2.9.3. Operational risk control

The objective of operational risk management is striving for maintaining the level of operational risk of the Bank and the Bank Group at fixed level.

Control of operational risk involves formulation of risk control mechanisms in the form of operational risk limits, tailored to the scale and complexity of the Bank's and the Bank Group's activities, in particular strategic tolerance limits for operational risk, losses limits, operational risk indicators enclosing thresholds and critical values.

Strategic tolerance limits for operational risk are specified by the Management Board and approved by the Supervisory Board. Additionally, the Management Board defines the levels of utilization of the strategic tolerance limits for operational risk for both the Bank and the Bank Group, which, when exceeded, serve as a signal for taking managerial activities aimed at operational risk mitigation.

A system of local limits assigned to selected organizational or functional units of the Bank or its Head Office functions in the Bank, which defines the maximum operational risk allocated to said selected organizational or functional units of the Bank or its Head Office, ensuring that the strategic limits for operational risk are not exceeded.

2.9.4. Monitoring of operational risk

The purpose of operational risk monitoring is observation of deviation from benchmarks assumed (in particular limits, thresholds, measurements from the previous period, recommendations) in order to diagnose areas requiring management actions.

The Bank regularly monitors in particular:
1) utilisation of strategic limits for the Bank and the Bank Group and of risk tolerance and operational risk limits for the Bank,
2) operational events and their consequences,
3) results of operational risk self - assessment,
4) own funds requirement for operational risk according to the BIA in respect to the Bank's foreign branches in the Federal Republic of Germany and Czech Republic and according to AMA for the remaining activities of the Bank and own funds requirement for operational risk according to the BIA (basic indicator approach) for other Bank Group's entities,
5) results of stress tests including reverse stress tests,
6) operational risk indicators values against threshold and critical values,
7) the level of risk for the Bank and the Bank Group, areas and operational risk management tools in the Bank, such as self-assessment, operational risk indicators, loss limits,
8) efficiency and timeliness of the management activities undertaken in relation to operational risk reduction or transfer,
9) management activities undertaken because of increased or high level of operational risk and their effectiveness in reducing the operational risk level.

2.9.5. Operational risk reporting

Reporting on operational risk is carried out for the purpose of senior management, ORC, RC, the Management Board and Supervisory Board monthly and quarterly.

The recipients of monthly information are ORC, senior management, the Head Office units and specialized organizational units responsible for systemic operational risk management. Monthly information includes in particular information about:
1) the number and the effects of the operational events,
2) the structure of operational events,
3) operational risk indicators values.

The recipients of quarterly information are ORC, RC, the Management Board and Supervisory Board. Quarterly information includes in particular information about:
1) the Bank's operational risk profile result from identification process and product danger assessment, the Bank's processes and application, and LDA measurement,
2) the operational risk level of the Bank, areas and instruments to manage the risk, such as self-assessment, operational risk indicators, loss limits,
3) the results of operational risk measurement and monitoring,
4) the activities undertaken in order to constrain operational risk and assessment of effectiveness of undertaken activities in order to reduce operational risk level.

2.9.6. Management actions related to operational risk

Operational risk management process is conducted at the Bank's level as well as at the particular areas of systemic operational risk management.

Systemic operational risk management consists in developing solutions, which enable the Bank to exercise control in order to achieve its objectives. Main areas of systemic operational risk management are:
1) security,
2) IT,
3) settlements,
4) human resources,
5) business processes,
6) administration,
7) support (in particular: insurance management, outsourcing, creation and implementation of internal operational risk model and systems of identification, assessment, monitoring and limiting of operational risk, etc.)

Management activities are taken in the following cases:
1) as a response to the initiative of ORC or the Management Board,
2) as a response to the initiative of Bank's organizational units responsible for managing operational risk,
3) when the operational risk has exceeded the levels set out by the Management Board or the ORC.

In particular, if the operational risk level is considered as increased or high, the Bank uses the following approaches and operational risk management tools:

1) risk reduction – mitigating impact of risk factors or results of risk materialization by implementation or reinforcement of operational risk management tools, such as:
   a) control instruments (i.a. authorization, internal control, functions separation),
   b) human resources management instruments (personnel selection, increase in qualifications of employees, motivational systems)
   c) definition or verification of OCR's thresholds and critical values of operational risk indicators,
   d) definition and verification of operational risk level
   e) contingency plans,
2) risk transfer – a transfer of responsibility for coverage of potential losses to an external party:
   a) insurances,
   b) outsourcing,
3) risk avoidance – resignation from a risk generating activity or elimination of a possibility that a risk factor occurs.

2.9.7. Incurred losses and operational risk management actions

In 2018 events related to operational risk, excluding losses from credit process, that were disclosed in the Bank and amounted to ca. PLN 26.34 million net and PLN 45.24 million gross (Table 2.39).

The most significant operational event, unrelated to credit risk, was disclosed in the category Clients, Products and Business Practices and concerned client's lawsuit. The Bank has taken appropriate procedural actions limiting operational risk.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 2.39 Gross losses* related to disclosed events

PKO BANK POLSKI SA		2018	
General category	Specific category	Gross losses**	Net losses***
Internal frauds	Non-legitimated activities	0.15	0.09
	Thefts and frauds	2.61	1.62
Regulations of employment and work safety	Labour issues	1.02	0.41
	Inequality and discrimination	0.06	0.06
Client, products and operational practises	Customer service, disclosure of information about clients, responsibilities to clients	17.21	16.69
	Improper business or market practices	1.57	1.50
	Products malfunctions	0.59	0.55
	Customer classification and exposures	0.03	0.01
Disruption of bank operations and system failures	Systems	0.77	0.44
Making transactions, providing and managing operational processes	Recording in the system, making, calculating and servicing transactions	2.89	1.70
	Inflow and registering clients	0.01	0.01
	Managing clieant's bank accounts	0.40	0.08
	Sellers and suppliers	0.27	0.20
Losses related to fixed assets	Natural disasters and other events	1.67	0.41
External frauds	Thefts and frauds	16.01	2.57
Total		**45.24**	**26.34**

* Gross losses do not include losses from operational risk related to credit risk, which are recognised as losses from credit risk and are used to calculate minimum capital requirements.
** According to the Recommendation M of the Polish Financial Supervision Authority as at 31.12.2018 gross losses include realised losses (e.g. provisions, write-downs, expenses) as well as unrealised (potential) losses. Gross losses do not include direct recoveries and recoveries from the risk transfer mechanisms.
*** Net losses as at 31.12.2018 include realised losses (e.g. provisions, write-downs, expenses).

The Bank takes systemic and current management actions in order to limit losses from operational risk. Current actions include direct reacting on identified risks, eliminating irregularities when it is possible as well as recovering financial losses. Systemic actions consist of, among others, securing IT systems, improving transaction authorization methods, non-execution of transfers to accounts identified as associated with criminal activity, development of anti-fraud system, processes improvement, internal control optimization, trainings, risk transfer (insurances, outsourcing).

The Bank continues to raise the security of IT systems, in particular in the area of applications used by the Bank's customers – related to i.a. active combating phishing websites impersonating the Bank’s services, active following the development of malware attacking the Bank’s clients, development of detection mechanisms identifying infected computers of clients and rule improvement, extension the range of electronic transactions monitoring.

In 2018, a change in the dominant trend in the mechanisms of theft of funds through electronic access channels was observed, consisting in the more and more frequent use of the functionality of the Bank's website by criminals - in response to the above, additional authorization functionality was implemented. A procedure was also introduced to block the possibility of commissioning debiting operations from iPKO Biznes user accounts, which were suspected of logging into electronic banking from a computer infected with malware.

Works on functional improvements were continued, consisting in defining limits on payments advised by online banking and an opportunity to self-manage of www services level by clients as well as on interactive voice response (IVR).

Implemented in 2016 3D Secure verification significantly reduced the number of online transactions that are not authorized by the Bank’s clients. Merchants, who do not carry out the subject verification, if a Chargeback complaint process is created, are obliged to return the funds complained by the client.

In 2018 incident detection, anomaly and advanced malware detection systems were improved as well as automation of many activities connected with handling incidents.

The special CERT division operating within the Bank's structures implements a strategy for ensuring IT security of services provided by the Bank. CERT PKO BP is a member of the international forum of responding teams - FIRST and belongs to the working group of European response teams - TERENA TF-CSIRT and the Trusted Introducer operating with it. In 2018, the Bank started the process of CERT certification for compliance with the requirements of the SIM3 methodology: Security Incident Management Maturity Model. As a result of these activities, PKO Bank Polski will have a certified CERT as the first organization in the financial sector in Poland.

High organizational maturity in the area of handling cyber security incidents is particularly significant in the light of the PFSA decision of 2018 on the recognition of the Bank as a key service operator within the meaning of the Act on the National Cyber Security System.

Additionally, the representatives of the Bank are involved in activities undertaken within Banking Cybersecurity Centre (BCC) project, which acting under The Polish Bank Association. The purpose of BCC is realization of complex and long-term oriented operations placed on several levels: inner-sector and inter-sector (i.a. cooperation with telecommunication, transport and energy companies), national (cooperation with state administration, law enforcement) and international aimed at increasing the level of security of mobile banking and preparation of tools (structures, procedures, mechanisms of information exchange) for managing emergency situations (eg. in the event of a massive cyberattack on the banking sector.

It should be noted that in 2018 BCC established CERT team operating at ZBP – FinCERT.pl. As a result of the support provided by Bank, CERT joined Trusted Introducer.

Joining international organizations allows the Bank's CERT team to respond more quickly and effectively to cyber security threats, through operational cooperation and sharing of knowledge and experience with similar entities around the world. Membership is also a confirmation of the high level of services provided and recognition of professionalism and skills in ensuring the Bank's IT security. This translates into the perception of the Bank as an organization that meets the highest national and international standards in the field of cyber security.

In 2018, as part of cooperation in threats information exchange, the Bank used information on malware, incidents or phishing attacks in particular from data on trends and new threats from *CIRCL – The Computer Incident Response Center Luxembourg* and *NICP* – institutions participating in *NATO Industry Cyber Partnership*, with PKO BP SA as the only bank member from Poland.

Based on the results and experience gained from the research project carried out in 2018 in cooperation with the Gdańsk University of Technology and Microsystem, regarding the preparation of a biometric customer identity verification system, the Bank is continuing its efforts to prepare the first comprehensive biometric solution in the Polish banking. Its purpose is to develop a system that enables safe and effective verification of a person based on its unique physical or behavioral features - using innovative biometric technology. Currently, work is underway on the aspect of the solution for customer identification and verification in the Laboratory Departments, the Access Control System as well as on the concept for the mobile client, including the aspect of the Biometric Authorization Center.

The use of biometric data in banking will introduce a new quality in the approach to security, speed of authorization and customer service costs. The technology used is safe and forgery resistant. Biometric data cannot be copied or used by third parties. The solution prepared by the Bank will constitute a complementary authorization method to the existing solutions and a starting point for work on new technologies used in banking.

Physical security of facilities, cash and processed information is provided in the Bank using technical (construction, mechanical and electronic) security, stationary physical protection and remote protection in the form of alarm signals monitoring with access to intervention groups. Current activities of the Bank in the field of physical protection and monitoring of alarm signals and implemented technical protections are aimed at minimizing the risks associated with storing large amounts of cash, especially attacks and burglaries and other threats to physical security such as fires, property damage, vandalism and terrorism. At the same time, technical and physical security increase the security of the Bank's IT infrastructure and information processed in the Bank, in particular that constituting bank secrecy and personal data. Technical security of the Bank's facilities and stationary physical protection as well as monitoring of alarm signals ensure the level of security required by law and adequate to the operational risk assessment. The security inside the facilities is ensured by physically restricting and controlling access to protected areas, in which monetary values and deposits are stores as well as data processing and key elements of the Bank's IT network, through the use of alarm systems, access control systems and CCTV systems.

2.10. Business risk

2.10.1. Introduction

Business risk (strategic) is the risk of failure to achieve previously set financial goals, including losses 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.

Managing the business risk is aimed at maintaining, on an acceptable level, the potential negative financial consequences resulting from: adverse changes in the business environment, making adverse decisions, improper implementation of adopted decisions or lack of appropriate actions, which would be a response to changes in the business environment.

2.10.2. Business risk measurement and assessment

Business risk identification is to recognize and determine factors both current and potential, resulting from current and planned activities of the Bank and which may significantly affect the financial position of the Bank, generating or change in the Bank's income and expense. Business risk identification involves identification and analysis of factors, which significantly affected the level of deviation of costs and revenues from their projected values.

The purpose of measurement of business risk is to determine, using existing risk measures, the scale of hazards related to the existence of business risk. Business risk measured involves:
1) calculation of internal capital,
2) conducting of stress test,
3) conducting of reverse stress test.

Assessment of the business risk level is performed quarterly on the basis of:
1) calculated levels of strategic limits of tolerance,
2) qualitative business risk assessment,
3) results of internal capital for business risk measurements.

2.10.3. Business risk controlling

The purpose of the business risk controlling is to strive for maintaining the level of business risk of the Bank Group at an acceptable level.

Control of business risk involves setting and periodic review of the risk controls in the form of tolerance limits on the business risk along with its thresholds and critical values, adequate to the scale and complexity of the Bank Group.

2.10.4. Business risk monitoring

The purpose of business risk monitoring is to identify areas requiring management actions. Monitoring of business risk includes in particular:

1) strategic levels of business risk,
2) stress-tests results,
3) reverse stress-tests results,
4) internal capital level,
5) deviation of business risk realisation from its projected values,
6) results of qualitative business risk assessment.

2.10.5. Business risk reporting

Business risk reporting for the Bank Group is conducted quarterly. Reports on business risk are prepared for the ALCO, the RC, the Management Board, Supervisory Board risk Committee and the Supervisory Board. Reports contain i.a. business risk assessment results, internal capital in particular, utilization level of strategic tolerance limit for business risk, qualitative business risk assessment results, business risk internal capital forecast and its backtesting, Bank's cash flow monitoring results, stress-tests and reverse stress-tests results, results of an annual capital management adequacy and efficacy review, including business risk management process review, information on business risk related to the Bank Group entities, internal capital and utilization level of strategic tolerance limit for business risk in particular.

2.10.6. Business risk related management actions

Management activities involve in particular:
1) verification and updating of quarterly financial forecasts, including efforts to reduce business risk level,
2) monitoring of the strategic limit of business risk tolerance.

2.11. Model risk

2.11.1. Introduction

Model risk is the risk of incurring losses as a result of making incorrect business decisions on the basis of the models operating within the Bank. The model risk in the Bank Group is managed both on the level of particular company of the Bank Group (owner of the model) and on the Bank's level, acting as a controlling entity of the Bank Group.

The objective of model risk management is to mitigate the model risk of incurring losses due to inaccurate business decisions made on the basis of functioning models, thanks to a properly defined and implemented model management process in the Bank Group.

All significant models in the Bank and model of the Bank Group entities are covered by regular process of independent validation carried out by the validation PKO Bank Polski SA.

2.11.2. Model risk identification, measurement and assessment

Identification of model risk in the Bank mainly consists of:
1) gathering information on used and planned to be implemented models,
2) cyclical determining the relevance of models.

The model risk evaluation is aimed at determining the scale of threats associated with the occurrence of the model risk. Assessment of the risk diagnose model risk level and identify among these models, which are generating the highest risk exposing the Bank's Group for potential loses. Assessment of the risk is made on the singular model level and also in the aggregated terms at the level of each entity of the Bank Group.

2.11.3. Model risk control

The purpose of model risk control is to maintain the model risk aggregated assessment at the acceptable level for the Bank Group. The model risk control consists in determination of mechanisms that diagnose model risk level and instruments that constrain this level. In particular, to diagnose model risk there are used such instruments as strategic limit of tolerance and thresholds for model risk.

2.11.4. Model risk monitoring and reporting

The purpose of model risk monitoring is to diagnose areas for management actions. Model risk monitoring contains:
1) updates on the level of model risk,
2) assessment of strategic limit of tolerance utilization and thresholds for model risk,
3) verification of the status of implementation of the proposed recommendations and the assessment of effectiveness of implementation of the actions on mitigation of model risk.

The results are cyclically reported to the RC, the Management Board, Supervisory Board's Risk Committee and the Supervisory Board and contain a comprehensive assessment of model risk, in particular:
1) information on the utilization level of strategic limit of tolerance for model risk,
2) information on the level of model risk (solo and consolidated),
3) model risk map,
4) evaluation of effectiveness of the recommendations made to reduce the model risk level,
5) potential proposed management actions reducing the model risk.

2.11.5. Management actions concerning model risk

The purpose of management actions is to form a model risk management process and a level of this risk, in particular by determining acceptable risk levels and making decisions about the use of tools supporting model risk management.

2.12. Macroeconomic risk

2.12.1. Introduction

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

The purpose of macroeconomic risk management is to identify macroeconomic factors having a significant impact on the Bank Group's activities and taking actions to reduce the adverse impact of potential changes in the macroeconomic situation on the financial situation of the Bank Group.

2.12.2. Macroeconomic risk identification and assessment

Identification of macroeconomic risk is to determine scenarios of the potential macroeconomic changes and to determine risk factors having the greatest impact on the financial situation of the Group. Macroeconomic risk results from interaction of factors dependent (in particular, balance sheet structure and response plans prepared for stress scenarios) and independent of the Group's activities (macroeconomic factors). The Bank Group identifies the factors affecting the level of macroeconomic risk during carrying out comprehensive stress-tests.

The purpose of macroeconomic risk assessment is to determine the scale of threats related to the occurrence of the risk of macroeconomic changes and includes:
1) calculation of financial result together with its components and calculation of risk measures, as part of comprehensive stress tests,
2) reverse stress test,
3) calculation of internal capital.

The assessment of macroeconomic risk is carried out on an annual basis, based on the results of cyclical comprehensive stress tests. The level of macroeconomic risk is defined as moderate, elevated or high.

2.12.3. Macroeconomic risk control

The purpose of macroeconomic risk is striving for constraining unfavourable influence of potential macroeconomic changes on the Bank Group's financial conditions.

Control of macroeconomic risk consists in determining the acceptable level of macroeconomic risk adjusted to the scale of operations of the Capital Group and its impact on functioning and financial standing of the Capital Group. Acceptable level of macroeconomic risk means a situation when the comprehensive stress-tests results do not indicate the necessity of undertaking the recovery activities, or necessary recovery activities prove sufficient for improving the financial situation of the Capital Group.

2.12.4. Macroeconomic risk monitoring

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

2.12.5. Macroeconomic risk reporting

Macroeconomic risk reporting is carried out on a quarterly basis 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. The report contains in particular:

1) macroeconomic risk assessment results, internal capital in particular,
2) the level of macroeconomic risk,
3) results of comprehensive stress tests,
4) results of reverse stress tests.

2.12.6. Management actions concerning macroeconomic risk

Management actions in particular consist of:

1) determining acceptable levels of risk,
2) taking measures to reduce the level of risk in the event of an elevated or high level of macroeconomic risk.

2.13. Risk management in PKO Bank Hipoteczny SA

Risk management system adopted in PKO Bank Hipoteczny SA is consistent to the one adopted in the Bank Group. A specialized nature of the activities of a mortgage bank means that:

1) credit risk management is focused mainly on the mortgage sector, retail clients' creditworthiness and mortgage lending value assessment.
2) long-term mortgage bonds are a to be a default main financing source, with liquidity management competencies focused on issuance of securities on the domestic and foreign securitized debt market.

PKO Bank Hipoteczny SA expands its mortgage loans portfolio through sales by intermediaries as well as purchase of liabilities from the parent company. The mortgage portfolio forms the basis of a collateral pool securing issuance of mortgage bonds.

The mortgage lending value is a value determined by PKO Bank Hipoteczny SA in order to reflect the level of risk associated with the property accepted as a collateral securing the loans granted and is used in order to determine the maximum potential amount of the loan secured by a given immovable property or in order to determine whether a loan secured by said property can be purchased by the bank.

PKO Bank Hipoteczny SA determines the mortgage lending value on the basis of an expertise made with due diligence and caution, taking into account only those features of the property, together with investments necessary for its completion, that are permanent and which, considering a rational exploitation, will be obtained by each of the owners of said property. All assumptions, parameters and the evaluation process adopted during the expertise are documented in the expertise, together with its date and proposed estimation value. The expertise takes into account all analyses and forecasts related to the property, which affect the creditworthiness assessment, as well as general factors such as: population, unemployment rate, local zoning plans.

The mortgage bond is a personal or a bearer bond, issued by a mortgage bank, on the basis of mortgage secured loans. Mortgage bonds are issued primarily for longer terms, therefore providing a source of long-term financing for the Bank Group.

The PKO Bank Hipoteczny SA's business model assumes a significant share of mortgage bonds in the bank's financing structure. The mortgage bond is a stable source of financing, although its balloon repayment character frequently necessitates its replacement with additional bonds or alternative financing sources. The liquidity management process in PKO Bank Hipoteczny SA pays particular attention to the matching of terms of cash flow items and the ability of the Bank to renew its financing sources during the maturity period of significant liabilities (repurchase of mortgage bonds).

The system of risk management and quantitative information in scope of disclosures are placed in Financial Report of PKO Bank Hipoteczny S.A. for whole year as at 31 December 2018 and Management Board's statement of the business activity for whole year as at 31 December 2018.

3. Own funds

For the purpose of capital adequacy, own funds are calculated according to the regulations of the Banking Law and Part Two of the CRR together with supplementary acts related to the CRR.

Own funds of the Group include Common Equity Tier 1 capital and Tier 2 capital. No items classified as Additional Tier 1 capital are identified in the Group.

Included in the Common Equity Tier 1 capital are the following:
1) share capital – presented according to the Bank's Statutes and entry in the Trade Registry, at nominal value,
2) supplementary capital – established from the annual net profits, assigned to absorb balance sheet losses that may arise within the Group's activities,
3) other reserve capital – established independently from the supplementary capital, created from the annual net profits in the amount defined by the General Meeting (hereinafter referred to as "GM"), assigned to absorb balance sheet losses exclusively,
4) other accumulated total income (except for profits and losses related to cash flow),
5) general risk reserve created from the annual net profits in the amount defined by the GM, assigned to absorb unidentified losses may arise within the Bank's activities,
6) retained earnings,
7) net financial result prior to approval and net result for the current reporting period – calculated based on applicable accounting standards, decreased by any expected charges and dividends, in amounts not exceeding amounts audited by a certified public accountant; net financial result can be included in own funds under the condition of GM's approval or, prior to the aforementioned approval, consent of the PSFA.

Common Equity Tier 1 capital is reduced by the following items:
1) losses for the current financial year,
2) intangible assets valued at their carrying amount, after deduction of the related provisions for deferred tax. The deducted amount includes goodwill included in the valuation of significant investments,
3) additional adjustments for assets valued at their fair value, subject to requirements for prudent valuation,
4) deferred tax assets related to future profitability, not resulting from temporary differences,
5) additional fair value adjustments of liabilities and derivative instruments constituting liabilities, resulting from the own credit risk of the Bank,
6) deferred tax assets related to future profitability arising from temporary differences, not exceeding 10% of Common Equity Tier 1 capital of the Group (after deductions described in items 1-5 and 7),
7) direct and indirect equity exposures of the Group in financial sector entities in which it doesn't have any significant investments, in the form of shares or other instruments of Common Equity Tier 1 or Tier 2 capital of said entities, not exceeding 10% of Common Equity Tier 1 capital of the Group (after deductions described in items 1-5),
8) direct and indirect capital exposure in financial sector entities in which the institution has significant investments, in the form of shares or other instruments of Common Equity Tier 1 of said entities, exceeding 10% of Common Equity Tier 1 capital of the Group (after deductions described in items 1-5 and 7),
9) amount by which the sum of:
    a) deferred tax assets related to future profitability arising from temporary differences, not exceeding 10% of Common Equity Tier 1 capital of the Group (after deductions described in items 1-5 and 7) and
    b) direct and indirect capital exposure in financial sector entities in which the Group has significant investments, in the form of shares or other instruments of Common Equity Tier 1 of said entities, not exceeding 10% of Common Equity Tier 1 capital of the Group (after deductions described in items 1-5 and 7),
    c) exceeds 17.65% of Common Equity Tier 1 capital of the institution (after deductions described in items 1-7). The amount below the aforementioned threshold is included in risk weighted exposures.

The amount below the threshold (17.65%) is included in risk weighted exposures.

The Tier 2 capital comprises subordinated liabilities i.e. funds acquired by the Bank - in the amount and based on the consent of the PFSA issued in response to the Bank's request – conforming to the principles laid out in art. 63 of the CRR.

The Tier 2 capital is reduced by the following items:
1) direct and indirect capital exposure in financial sector entities in which the institution has significant investments, in the form of instruments of Tier 2 capital of said entities,
2) direct and indirect capital exposure in financial sector entities in which the institution doesn't have any significant investments, in the form of shares or other instruments of Tier 2 capital of said entities,

If the deductions described in points 1 and 2 above would result in a negative value of Tier 2 capital, the remaining value of said deductions is used to reduce Common Equity Tier 1 capital.

Conforming to the Commission Implementing Regulation 1423/2014, the Table 3.1 presents information on reconciliation of items from the report on the financial situation used in own fund requirements calculation as at 31 December 2018

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 3.1 Reconciliation of items of own funds and equity reported in the audited financial report

	2018				
	IFRS compliant financial report	De-consolidation of entities not subject to prudential consolidation	Prudential consolidation / CRR compliant financial report	Items not recognized in the regulatory own funds	Items recognized in the regulatory own funds
Assets					
Intangible assets	3 195	-164	3 031	-221	**2 810**
Liabilities					
Subordinated liabilities	2 731	0	2 731	-31	**2 700**
Capital					
Share capital	1 250	0	1 250	0	**1 250**
Supplementary capital	29 354	-73	29 281	0	**29 281**
Other reserves	3 831	-78	3 753	0	**3 753**
General banking risk reserve	1 070	0	1 070	0	**1 070**
Other income	250	-1	249	-23	**226**
Revaluation capital related to assets avalable for sale	491	1	492	0	**492**
Revaluation capital related to cash flow hedging instruments	24	-1	23	-23	**0**
Exchange differences	-242	0	-242	0	**-242**
Actuarial gains / losses	-10	-1	-11	0	**-11**
Share in other comprehensive income of an associated entity	-13	0	-13	0	**-13**
Net profit for the current period	3 741	44	3 785	-3 785	**0**
Previous years' result	-385	297	-88	1 678	**1 590**
Non-Controlling Interest	-10	10	0	0	**0**
Total own funds	**39 101**	**199**	**39 300**	**-2 130**	**37 170**
Additional deductions					**790**
Additional adjustments of assets measured at fair value					**-68**
Deferred tax assets reliant on future profitability excluding those arising from temporary differences					**0**
Adjustments resulting from IFRS 9 during the transition period					**858**
Own funds total used for calculation of capital adequacy ratio					**37 850**

Conforming to the Commission Implementing Regulation 1423/2014, the Table 3.2 presents information on the type and value of key items of own funds utilised in the calculation of Total Capital Ratio as at 31 December 2018. Rows with values equal to 0 have been omitted.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 3.2 Own funds used for calculation of capital adequacy ratio (consolidated basis)

	2018		
Common Equity Tier I capital: Instruments and reserves		(A) Value at the disclosure date	(B) Reference to the Article of Regulation (EU) No 575/2013
1	Capital instruments and the related share premium accounts	1 250	Art. 26 par. 1 subpar. a) and b)
	of which: A-SERIES REGISTERED SHARES	313	
	of which: A-SERIES COMMON BEARER SHARES	198	
	of which: B-SERIES COMMON BEARER SHARES	105	
	of which: C-SERIES COMMON BEARER SHARES	385	
	of which: D-SERIES COMMON BEARER SHARES	250	
2	Retained earnings	1 590	Art. 26 par. 1 subpar. c), Art. 28
3	Accumulated other comprehensive income	33 283	Art. 26 par. 1 subpar. d) and e)
3a	Funds for general banking risk	1 070	Art. 26 par. 1 subpar. f)
6	Common Equity Tier I prior to regulatory adjustments	37 192	Art. 26
Common Equity Tier I capital: regulatory adjustments			
7	Additional value adjustment (negative value)	-59	Art. 34
8	Intangible assets (net of related deferred tax liabilities) (negative value)	-2 810	Art. 36 par. 1 subpar. b)
10	Deferred tax assets reliant on future profitability excluding those arising from temporary differences (net of related income tax liabilities providing the conditions in Article 38 (3) are met) (negative value)	0	Art. 36 par. 1 subpar. c), Art. 38
11	Fair value reserves related to gains or losses resulting from cash flow headging instruments	-23	Art. 33 par. 1 subpar. a)
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	-9	Art. 33 par. 1 subpar. c)
20	Adjustments resulting from IFRS 9 during the transition period	858	0
26	Regulatory adjustments applied to Common Equity Tier I in respect of amounts subject to pre-CRR treatment	0	Art. 469 par. 1 subpar. a) and b), Art. 472 par. 5, Art. 468 par. 4, Art. 472 par. 2, Art. 478
26a	Regulatory adjustments relating to unrealised gains and losses pursuant to Article 467 and 468	0	Art. 467, Art. 468
	of which: ... filter for unrealised loss 1	0	Art. 467
	of which: ... filter for unrealized loss 2	0	Art. 467
	of which: ... filter for unrealised loss 3	0	Art. 467

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

28	Total regulatory adjustments to Common equity Tier I	-2 044	
29	Common Equity Tier I capital	35 150	Art. 50
Additional Tier I: regulatory adjustments			
45	Tier I capital (Tier I = Common Equity Tier I + Additional Tier I capital)	35 150	Art. 25
Tier II capital: instruments and provisions			
46	Capital instruments and the related share premium accounts	2 700	Art. 62 subpar. a), Art. 63
51	Tier II capital before regulatory adjustments	2 700	Art. 62
Tier II Capital: regulatory adjustments			
58	Tier II capital	2 700	Art. 71
59	Total capital (Tier I + Tier II capital)	37 850	Art. 72
60	Total risk weighted assets	200 442	0
Capital ratios and buffers			
61	Common Equity Tier 1 capital (expressed as a percentage of the total risk exposure amount)	17.54%	Art. 92 par. 1 subpar. a)
62	Tier 1 capital (expressed as a percentage of the total risk exposure amount)	17.54%	Art.. 92 par. 1 subpar. b)
63	Total capital (expressed as a percentage of the total risk exposure amount)	18.88%	Art.. 92 par. 1 subpar. c)
64	Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1) (a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus systemically important institution buffer expressed as a percentage of risk exposure amount)	5.88%	
65	of which: capital conservation buffer requirement	1.875%	
66	of which: countercyclical buffer requirement	0.01%	
67	of which: systemic risk buffer requirement	3%	
67a	of which: Global Systemically Important Institution (G-SII) or other Systemically Important Institution (O-SII) buffer	1%	
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	9.64%	
Amounts below the thresholds for deduction (before risk weighting)			
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investement in those entities (amount below 10% threshold and net of eligible short positions)	198	Art. 36 par. 1 subpar. h), Art. 46 par. 4
73	Direct and indirect holdings by the institiution of the CET1 instruments of financial sector entities where the institution has a significant investement in those entities (amount below 10% threshold and net of eligible short positions)	811	Art. 36 par. 1 subpar. i), Art. 48 par. 1, Art. 470
75	Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met)	2 347	Art. 36 par. 1 subpar. c), Art. 48 par. 1, Art. 470

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

As at 31 December 2018, conforming to par. 48 of the CRR, capital exposure in financial sector entities didn't exceed 10% of Common Equity Tier 1 capital, and therefore do not constitute an impairment to own funds of the Bank and the Group and have been included in risk weighted assets.

The main features of instruments issued by the Bank and included in the Common Equity Tier 1 and instruments of Tier 2 capital are presented in Table 3.3 (PLN). Rows not related to the Group companies have been omitted.

Table 3.3 Capital instruments' main features (PLN)

Capital instruments		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 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	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 and (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 (PLN, 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
9a	Issue price	312 500 000	197 500 000	105 000 000	385 000 000	250 000 000	-	-
12	Perpetual or dated	perpetual	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	Floating dividend	Floating dividend	Floating dividend	Floating dividend	Floating dividend	Floating coupon	Floating coupon
30	Write-offs	No	No	No	No	No	No	No
36	Non-compliant transitional features	No	No	No	No	No	No	No

At 31 December 2018 the net profit of the Bank for 2017 (PLN 2 086 million), (with additional PLN 687.5 million allocated for the purpose of dividend payments), have been included in the own funds of the Bank calculated for capital adequacy purposes, with part of this amount (PLN 1 822 million) already recognized in the own funds of the Bank for 31 December 2017, in compliance with the PFSA's approval for including the net profit for 3 quarters of 2017 into own funds (after expected charges). This profit was included in supplementary and reserve capital, pursuant to Resolution of the General Meeting of Powszechna Kasa Oszczędności Bank Polski SA of 18 June 2018, regarding distribution of profits of PKO Bank Polski SA for year 2018.

Additionally, with the PFSA's prior permission, the net profit for 3 quarters of 2018 reduced by foreseeable charges was included in own funds of the Bank (PLN 1 632 million). Moreover, with PFSA's approval, the Bank. Included a new subordinated bonds emission (PLN 1 000 million) into own funds.

4. Own funds requirements

Pursuant to the CRR, the Group calculates own funds requirement for the following types of risk:

1) the credit risk – using the standardized approach pursuant to part III, title II, chapter 2 of the CRR, using the following formula:
   a) statement of financial position items – a product of a carrying amount (considering value of adjustments for specific credit risk), a risk weight of the exposure calculated according to the standardised method of credit risk requirement as regards own funds and 8% (considering recognised collaterals),
   b) off-balance sheet liabilities granted – a product of value of liability (considering value of adjustments for specific credit risk), a risk weight of the product, a risk weight of off-balance sheet exposure calculated according to the standardized method of credit risk requirement for own funds and 8% (considering recognized collaterals),
   c) off-balance sheet transactions (derivative instruments) – a product of risk weight of the off-balance sheet transaction calculated according to the standardized method of credit risk requirement for own funds, equivalent in the statement of financial position of off-balance sheet transaction and 8% (the value of the equivalent in the statement of financial position is calculated in accordance with the mark-to-market method).
2) the operational risk[15]:
   a) using AMA for the Bank, excluding the Bank's foreign branches in Germany and in the Czech Republic,
   b) using BIA (pursuant to Part III, Title III of the CRR) for the Bank's foreign branch in Germany, The Czech Republic and Group entities subject to prudential consolidation,
3) the market risk (pursuant to Part III, Title IV, Chapter 2-4 of the CRR):
   a) foreign-exchange risk – using basic approach,
   b) commodities risk – using simplified approach,
   c) equity risk – using simplified approach,
   d) specific risk of debt instruments – using basic approach,
   e) general risk of debt instruments – using duration-based approach,
   f) other risks, apart from the delta risk (non-delta risk) – scenario approach for options for appropriate internal pricing models is implemented and delta-plus approach for other options.
4) other risks:
   a) settlement and delivery risk – pursuant to Part III, Title V of the CRR,
   b) counterparty credit risk – using mark-to-market method, pursuant to Part III, Title II, Chapter 6 of the CRR,
   c) credit valuation adjustment risk (CVA) – using standardised method, pursuant to Part III, Title VI of the CRR,
   d) large exposures limit risk – pursuant to articles 395-401 of the CRR,
   e) own funds requirement for trade exposures and own funds requirement for pre-funded contributions to the default fund of a CCP is calculated for exposures to a central counterparty, pursuant to Part III, Title II, Chapter 6, Section 9 of the CRR.

Total own funds requirement for the Group comprises all of the above requirements for selected types or risk.

Contractual netting agreements are recognised in own funds requirement for counterparty credit risk pursuant to articles 295-298 of the CRR.

[15] Since 31 December 2015, with prior permission of the PFSA from July 2015 and January 2017, the AMA approach was applied to own funds requirements for operational risk of the Bank, excluding the Bank's foreign branch in the Federal Republic of Germany and in the Czech Republic (BIA).

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Information on own funds requirements of the Bank and the Group is presented in Table 4.1.

Table 4.1 Risk weighted assets of the Bank Group [template EU OV1]

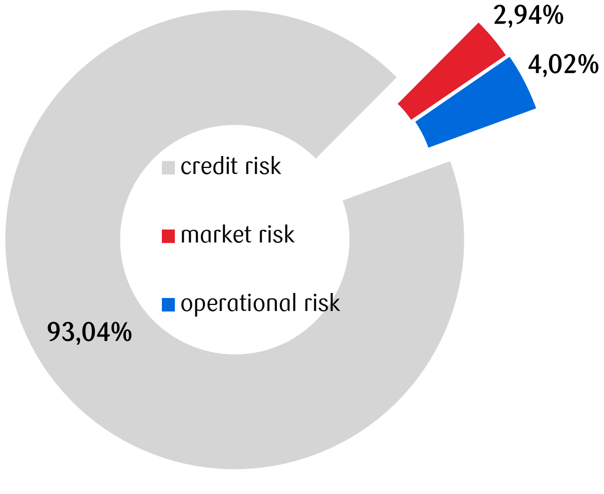
The Bank's Group			RWAs					Minimum capital requirements
			31.12.2018	30.09.2018	30.06.2018	31.03.2018	31.12.2017	31.12.2018
	1	Credit risk (excluding CCR)	184 709	184 613	188 607	183 263	179 664	14 777
Article 438 (c)(d)	2	Of which the standardised approach	184 709	184 613	188 607	183 263	179 664	14 777
Article 107 Article 438 (c)(d)	6	CCR	1 767	2 039	2 391	2 145	2 091	141
Article 438 (c)(d)	7	Of which mark to market	1 416	1 448	1 771	1 522	1 541	113
Article 438 (c)(d)	8	Of which original exposure	0	0	0	0	0	0
	9	Of which the standardised approach	0	0	0	0	0	0
	10	Of which internal model method (IMM)	0	0	0	0	0	0
Article 438 (c)(d)	11	Of which risk exposure amount for contributions to the default fund of a CCP and other exposures to the central counterparty	43	50	40	41	36	3
Article 438 (c)(d)	12	Of which CVA	308	542	579	583	515	25
Article 438 (e)	13	Settlement risk	0	0	0	0	0	0
Article 438 (e)	19	Market risk	5 900	6 512	6 399	5 412	5 924	472
	20	Of which the standardised approach	5 900	6 512	6 399	5 412	5 924	472
	21	Of which IMA	0	0	0	0	0	0
Article 438 (e)	22	Large exposures	0	0	0	0	0	0
Article 438 (f)	23	Operational risk	8 066	9 047	8 851	8 562	8 204	645
	24	Of which basic indicator approach	2 623	2 606	2 623	2 603	2 520	210
	25	Of which standardised approach	0	0	0	0	0	0
	26	Of which advanced measurement approach	5 443	6 441	6 228	5 959	5 684	435
Article 437 (2), Article 48 and Article 60	27	Amounts below the thresholds for deduction (subject to 250% risk weight)	7 893	8 103	7 318	7 127	0	631
Article 500	28	Floor adjustment	0	0	0	0	0	
	29	**Total**	**200 442**	**202 211**	**206 248**	**199 382**	**195 883**	**16 035**

To the most important events influencing level of risk weighted assets belong:

1) change in the approach of assessing the value of residential mortgage loans and applying a risk weight of 35% as a result of receiving from the PFSA Office a letter presenting current position regarding the possibility of applying a risk weight of 35% for loans fully and completely secured by mortgages on residential property issued in PLN. PFSA Office indicated that CRR regulations are binding in that matter,
2) increase in exposure value
3) increase in the amount of insurance deductions (AMA

As at 31 December 2018, the biggest part of the Group's total own funds requirements was the own funds requirement for credit risk (93.04%) – chart 4.1. Credit risk shown on the chart includes risk of credit valuation adjustment. Settlement risk is presented as a part of market risk.

Chart 4.1 Structure of capital requirement by risk types



CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Own funds requirement for the Bank constitutes a significant part (88.4%) of the total own funds requirement for the Group (Chart 4.2).

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

The Bank Group comprises insurance companies, PKO Życie Towarzystwo Ubezpieczeń SA and PKO Towarzystwo Ubezpieczeń SA, which, as an entity covered with separate supervision of PFSA Office, including capital requirements compliance assessment for insurance undertakings, is excluded from the prudential consolidation.

As at 31 December 2018, the Bank did not have any instruments which should be disclosed as unpaid shares in insurance companies in accordance with Art. 49 of the CRR Regulation.

4.1. Credit risk

The own funds requirement for credit risk and the counterparty credit risk as at 31 December 2018 is shown (by exposure classes) in Table 4.2.

Table 4.2 Structure of own funds requirement for credit risk in Bank's Capital Group

	2018		2017	
Exposures to central governments or central banks	511	3.4%	469	3.2%
Exposures to regional governments or local authorities	172	1.2%	148	1.0%
Exposures to public sector entities	13	0.1%	17	0.1%
Exposures to multilateral development banks	0	0.0%	0	0.0%
Exposures to international organisations	0	0.0%	0	0.0%
Exposures to institutions	219	1.5%	192	1.3%
Exposures to corporates	3 961	26.6%	3 104	21.4%
Retail exposures	3 787	25.4%	5 324	36.7%
Exposures secured by mortgages on immovable property	4 962	33.3%	3 923	27.1%
Exposures in default	605	4.1%	577	4.0%
Exposures associated with particularly high risk	133	0.9%	63	0.4%
Exposures in the form of covered bonds	0	0.0%	0	0.0%
Items representing securitisation positions	0	0.0%	0	0.0%
Exposures to institutions and corporates with a short-term credit assessment	0	0.0%	0	0.0%
Exposures in the form of units or shares in collective investment undertakings ('CIUs')	0	0.0%	0	0.0%
Equity exposures	166	1.1%	268	1.8%
Other items	366	2.5%	412	2.8%
Total	**14 893**	**100.0%**	**14 499**	**100.0%**

*includes the capital requirement for credit risk, market risk, counterparty credit risk (mark to market method) and CCP risk.

The Group is obliged to maintain the highest own funds requirement for the risk related to exposures secured on real property (33.3%) and retail exposures (25.4%), which results from the Bank's high exposure to such types of segments as well as corporates exposures (26.6%).

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

4.2. Market risk

The largest share in the value of requirement for market risk in the Bank's Capital Group for 2018 was related to the specific risk of debt instruments (approx. 77.0%), Another type of capital requirement that is significant in terms of value is the own funds requirement for the general debt instruments risk (21%) (table 4.3).

Table 4.3 Own funds requirement for market risk [template EU MR1]

		2018	
		a)	b)
		RWAs	Capital requirements
	Outright products		
1	Interest rate risk (general and specific)	5 821	466
2	Equity risk (general and specific)	63	5
3	Foreign exchange risk	0	0
4	Commodity risk	0	0
	Options		
5	Simplified approach	0	0
6	Delta-plus method	15	1
7	Scenario approach	1	0
8	Securitisation (specific risk)	0	0
9	**Total**	**5 900**	**472**

The own funds requirement for FX risk was zero due to the fact that the total currency position did not exceed 2% of the Bank's own funds.

As at the end of 2018 the Bank's Capital Bank did not have an open position for commodity price risk, so the respective own funds requirement was zero.

Considering the fact that the Group does not use internal models for the purpose of calculation of own funds requirements for market risk, art. 455 of the CRR does not apply.

4.3. Operational risk

The division of the own funds requirement for operational risk, due to the calculation method used is presented in table. 4.4.

Table 4.4 Capital requirement for operational risk

	The Bank Group		Other Group companies		Bank	
	2018	2017	2018	2017	2018	2017
Basic Index Approach - BIA	210	202	209	201	1	1
Advanced approach - AMA	435	454	0	0	435	454
Total	**645**	**656**	**209**	**201**	**436**	**455**

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

5. Encumbered and unencumbered assets

Information regarding encumbered and unencumbered assets of the Group can be found in the tables below. Respective assets are considered encumbered, if they have been pledged or are subject to any form of agreement aimed at securing or increasing a credit rating of any on- or off-balance sheet transaction, and cannot be freely withdrawn (for instance to be pledged for financing purposes).

The Group held encumbered assets as of 31 December 2018:
1) resulting from sell-buy-back transactions
2) Registered treasury bonds, pursuant to art. 18 items 3a of Mortgage Bonds and Mortgage Banks Act.

Moreover, the Group held securities in the form of mortgage bonds, secured with mortgage loans in the amount of PLN 16 998 million. and bonds in the amount of PLN 641 million secured by receivables under lease agreements in the amount of PLN 641 million.

Table 5.1 Encumbered and unencumbered assets

		2018			
		Carrying amount of encumbered assets	Fair value of encumbered assets	Carrying amount of unencumbered assets	Fair value of unencumbered assets
		010	040	060	090
010	Assets of the Bank Group	18 287		303 858	
030	Equity instruments	0		332	
040	Debt securities	407	356	61 052	52 816
050	of which: covered bonds	0	0	0	0
060	of which: asset-backed securities	0	0	0	0
070	of which: issued by general governments	407	356	51 819	45 553
080	of which: issued by financial corporations	0	0	809	947
090	of which: issued by non-financial corporations	0	0	5 490	3 417
120	Other assets	17 880		242 473	
121	of which: loans and advances other than loans on demand	17 686		198 694	
122	of which: loans on demand	194		23 386	
123	of which: other	0		20 393	

Table 5.2 Collateral received

		2018	
		Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance
		010	040
250	TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED	18 287	

Table 5.3 Encumbered assets/collateral received and associated liabilities

		2018	
		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
		010	030
010	Carrying amount of selected financial liabilities	13 527	18 285
011	of which: debt securities issued	13 483	18 242
012	of which: repurchase agreements	45	43

Repo and sell-buy-back transactions are conditional transactions resulting in encumbrance of assets transferred to counterparties as loan collateral. Transactions are normally used by the Bank in the business model used in the area of liquidity management in the financial markets and in the framework of servicing the transaction needs of financial institutions that are the Bank's counterparties. The collateral being transferred in respect of current valuation of derivative transactions constitutes a standard mechanism for securing the Bank's credit exposure resulting from concluded securing agreements and as such are part of the Bank's business model related to transactional activity on financial markets.

6. Capital buffers

Pursuant to the CRR and the act on macroprudential supervision, financial institutions are obligated to hold the combined buffer requirement over the minimum levels set out in the CRR regulation for:

1) Total Capital Ratio (TCR),
2) Tier I capital ratio (T1),
3) Common Equity Tier I capital ratio (CET1).

Buffers need to be covered with Common Equity Tier 1 capital.

The combined buffer requirement is the sum of all applicable buffers, i.e. capital conservation buffer, countercyclical buffer, systemic risk buffer, and O-SII buffer. These buffers must be covered with Tier I capital.

Capital conservation buffer – imposed on all banks. The buffer will be increased on a yearly basis until its final, stable level of 2.5% (from 1 January 2019). As of 31 December 2018 the security buffer is equal to 1.875%.

Countercyclical buffer – imposed with the aim of mitigating the systemic risk resulting from the credit cycle. Countercyclical buffer is introduced by the finance ministry during an increased lending activity and cancelled during its slowdown. For exposures located in each Member State, the countercyclical buffer rate is set by authority designated by that Member State. As at 31 December 2018 the countercyclical buffer rate was set at 2% for exposures located in Norway and Sweden, 1.875% for exposures located in Hong Kong, 1.25% in Iceland and Slovakia, 1% in the Czech Republic and Great Britain, 0.5% in Lithuania and 0% for exposures located in remaining countries.

The Bank's Group specific countercyclical buffer is set taking into account the countercyclical buffer rates set by each country where exposures of the Bank are located. As at 31 December 2018 the bank specific countercyclical buffer of the Group was equal to 0.01%.

Table 6.1 and 6.2 present geographic distribution of exposures with corresponding countercyclical buffer rate for the Bank's Group.

(IN PLN MILLION)

Table 6.1. Geographical distribution of credit exposures relevant for the calculation of the Bank's Group countercyclical capital buffer *

		2018											
		General credit exposures		Tradind book exposures		Securitisation exposure		Own funds requirements				Own funds requirements weights	Countercyclical buffer rate
		Exposure value for SA	Exposure value for IRB approach	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for the IMA	Exposure value for SA	Exposure value for IRB approach	of which: General credit exposures	of which: Trading book exposures	of which: Securitisation exposures	Total		
		010	020	030	040	050	060	070	080	090	100	110	120
010	Breakdown by country												
1	Poland	230 972	0	5 734	0	0	0	13 680	289	0	13 969	97.909207	0.00
2	Ukraine	1 499	0	0	0	0	0	97	0	0	97	0.682000	0.00
3	Spain	554	0	0	0	0	0	44	0	0	44	0.310300	0.00
4	Luxembourg	343	0	0	0	0	0	27	0	0	27	0.192500	0.00
5	Netherlands	270	0	0	0	0	0	22	0	0	22	0.152000	0.00
6	Sweden	240	0	0	0	0	0	19	0	0	19	0.135000	2.00
7	Germany	192	0	0	0	0	0	15	0	0	15	0.106100	0.00
8	Bahamas	186	0	0	0	0	0	15	0	0	15	0.104200	0.00
9	Norway	140	0	0	0	0	0	11	0	0	11	0.077400	2.00
10	Czech Republic	137	0	0	0	0	0	11	0	0	11	0.077000	1.00
11	Liberia	112	0	0	0	0	0	9	0	0	9	0.062600	0.00
12	Cyprus	83	0	0	0	0	0	7	0	0	7	0.046000	0.00
13	Great Britain	75	0	0	0	0	0	5	0	0	5	0.037200	1.00
14	France	69	0	0	0	0	0	5	0	0	5	0.037300	0.00
15	Malta	36	0	0	0	0	0	4	0	0	4	0.030000	0.00
16	Switzerland	27	0	0	0	0	0	2	0	0	2	0.016400	0.00
17	Estonia	16	0	0	0	0	0	1	0	0	1	0.009200	0.00
18	Irlandia	8	0	0	0	0	0	1	0	0	1	0.003900	0.00
19	Beligium	4	0	0	0	0	0	0	0	0	0	0.002100	0.00
20	United States of America	3	0	0	0	0	0	0	0	0	0	0.002100	0.00

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

21	Italy	3	0	0	0	0	0	0	0	0	0	0.001300	0.00
22	South Korea	1	0	0	0	0	0	0	0	0	0	0.001100	0.00
23	Australia	1	0	0	0	0	0	0	0	0	0	0.000700	0.00
24	Denmark	1	0	0	0	0	0	0	0	0	0	0.000700	0.00
25	Portugal	1	0	0	0	0	0	0	0	0	0	0.000600	0.00
26	Austria	1	0	0	0	0	0	0	0	0	0	0.000400	0.00
27	Russia	1	0	0	0	0	0	0	0	0	0	0.000500	0.00
28	Canada	1	0	0	0	0	0	0	0	0	0	0.000300	0.00
29	Central African Republic	1	0	0	0	0	0	0	0	0	0	0.000100	0.00
30	Bulgaria	0	0	0	0	0	0	0	0	0	0	0.000200	0.00
31	Greece	0	0	0	0	0	0	0	0	0	0	0.000100	0.00
32	Finland	0	0	0	0	0	0	0	0	0	0	0.000100	0.00
33	United Arab Emirates	0	0	0	0	0	0	0	0	0	0	0.000100	0.00
34	Iceland	0	0	0	0	0	0	0	0	0	0	0.000100	1.25
35	Belarus	0	0	0	0	0	0	0	0	0	0	0.000100	0.00
36	Kazakhstan	0	0	0	0	0	0	0	0	0	0	0.000100	0.00
37	Romania	0	0	0	0	0	0	0	0	0	0	0.000200	0.00
38	Brazil	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
39	Moldova	0	0	0	0	0	0	0	0	0	0	0.000100	0.00
40	Hong Kong	0	0	0	0	0	0	0	0	0	0	0.000200	1.88
41	Latvia	0	0	0	0	0	0	0	0	0	0	0.000100	0.00
42	Georgia	0	0	0	0	0	0	0	0	0	0	0.000100	0.00
43	French Polynesia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
44	Slovenia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
45	Lithuania	0	0	0	0	0	0	0	0	0	0	0.000000	0.50
46	Armenia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
47	Slovakia	0	0	0	0	0	0	0	0	0	0	0.000000	1.25
48	China	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
49	India	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
50	Afghanistan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
51	Hungary	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
52	Nepal	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
53	Uganda	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
54	South Africa	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
55	Turkey	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
56	Syria	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
57	Saudi Arabia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
58	Pakistan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
59	Israel	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
60	Uzbekistan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

61	Philippines	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
62	Iran	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
63	Bangladesh	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
64	Vietnam	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
65	Tajikistan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
66	Azerbajian	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
67	Albany	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
68	Jordan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
69	Croatia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
70	Serbia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
71	Iraq	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
72	Kenya	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
73	Morocco	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
74	Egypt	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
75	Nigeria	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
76	Macedonia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
77	Algeria	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
78	Venezuela	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
79	Tunisia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
80	New Zeland	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
81	Macau	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
82	Laos	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
83	Cameroon	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
84	Kyrgyzstan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
85	Japan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
86	Mexico	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
87	North Korea	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
88	Zimbabwe	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
89	Aruba	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
90	Senegal	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
91	Mongolia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
92	Malaysia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
93	Lebanon	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
94	Cuna	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
95	Bosnia and Herzegovina	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
96	Indonesia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
97	Thailand	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
98	Ghana	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
99	Libya	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
100	Montenegro	0	0	0	0	0	0	0	0	0	0	0.000000	0.00

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

101	Sri Lanka	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
102	Somalia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
103	Argentina	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
104	Taiwan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
105	Namibia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
106	Tanzania	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
107	Peru	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
108	Andorra	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
109	Yemen	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
110	Ethiopia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
111	Kuwait	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
112	Guernsey	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
113	Congo	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
114	South Georgia and the South Sandwich Islands	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
115	Columbia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
116	Zambia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
117	Paraguay	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
118	Dominican Republic	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
119	Turkmenistan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
120	Eritrea	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
121	Djibouti	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
122	Mali	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
123	Costa Rica	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
124	Ivory Coast	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
125	Guinea	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
126	Sierra Leone	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
127	Gibraltar	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
128	Belize	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
129	Qatar	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
130	Malawi	0	0	0	0	0	0	0	0	0	0	0.000000	0.00

131	Sudan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
132	Angola	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
133	Honduras	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
134	Singapore	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
135	Curacao	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
136	Jamaica	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
137	Ecuador	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
138	Chad	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
139	Vanuatu	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
140	Liechtenstein	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
141	Myanmar	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
142	Panama	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
143	Falkland Islands	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
144	Guatemala	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
145	Bolivia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
146	Togo	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
147	Chile	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
148	Fiji	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
149	Burkina Faso	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
150	Bouvet Island	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
151	Micronesia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
152	Gambia	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
153	Oman	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
154	Monaco	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
155	Mozambique	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
156	Bahrain	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
157	Bermuda	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
158	Niue	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
159	Bhutan	0	0	0	0	0	0	0	0	0	0	0.000000	0.00
020	**Total**	**234 981**	**0**	**5 734**	**0**	**0**	**0**	**13 979**	**289**	**0**	**14 267**		

* The value of the exposure equal to 0 results from rounding to PLN millions and is not equivalent to lack of exposure in particular country.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 6.2 Countercyclical capital buffer specific for the Bank Group

		2018	2017
010	Total risk exposure amount	200 442	195 884
020	Institution specific countercyclical capital buffer rate	0.01%	0
030	Institution specific countercyclical capital buffer rate requirement	11	-

Systemic risk buffer – used to prevent and reduce the long-term, non-cyclical risk or macroprudential risk, which may cause severe negative consequences for the financial system and economy of the country. As of 31 December 2018 the systemic risk buffer was equal to 3%.

Other systemically important institutions (O-SII) buffer is an additional buffer for institutions that may generate systemic risk. On 10 October 2016 the Bank received the decision of the PFSA classifying the Bank as O-SII. In 2018, as a result of review conducted by PFSA in accordance with the Act on Macro-Prudential Supervision on the financial system and crisis management in financial system, after consulting Financial Stability Committee, PFSA imposed on the Bank other systemically important institutions (O-SII) buffer in the equivalent of 1% of total risk exposure amount, calculated in accordance with art. 92 sec. 3 of the EU Regulation No. 575/2013. The buffer increase from 0.75% to 1% was influenced by factors related to PFSA's recognition of additional transactions as cross-border as well as issuance of own debt securities. The buffer must be maintained both on an individual and on a consolidated basis.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

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 relation between the amount of Tier I capital and the total balance and off-balance sheet assets. The principles of excessive financial leverage risk management have been described in the Bank's internal regulations. The Risk Division (Capital Adequacy and Operational Risk Department) and Accounting and Tax Department are responsible for the assessment of excessive leverage risk.

Identification of excessive financial leverage risk involves the identification of actual and potential risk sources and factors as well as the determination of its potential impact on the operations of the Bank and the Bank's Group. For the purpose of measuring of leverage risk, the leverage ratio is expressed as a percentage calculated as Tier I capital divided by total exposure. The Bank Group calculates the leverage ratio as at the reporting date. The leverage ratio as at 31st December 2018 was calculated both for Tier 1 capital and for the temporary definition of Tier 1 capital (within the meaning of transitional solutions to mitigate the impact of introduction of IFRS 9 on own funds).

In order to maintain the leverage ratio at an acceptable level, a strategic limit and a threshold value are set, both monitored and verified at least on a yearly basis. Leverage risk is considered low when it is equal to or higher than the threshold, elevated when the leverage value is below the threshold and is equal to or greater than the strategic tolerance limit, and high when the value leverage ratio is below the strategic tolerance limit.

The leverage ratio is calculated and reported on a regular basis. In case of an observed high or elevated leverage risk, proposals for management actions are prepared, taking into account the current macroeconomic situation and costs associated with the proposed activities. The impact of recommended management activities on level of excessive financial leverage risk is determined. The leverage ratio is estimated in the financial planning process and takes into account scheduled changes in business activity and assets structure of the Bank and of the Group. The Bank have developed the list of tools available in case of the need to increase Tier I capital or adjust balance sheet and off-balance sheet items structure.

In 2018, leverage risk remained above internal and external limits, as well as above minimum level recommended by the PFSA.

Table 7.1 Summary reconciliation of accounting assets and leverage ratio exposures

		Leverage ratio exposures as in Capital Requirements Regulation	
		2018	2017
1	Total assets as per published financial statements	324 255	296 939
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-2 110	-2 358
4	Adjustments for derivative financial instruments	2 435	2 528
5	Adjustments for securities financing transactions (SFTs)	7	0
6	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	14 089	11 919
7	Other adjustments	-1 878	-2 199
8	Total leverage ratio exposure	336 797	306 830

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Table 7.2 Leverage ratio. Exposure for leverage ratio calculation as described in the CRR [template LRCom]

		CRR leverage ratio exposures	
		2018	2017
On-balance sheet exposures (excluding derivatives and SFTs)			
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	322 858	294 748
2	(Asset amounts deducted in determining Tier 1 capital)	-2 902	-2 831
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)**	319 957	291 917
Derivative exposures			
4	Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	860	1 133
5	Add-on amounts for PFE associated with all derivatives transactions (mark- to-market method)	2 435	2 528
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-567	-705
11	**Total derivatives exposures (sum of lines 4 to 10)**	2 727	2 956
SFT exposures			
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	18	38
14	Counterparty credit risk exposure for SFT assets	7	0
16	**Total securities financing transaction exposures (sum of lines 12 to 15a)**	24	38
Other off-balance sheet exposures			
17	Off-balance sheet exposures at gross notional amount	57 610	51 898
18	(Adjustments for conversion to credit equivalent amounts)	-43 520	-39 979
19	Other off-balance sheet exposures (sum of lines 17 and 18)	14 089	11 919
Capital and total exposure mesure			
20	Tier 1 capital	35 149	32 326
21	Leverage ratio total exposure measure (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)	336 797	306 830
Leverage ratio			
22	Leverage ratio	10.44%	10.54%
Choice on transitional arrangements and amount of derecognised fiduciary items			
EU-23	Choice on transitional arrangements for the definition of the capital measure	Transitional	Transitional
EU-24	Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) No 575/2013	0	0

Table 7.3 On balance sheet exposures [template LRSpl]

		CRR leverage ratio exposures	
		2018	2017
EU-1	**Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:**	**322 858**	**294 748**
EU-2	Trading book exposures	9 317	9 905
EU-3	Banking book exposures, of which:	313 541	284 843
EU-4	Covered bonds	0	0
EU-5	Exposures treated as sovereigns	66 144	56 980
EU-6	Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	10 726	9 458
EU-7	Institutions	6 965	4 790
EU-8	Secured by mortgages of immovable properties	91 670	55 019
EU-9	Retail exposures	66 897	92 680
EU-10	Corporate	47 223	42 685
EU-11	Exposures in default	6 403	5 879
EU-12	Other exposures (eg equity, securitisations, and other non-credit obligation assets)	17 512	17 353

Strategic decisions had an indirect impact on the leverage ratio in 2018. Factors affecting the size of leverage ratio:

1) increase in the value of exposure resulting from:
   a) increase in credit exposures,
   b) increase in value of treasury bonds,
   c) changes in the exchange rates
2) increase in the value of own funds results from inclusion of profit for 2017 and for the offsetting of profit for the three quarters of 2018 (after deducting the expected charges with the PFSA's prior permission).

8. Internal capital (Pillar II)

As of 2018, the Bank Group determines the internal capital in compliance with:

1) the CRR,
2) the Banking Law Act,
3) Regulation of the Minister of Development and Finance of 6 March 2017 on the risk management system and internal control system, remuneration policy and detailed method of internal capital assessment in banks,
4) the Act on macro-prudential supervision,

and internal regulations of the Bank and the Bank Group.

Internal capital is the amount of capital that is required to cover all identified significant types of risk present in the business activity of the Bank and the Bank Group and the effect of changes in the business environment, taken into account the anticipated risk level.

The purpose of internal capital assessment is to maintain a level of own funds resulting from Strategy ensuring the safety of operations, taking account of changes in the profile and volume of conducted activities and unfavourable stress conditions as well as enabling more effective management of the Bank and the Bank Group aimed at improving the profitability of operations and the profitability of invested capital.

For each risk classified as material, the Bank and the Bank Group develop and implement methods for its assessment and measurement.

The Bank monitors on a cyclical basis the significance of individual types of risk related to the business activity of the Bank and the Bank Group. Internal capital for specific risk types is calculated in compliance with internal regulations.

The total internal capital of the Bank Group is the sum of internal capital required to cover all significant risk types for which the Bank and the Bank Group – including entities subject to prudential consolidation - are exposed. The correlation ratio used for the calculation of internal capital between particular risk types and the Bank Group entities is equal to 1.

The Bank's internal capital to cover credit default risk, is determined as a difference between a maximum loss, that the Bank may incur within one year (estimated using the CR+ method), and the value of expected credit loss for entities other than financial institutions, countries or central banks and capital requirements for credit risk, for financial institutions, countries and banks, calculated using a modified standard method, as specified in the CRR. Internal capital to cover credit default risk is calculated for balance and off-balance exposures subject to credit risk. Entities of the Bank Group, for which the credit risk is significant, determine the internal capital to cover credit risk on the basis of own funds capital requirements for credit risk. Total internal capital for credit default risk is the sum of internal capital determined for separate exposure portfolios and entities of the Bank Group in which internal capital is estimated for credit risk.

To calculate the internal capital for interest rate risk the Bank uses the VaR methodology, taken into account the results of stress tests. In addition to the calculation of internal capital for interest rate risk, the sensitivity measure of interest income is applied.

To calculate the internal capital for FX risk the Bank uses the VaR methodology, taken into account the results of stress tests.

The internal capital for interest rate risk and FX risk for Bank Group is calculated in a manner similar to calculation for the Bank taking into account nature of the subsidiaries for which internal capital is calculated.

The internal capital to cover the liquidity risk comprises the total estimated cost of an accelerated sale of securities covering the stress-test related outflow of funds and the cost of acquisition of additional financing for intangible assets necessary to meet the required level of intangible assets. Total internal capital for Bank Group liquidity risk is sum of Bank internal capital and subsidiaries of the Bank Group for which liquidity risk has been assessed as significant. The internal capital for the Bank Group subsidiaries is calculated in a manner similar to calculation for the Bank taking into account their nature.

The internal capital for the Bank's operational risk is equal to the Bank's capital requirement for operational risk calculated using AMA and BIA. The internal capital for the operational risk of the Group entities is for Group entities subject to prudential consolidation, which assessed operational risk as significant – in the amount of capital estimated by these subsidiaries.

The internal capital to cover business risk of the Bank is determined on the basis of analysis of historical volatility of deviations of realised net revenue from its expected values, in accordance with the earnings at risk concept (Earnings at Risk).

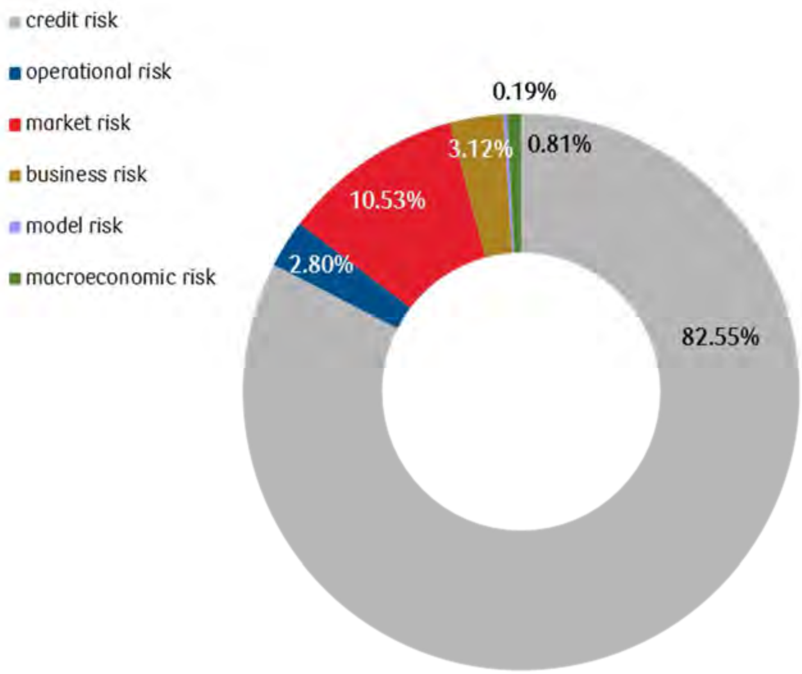
The internal capital for business risk of the Bank Group subsidiaries is accepted for the Bank Group subsidiaries which assessed business risk as significant. The internal capital for covering business risk of the Bank Group is determined as the sum of internal capital of the Bank and the Group's entities.

The internal capital to cover the macroeconomic changes risk in the Bank and the Bank Group subsidiaries which macroeconomic changes risk is assessed as significant is determined based on results of comprehensive stress tests and equals to arithmetic average from amounts of total requirement of own funds in a stress scenario which causes decrease of total capital ratio (TCR) below the level resulting from stress scenario calculated for four consecutive quarters.

The internal capital for model risk of the Bank and the Bank Group is calculated based on the measurement determining amount of internal capital for model risk depending on the risk level of the models.

The Chart below presents the structure of internal capital by risk type, as estimated as at 31 December 2018 for the Bank Group.

Chart 8.1 Structure of internal capital of the Group as at 31.12.2018



The total internal capital is allocated by business areas, client segments and by the companies of the Bank Group.

9. Capital adequacy

Capital adequacy is a process aiming to ensure that the risk level assumed by the Bank and the Group for the development of business operations can be covered by available capital within specified risk tolerance levels and time horizon. Capital adequacy management process involves, in particular, adherence to applicable supervisory regulations and risk tolerance levels set in the Bank and the Group, capital planning process, including policies related to sources of capital.

Basic regulations obligatory in the capital adequacy assessment process:
1) CRR Regulation,
2) The Banking Law Act,
3) The Act on macro-prudential supervision,
4) Regulation of the Minister of Development and Finance of 6 March 2017 on the risk management system and internal control system, remuneration policy and detailed method of internal capital assessment in banks.

The objective of capital adequacy management is to maintain, on an ongoing basis, the level of own funds that is adequate to the scale and risk profile of business activity of the Bank Group.

Capital adequacy management at the Bank comprises:
1) definition and implementation of desired capital adequacy objectives,
2) identification and monitoring of significant types of risk,
3) measurement or assessment of the amount of internal capital for individual significant types of risk and of total internal capital,
4) definition of internal capital adequacy limits,
5) forecasting, monitoring and reporting of internal capital levels and its structure as well as capital adequacy,
6) balance sheet structure management with the aim of optimization of quality of the Bank's own funds,
7) capital-related contingency actions,
8) stress tests
9) Planning and allocation of own funds requirement and internal capital to business areas, client segments and individual entities of the Group,
10) profitability assessment of business areas and client segments.

The measures of capital adequacy are as follows:
1) the total capital ratio (TCR),
2) Tier 1 (T1) capital ratio,
3) Common Equity Tier I capital (CET1) ratio,
4) the own funds to internal capital ratio,
5) leverage ratio.

The purpose of monitoring the level of capital adequacy measures is to determine the degree of compliance with supervisory standards and to identify cases requiring the activation of capital emergency actions.

According to art. 92 of the CRR, the minimum capital ratio levels maintained by the Bank Group are as follows:
1) Total capital ratio (TCR) – 8.0%,
2) Tier I (T1) – 6.0%,
3) Common Equity Tier 1 (CET1) – 4.5%.

In accordance to the CRR Regulation and the Act on macro-prudential supervision, the Bank Group is obliged to maintain the requirement of a combined buffer, which is the sum of buffers in force. Detailed information on capital buffers is presented in Chapter 6 of this report.

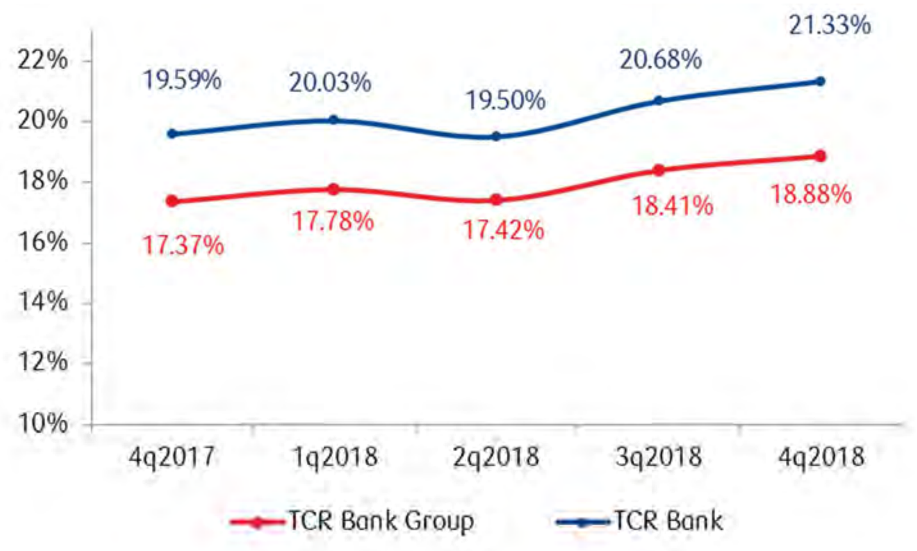
Additionally, the Bank Group is obliged to maintain its own funds to cover an additional capital requirement in order to hedge the risk resulting from mortgage-secured foreign currency credits, loans to households, so-called an add-on. On 29 November 2018, the Bank Group received a letter from the PFSA concerning the individual recommendation to comply with an additional own funds requirement (add-on) for consolidated capital ratios. Total capital ratio: 0.42 percentage points. Tier 1 capital ratio: 0.31 percentage points. Common Equity Tier 1 capital ratio: 0.23 percentage points.

The Bank meets PFSA requirements regarding minimum capital ratios.

In 2018 and in 2017, the Bank Group maintained a safe capital base, above supervisory and regulatory limits.

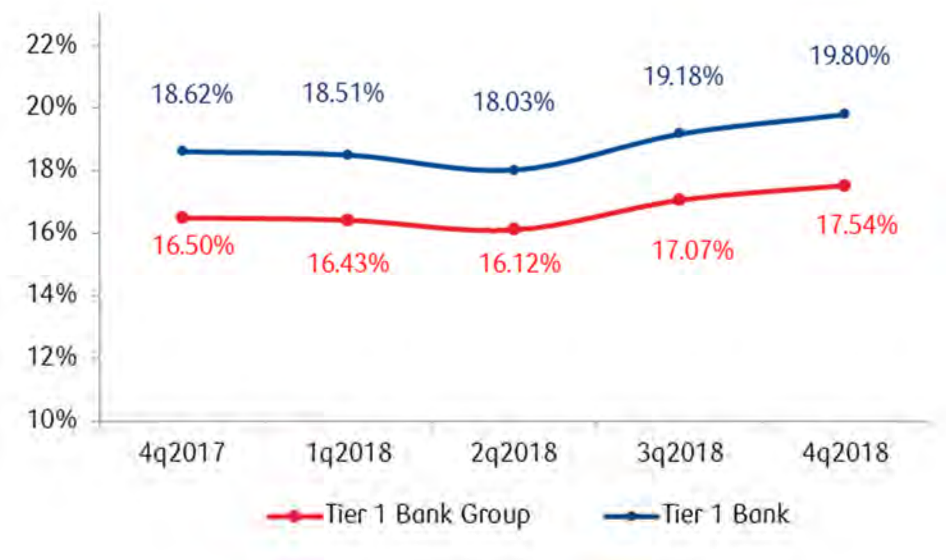
The chart below presents changes in the Total Capital Ratio calculated for the Bank and the Bank Group.

Chart 9.1 Total capital ratio.



The chart below presents changes in the Tier I (Common Equity Tier I) Ratio[16] for the Bank and the Bank Group.

Chart 9.2 Tier I capital ratio (T1)/common equity Tier I (CET 1) capital ratio



In 2018 the capital adequacy ratios remained above external and internal limits.

9.1. The impact of IFRS 9 accounting standards on capital adequacy

From 1 January 2018, the new accounting standard IFRS 9 Financial Instruments entered into force, replacing the standard of IAS 39 Financial Instruments. Changes concerns the classification and valuation of financial instruments, recognition and calculation of their impairment as well as hedge accounting.

[16] Tier 1 and Common Equity Tier 1 ratios are identical in the Bank and the Bank Group.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

The impact of the implementation of IFRS 9 on own funds and capital adequacy measures is regulated by Regulation of the European Parliament and of the Council 2017/2395[17]. According to this regulation, banks may apply transitional provisions in the scope of own funds and increase Common Equity Tier 1 capital related to the implementation of the new impairment model in the next 5 years from 1 January 2018, with the scaling factor going down from period to period. The Bank decided to fully apply the transitional provisions and to spread over time the impact of adjustments for the implementation of IFRS 9 on own funds and capital adequacy measures.

The Capital Group decided to fully apply the transitional provisions and to spread over time the impact of adjustments due to the implementation of IFRS 9 on own funds and capital adequacy measures.

Table 9.1. Comparison of the institution's own funds as well as the capital ratio and the financial leverage ratio, taking into account and without taking into account the application of transitional arrangements concerning IFRS 9 and similar expected credit losses [IFRS 9-FL.]

		31.12.2018	30.09.2018	30.06.2018	31.03.2018
Available capital (amounts)					
1	Common Equity Tier 1 (CET1) capital	35 150	34 522	33 238	32 759
2	Common Equity Tier 1 (CET1) capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	34 292	33 677	32 575	32 097
3	Tier 1 capital	35 150	34 522	33 238	32 759
4	Tier 1 capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	34 292	33 677	32 575	32 097
5	Total capital	37 850	37 222	35 938	35 459
6	Total capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	36 992	36 377	35 276	34 797
Risk-weighted assets (amounts)					
7	Total risk-weighted assets	200 442	202 212	206 248	199 387
8	Total risk-weighted assets as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	199 624	201 363	205 468	198 711
	Capital ratios				
9	Common Equity Tier 1 (as a percentage of risk exposure amount)	17.54%	17.07%	16.12%	16.43%
10	Common Equity Tier 1 (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	17.18%	16.72%	15.85%	16.15%
11	Tier 1 (as a percentage of risk exposure amount)	17.54%	17.07%	16.12%	16.43%
12	Tier 1 (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	17.18%	16.72%	15.85%	16.15%
13	Total capital (as a percentage of risk exposure amount)	18.88%	18.41%	17.42%	17.78%
14	Total capital (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	18.53%	18.07%	17.17%	17.51%
Leverage ratio					
15	Leverage ratio total exposure measure	336 797	315 668	310 795	307 149
16	Leverage ratio	10.44%	10.94%	10.69%	10.67%
17	Leverage ratio as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	10.21%	10.70%	10.50%	10.47%

[17] 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

10. Remuneration policy

The Policy of remunerating employees of the Bank and of the PKO BP Group (the Policy) adopted by resolution No 42/2017 of the Supervisory Board of 14 June 2017 is the basic internal regulation on remuneration policies.

The Policy ensures a consistent remuneration scheme by:
1) application of a remuneration scheme in line with market trends,
2) recruiting optimal candidates,
3) adjusting the mechanisms of tools and remuneration levels to the strategy and goals of the Bank and the Bank Group,
4) taking into account the capabilities of the Bank Group in the scope of shaping desired mechanisms and levels of remuneration,
5) shaping fixed remuneration based on job grading,
6) shaping the remuneration structure based on the achieved performance and assessment of employees' competences,
7) building in employees responsibility for the tasks assessed based on objectified criteria,
8) ensuring that variable remuneration components are so parameterized that they take into account the cost of risk, the cost of capital and liquidity risk of the Bank and the Bank Group in the long-term perspective,
9) ensuring that monetary or non-monetary forms of remuneration do not encourage those involved to favour their own interests or the interests of the Bank and of Bank Group entities to the detriment of clients.

The Collective Agreement concluded on 28 March 1994 (as amended) with trade union organizations is the basis for awarding the following remuneration components to Bank employees:
1) base remuneration,
2) additional remuneration for working overtime, as well as under conditions which are especially onerous and detrimental to health,
3) bonuses and rewards for special achievements in their professional work.

Base salaries and additional benefits granted to employees are formed on the basis of job grading (grading categories assigned to specific organisational positions) and analysis of market remuneration in the banking sector.

The remuneration policy at the Bank in 2018 was consistent with the principles of sound and effective risk management, which fact was confirmed by an assessment conducted in cooperation with an external advisor with a view to assess the achievement of policy objectives, in particular, long-term growth of shareholder value and stability of the Bank's operations. The policy did not encourage excessive risk-taking. In view of the Bank financial position, it was of a balanced character. The policy supported the Bank's strategic objectives and its long-term development. The above assessment was included in the Draft Report 'Assessment of the Functioning of the Remuneration Policy at PKO Bank Polski SA in 2018', which will be submitted to the Appointments and Remuneration Committee of the Supervisory Board of PKO Bank Polski.

In 2018, the following changes in the Bank's remuneration policy took place:
1) as a result of the 'Policy of Remunerating Employees of the Bank and of the PKO Bank Polski Group' adopted in 2017 by the Bank's Supervisory Board, activities related to the implementation of the policies defined in the 'Policy of Remunerating Employees of the Bank and of the PKO Bank Polski Group' were continued in PKO Bank Polski Group entities in the scope relevant for individual entities,
2) the Remuneration Committee of the Supervisory Board was transformed into the Appointments and Remuneration Committee of the Supervisory Board; this change was dictated by the adaptation to the amendments made to the Banking Law Act (Article 9cd.) and the Regulation of the Minister of Finance of 7 May 2018 on the specific scope of tasks of the appointments committee in major banks.

10.1. Variable components of remuneration of Board members and key managers with a high impact on the Bank's risk profile (Material Risk Takers – MRT)

In accordance with the requirements of CRD IV and Regulation No 604/2014 of 4 March 2014[18], the Bank regularly updates the rules for determining variable remuneration components implemented in 2012 for MRTs (bonuses and rewards), through resolutions:
1) of the Supervisory Board on the 'Policy of remunerating employees of the Bank and of the PKO Bank Polski SA Group', and on the 'Rules of appointing and remunerating members of the Management Board',
2) of the Management Board on the 'Rules of remunerating members of staff whose professional activities have a material impact on the risk profile of the Bank - Material Risk Takers at the Bank'.

The List of MRTs not being members of the Management Board is set by the Bank's Management Board based on qualitative and quantitative criteria for setting the categories of employees whose professional activities have a material impact on the risk profile, mentioned in Regulation 604/2014. On the basis of the criteria mentioned above, MRTs are in particular:
1) the high-level management team responsible for significant business units, for managing particular categories of risk and for control functions,
2) positions responsible for ensuring internal support, which are decisive for the conduct of operations by exposing the Bank to significant operational risk and other types of risk,
3) positions generating credit risk and market risk, selected using criteria based on competence limits,
4) positions in which employees received total remuneration exceeding the relevant threshold defined by the regulations (insofar as the employees in fact have material impact on the risk profile),
5) positions in which the employees fit into the same remuneration category as the high-level management team and individuals taking on operational risk (insofar as they have a material impact on the risk profile).

In 2018, separate regulations defining the rules of variable remuneration components functioned also in selected entities of the Bank Group. The rules of variable remuneration components for members of the Management Board were applicable in PKO Bank Hipoteczny SA, PKO BP BANKOWY PTE SA, PKO Leasing SA, PKO Towarzystwo Ubezpieczeń SA and PKO Życie Towarzystwo Ubezpieczeń SA. At the same time, in PKO Bank Hipoteczny SA,

[18] Commission Delegated Regulation (EU) No 604/2014 of 4 March 2014 supplementing Directive 2013/36/EU of the European Parliament and of the Council with regard to regulatory technical standards with respect to qualitative and appropriate quantitative criteria to identify categories of staff whose professional activities have a material impact on an institution's risk profile (RTS).

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

PKO Towarzystwo Ubezpieczeń SA and PKO Życie Towarzystwo Ubezpieczeń SA, the rules of variable remuneration components covered by employees in selected managerial positions whose professional activities had a material impact on the company's risk profile.
In addition, in connection with the Act of 27 May 2004 on investment funds and management of alternative investment funds and the Regulation of the Minister of Finance of 30 August 2016 on detailed requirements to be met by the remuneration policies in place in an investment fund management company, in 2018 PKO Towarzystwo Funduszy Inwestycyjnych SA had remuneration policies in place, which set the rules for variable remuneration components for all members of the management board as well as for selected employees whose tasks included professional activities that materially affected the risk profile of the company or of investment funds managed by the company. On 4 June 2018, PKO Towarzystwo Funduszy Inwestycyjnych SA merged with Gamma Towarzystwo Funduszy Inwestycyjnych SA (formerly KBC Towarzystwo Funduszy Inwestycyjnych SA).[19]

10.1.1.The process of determination of variable components of remuneration of MRT

The Bank's internal regulations regarding variable remuneration components were prepared with participation of experts and management staff of the Bank from the Personnel and Efficiency Management Department (the rules of granting bonus and rewards), Personnel Affairs Department (labour law), Planning and Controlling Department (planning, setting and settling financial objectives).

The Policy was prepared by the Bank with the support of consulting company PwC Polska acting as an external advisor. The consulting firm EY Polska provided the Bank with support in updating the Policy. The Policy is assessed and modified by the Supervisory Board based on the recommendation of the Management Board and taking into account the opinion of the Appointments and Remuneration Committee.

10.1.2.Appointments and Remuneration Committee of the Supervisory Board (SBARC)

The SBARC functions in the Bank to support the Supervisory Board in the performance of its duties under the Articles of Association and responsibilities under law. Members of the Bank's Supervisory Board make up the SBARC. The Appointments and Remuneration Committee of the Supervisory Board was established in 2018 as a result of transformation of the Remuneration Committee of the Supervisory Board, which was previously functioning within the Supervisory Board (Table 10.1).

Table 10.1 Members of the Bank's Supervisory Board making up the SBARC

2018	
Name	**Function**
Piotr Sadownik	Chair of the Committee
Grażyna Ciurzyńska	Vice-Chair of the Committee
Wojciech Jasiński	Member of the Committee
Elżbieta Mączyńska-Ziemacka	Member of the Committee
Janusz Ostaszewski	Member of the Committee

The SBARC prepares opinions on the Remuneration Policy, the level and components of remuneration of persons holding managerial positions in the Bank, including base and variable remuneration of the Management Board members.

The SBARC is responsible, in particular, for the following tasks:
1) reviewing, on a periodical basis, the policy of remunerating persons holding managerial positions in the Bank and presenting the outcomes of the review to the Supervisory Board,
2) presenting, to the Supervisory Board, proposals of rules for remunerating members of the Management Board,
3) giving opinions on the general rules of the policies of remunerating persons whose professional activities have a material impact on the Bank's risk profile, which general rules are subject to approval by the Supervisory Board,
4) giving opinions on the report on the review of implementation of the remuneration policies, as carried out by the Internal Audit Department.
5) preparing a draft report on the assessment of functioning of the remuneration policies at the Bank, to be presented to the General Meeting by the Supervisory Board.

In 2018, 7 sessions of the Remuneration Committee of the Supervisory Board and the Appointments and Remuneration Committee of the Supervisory Board were held in total.

[19] Until the merger with PKO Towarzystwo Funduszy Inwestycyjnych SA on 4 June 2018, Gamma Towarzystwo Funduszy Inwestycyjnych SA (formerly KBC Towarzystwo Funduszy Inwestycyjnych SA, which was an indirect subsidiary of PKO Bank Polski SA from December 2017) had remuneration policies in place which covered members of the Management Board and all employees. These remuneration policies took into account the requirements of the Regulation of the Minister of Finance of 30 August 2016 on detailed requirements to be met by the remuneration policies in place in an investment fund management company but in a simplified scope applicable to management companies not being significant investment fund management companies (i.e. taking into account §6(2) of that Regulation), which does not provide for deferment of payment of variable remuneration components and payment of remuneration in a form other than cash.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

10.1.3.The most important information about the characteristics of the system of variable remuneration components of MRTs

The Policies of remunerating the employees of the Bank and of the Bank Group as well as the remuneration regulations applicable in companies describe the procedure for granting MRTs variable remuneration components related to performance and work outcomes, including rewards for special achievements at work and bonuses.

The variable remuneration components are awarded primarily on the basis of bonus objectives assigned as part of Management by Objectives (MbO).

The rules contained in the Policies indicate that objectives are set to ensure that the business cycle of the Bank and the risks associated with its operations are taken into account. The objectives may refer, in particular, to the performance of the Bank Group, the C/I ratio of the Bank Group, the ROE ratio of the Bank Group, the results on business operations of individual areas, the implementation of projects supporting the strategy. The risk is taken into account both by establishing the relevant risk-sensitive criteria for performance assessment, or by a reduction in bonuses or no bonuses being granted in the event of the Bank's deteriorated performance or loss (including the application of the so-called malus in relation to portions of variable remuneration deferred for three years).

The criteria for assessing the achievement of objectives by an MRT, including a member of the Management Board, include:
1) the impact on the Bank's regulatory capital, adequacy ratio and equity so that the payment of variable remuneration does not restrict the possibilities of their strengthening,
2) the Bank's result in the area of responsibility of a given person, taking into account the results of the entire Bank.

The structure of performance indicators combines different types of KPI, and in particular quantitative and performance indicators that result from available systemic data and are coherent with specific nature of the organisation. All performance indicators are parameterised and of measurable nature. Taking into account the nature of individual management position, different shares of individual assessment levels and weights of the above mentioned KPI types are defined. Responsibility for risk-adjusted long-term financial results and costs with different structure of objectives depending on the specificity of the tasks performed has been used. The positions responsible for control functions are assessed for objectives that are independent of the performance of the structures being controlled.

The variable components of remuneration for the assessment period (calendar year) are awarded under the rules in the following forms, after bonus objectives have been settled:
1) in non-deferred form - in the amount of 60% of the variable remuneration (in the first year after the assessment period),
2) in deferred form - in the amount of 40% of the variable remuneration (in equal instalments over the next three years after the first year following the assessment period);
both non-deferred and deferred remuneration is awarded in equal parts in cash and in the form of a financial instrument, i.e. phantom shares (whose conversion into cash at the updated price of the Bank's shares is performed following the retention period, and for deferred remuneration - following the deferment period).

In the event that the amount of variable remuneration for the year has exceeded PLN 1 million, PLN 400 thousand plus 60% of the excess over the amount of PLN 1 million is subject to deferral.

Table 10.2. Maximum levels of variable remuneration at PKO Bank Polski and in Bank Group entities

As at 31 December 2018, variable remuneration could not exceed:

At PKO Bank Polski SA	At PKO TFI and PKO Bank Hipoteczny SA*	At PKO BP BANKOWY PTE SA and PKO Leasing SA	At PKO TU SA* and PKO Życie TU SA*:
100% of annual fixed remuneration for MRTs and members of the Bank's Management Board	50% of annual fixed remuneration for members of the Management Board 100% of annual fixed remuneration for MRTs	50% of annual fixed remuneration for members of the Management Board	50% of annual fixed remuneration for members of the Management Board 30% of annual fixed remuneration for MRTs

*the aforementioned limit for variable remuneration for members of the Management Board at Bank Hipoteczny, PKO TU SA and PKO Życie TU SA can be raised up to 200% of the fixed component for remuneration for investment banking positions if approved by the General Meeting of Shareholders. No such increase has taken been applied so far.

50% of each variable remuneration component of MRTs is linked to the value of phantom shares based on the Bank's share price changing over time. In accordance with legal requirements, financial instruments in PKO Bank Hipoteczny SA are linked to the book value of net assets, and in PKO TFI SA - to the value of investment fund units.
Each of the accrued components of variable remuneration may be reduced in the following events:
1) a breach of the employee's duties,
2) non-compliance with legal regulations or customer service standards,
3) inadequate performance of assigned professional duties,
4) violation of the principles of community life in relation to other employees.

The bonus amount:
1) for a member of the Management Board may be adjusted downwards or upwards by a specified rate, depending on the financial performance of the Bank, as specified in the annual Note of the Bank (a set of key management indicators specified for the calendar year),
2) for an MRT other than a member of the Management Board may be adjusted upwards by a specified rate depending on the financial performance of the Bank, as specified in the annual Note of the Bank.

For members of the Management Board, the granting and payment of variable remuneration is subject to approval of the financial statements for the assessment period by the General Meeting of Shareholders. Prior to each payment of variable remuneration the Supervisory Board can also decide in relation to the Management Board members and the Management Board can decide in relation to persons holding managerial positions whether to reduce pro rata the amount of funds for the remuneration, taking into account the following:
1) the impact on the Bank's regulatory capital, adequacy ratio and equity so that the payment of variable remuneration does not restrict the possibilities of their strengthening,

2) the impact on the cost of capital so that the payment of variable remuneration does not restrict the possibility of maintaining an adequate capital base,
3) the Bank's desired risk profile,
4) the Bank's financial performance vis-à-vis its long-term development plans.

If:
1) the Bank's financial performance has suffered a material deterioration,
2) the equity has suffered a material adverse change,
3) an MRT violated the law or committed material errors,
4) the performance and the degree of performance of an MRT's outcomes or objectives has been adjusted,
5) the performance of the structures supervised or managed by the above-mentioned persons has deteriorated,
6) variable remuneration has been granted on the basis of incorrect or misleading information or as a result of fraud by an MRT,

the Supervisory Board or Management Board, as the case may be, may employ malus type solutions reducing the amount of deferred variable remuneration in subsequent settlement periods.

Material Risk Takers (excluding members of the Bank's Management Board) can access the Bank-funded health care, Employee Benefit Fund and Employee Pension Scheme.

If a severance pay related to the dismissal from the office is awarded to an MRT, which is coupled with the termination of employment (other than a severance pay resulting from generally applicable provisions of law), the amount of the severance pay shall reflect the assessment of performance over the last three years of employment. The Bank's regulations define the maximum amount of severance pay.
A member of the Bank's Management Board is entitled to severance pay provided that he or she served as a member of the Management Board for a period of at least twelve months before the termination of the aforementioned contract. A severance pay may be granted to an MRT under the condition of being employed in an MRT position for a period of at least twelve months before the termination of the employment contract.

Both members of the Management Board and selected MRTs are also covered by non-competition agreements. These provide for payment of compensation for refraining from undertaking employment with a competitor after the termination of employment with the Bank, for a maximum period of six months, of up to 100% of fixed remuneration under the employment contract.

Publication of quantitative data on variable remuneration components is planned in June 2019.

10.2. Variable remuneration components for employees other than Material Risk Takers

10.2.1. Bonuses

A bonus system is in place in PKO Bank Polski SA, in which the bonus amount is linked to the level of achievement of the set objectives consisting of four pillars:
1) MbO (Management by Objectives) covers managerial and expert positions that pursue key objectives for the Bank. MbO is a bonus dependent on the quality and extent of implementation of the assigned objectives,
2) PPBiz (Business Bonus Scheme) is a bonus pillar in which the bonus depends on the extent to which specific sales or efficiency tasks have been completed. It includes employees who perform business, mainly sales tasks in the area of corporate and investment banking and debt collection,
3) SPS (Sales Bonus System) is addressed to retail branch positions where banking products are sold,
4) SPW (Bonus Support System) covers other employees whose positions are not subject to the MBO, PPBiz or SPS pillar.

Employee bonus objectives correspond to the Bank's key management ratios taken into account in bonus objectives set for individual units of the Bank. According to the cascade principle included in the bonus rules, whose observance is monitored, the objectives should be assigned to employees employed under individual structures.

Additionally, each objective is set according to the SMART principle (S-specific, M-measurable, A-ambitious, R-realistic, T-time-bound), which is also subject to monitoring on a cyclical basis.

10.2.2. Rewards

Apart from the bonus system, a system of awarding Bank employees is in place at the Bank. Pursuant to the Rules of Rewarding Employees of PKO Bank Polski, a rewards fund is created in the Bank for the purpose of:
1) individual discretionary rewards for Bank employees with outstanding performance or with achievements that resulted in important effects for the Bank,
2) rewards for employees recommending candidates for jobs in the Bank,
3) activities related to the retention of employees holding significant positions

10.2.3. Non-financial benefits for employees

Additional benefits offered in the Bank and the Group are a manifestation of care for broadly understood employee satisfaction. The range of additional benefits offered is wide. It is also important for the Bank to adapt the benefits offered to employees to the labour market trends as activities in this area are closely related to the creation of the Bank's image as an employer. The main additional benefits provided to employees include:

10.2.3.1. Medical care

The Bank provides to its employees with medical care, to which employees are entitled under various benefit packages addressed to individual groups of positions. All employees have the opportunity to consult doctors of all specialties and have access to a wide range of diagnostic tests free of charge. The employees may also join the 'Zdrowie jak w Banku' prevention programme aimed at early detection of diseases and promotion of healthy lifestyles.

As part of prevention activities, Bank employees are entitled to health checks once a year. Employees are provided with additional materials on health care, and competitions promoting pro-health attitudes among employees are organized in cooperation with a provider. The employer monitors the level of provision of medical services by the provider on a regular basis in order to provide employees with the best access to such services.

Other Group entities (operating in Poland) provide their employees with medical care under the terms negotiated by the Bank with the service provider, based on separately concluded agreements.

10.2.3.2. Employee Pension Scheme

The Bank has been operating the Employee Pension Scheme for more than five years. Under the Scheme, the employees are entitled to a long-term saving option with a view to supplement the pension income from the mandatory portion of the pension system. The Bank's Employee Pension Scheme has the form of an agreement for making the Base Contribution by the Bank (the previous contribution at the level of 3% of remuneration was increased from 10 December 2018 to 3.5% of remuneration of an employee) and Additional Employee Contribution to Investment Funds managed in 2018 by PKO TFI SA.

Employee Pension Schemes are also provided by larger Bank Group entities to their employees, and namely by PKO Życie Towarzystwo Ubezpieczeń SA, PKO Towarzystwo Ubezpieczeń SA, PKO BP Finat Sp. z o.o., PKO Leasing SA, PKO BP BANKOWY PTE SA and PKO TFI SA.

10.2.3.3. Insurances

Employees can take advantage of the opportunity to join a cost-effective corporate life insurance with payment made through the Bank.

10.2.3.4. Company Social Benefits Fund

In order to provide employees with the opportunity to choose preferred additional benefits, employees can use the MyBenefit cafeteria system as part of the Social Fund (Company Social Benefits Fund). An employee may use the allocated funds for recreational activities, in numerous stores, for cultural events, as well as other dedicated activities according to his or her preference. The amount of allocated funds that may be spent at the cafeteria depends on the gross income per person in the family.

Some Group companies also offer employees the opportunity to use the MyBenefit platform, while others provide other benefits, such as Sodexo vouchers or holiday bonuses.

The amount of funds received under the cafeteria system depends on the gross income per person in the family.

In addition, as part of the Social Fund, employees can obtain housing loans, social and other benefits as well as funds for additional campaigns related to sport, culture, education, socializing events etc.

10.2.3.5. Other Benefits

A good practice in the Bank and in other Group companies is to provide employees with the possibility of using sports cards. In order to promote a healthy lifestyle among employees, the Bank provides employees with the opportunity to purchase several types of sports cards in order to ensure benefits best tailored to the needs of users and, consequently, to really support their pro-health activities.

The list of additional benefits offered in the Bank also includes offers and discounts for the Bank's employees, for example the PKO Zawsze Nowe Auto (*PKO Always New Car*) programme.

It is also worth mentioning that under the "PKO after working hours" (*PKO po godzinach*) programme, the Bank supports initiatives and sports activities (there is a running section, a mountain sports section and a football section in the Bank) and charity activities of employees.

According to the best market practices, the Bank implements the initiative "Your Total Remuneration Package" (*Twój Całkowity Pakiet Wynagrodzeń*), which was created in response to the expectations of employees of PKO Bank Polski concerning information on remuneration.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

11. Glossary of terms and abbreviation

Accumulated contractual liquidity gap	Accumulated contractual liquidity gap
Accumulated realigned liquidity gap	Accumulated realigned liquidity gap
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.
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.
Behavioural scoring system	a system for assessing the bank's credit risk involved in the financing of clients mainly on the basis of transactions on the current account, used for defining the revolving credit limits.
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.
CIRS (Currency Interest Rate Swap)	a currency interest rate swap transaction.
Confidence level	the probability, expressed usually as a proportion, that the variable (bank's loss) under analysis will not exceed a specific value.
Coverage ratio	a ratio of the credit and loan impairment write-downs to the value of credits and loans assessed by means of individual and portfolio approaches.
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..
Credit exposure	the sum of financial assets created as a result of providing the debtor with cash or providing services, including principal amounts and any related receivables (eg interest, bonuses, discounts), measured at amortized cost or in the amount due and financial and warranty obligations granted
Credit risk	the risk of incurring losses as a result of counterparty's default in settlement of liabilities towards the Bank or the risk of decrease in the economic value of the Bank's receivables as a result of deterioration of the clients ability to service its debt; credit risk comprises credit value adjustment (CVA) risk, which is the risk of loss as a result of changing market and credit conditions (in particular as a result of a change in the probability of a counterparty default)..
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.
CSA (Credit Support Annex)	a collateral agreement – annex to the framework agreement..
Cut-off point	the minimum number of points awarded as a result of client creditworthiness assessment made using the scoring system (for individual clients) or the client or joint rating class (for institutional clients), starting from which a loan transaction may be concluded with a specific client.
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.
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
ECAI	External Credit Assessment Institution
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.
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.
Foreign Exchange (FX) risk	risk of loss due to changes in the foreign exchange rates, generated through maintaining open currency positions in individual currencies.
Framework agreement	an agreement between parties regulating the principles of the Bank's co-operation with counterparties on the financial market with respect to forward financial transactions.
Funded credit risk protection	a credit risk mitigation technique, where the bank's credit risk related to exposure is reduced by that bank's right - in the case of the counterparty's default in the discharge of its liabilities,

	insolvency, bankruptcy or another credit event affecting that counterparty and specified in the documentation of the transaction, and, if required for the depositary keeping the collateral – to liquidate, transfer, acquire, or retain specific assets or amounts.
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.
Gross carrying value	In accordance with EBA Guidelines GL/2016/11 gross carrying value is the accounting value before any allowance/impairments but after considering write-offs, without CRM techniques in the application of Part Three, Title II, Chapter 4 of the CRR. Off-balance-sheet items should be disclosed for their nominal amount gross of any CCF applicable in accordance with Article 111 and 166 of the CRR or CRM techniques, and gross of any provision. In particular for: a) guarantees given (the maximum amount that the institution would have to pay if the guarantee were called) and b) loan commitments and other commitments (the total amount that the institution has committed to lend).
IAS	International Accounting Standards
IBNR (incurred but not reported)	a collection of credit exposures, for which an impairment has been recognized, with no individual impairment premises regarding specific exposures falling into this group.
IFRS	International Financial Reporting Standards
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.
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.
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.
IRB (Internal Ratings Based Approach)	an internal ratings method used to determine the capital requirement for credit risk.
ISDA	the International Swap and Derivatives Association.
Key Performance Indicators, KPI	financial and nonfinancial indicators used as measures in the process of measurements of the level in which objectives of an organisation are achieved.
Key Risk Indicators, KRI	simplified operational risk measure that is significant for a given area, application or process.
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
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.
Liquidity risk	the risk of inability to timely discharge of liabilities due to non-availability of liquid means.
LTV	ratio of the credit exposure amount to the value of the real property offered as collateral of that exposure.
Macroeconomic risk	a risk of deterioration of the Bank's financial condition in result of adverse impact of changes in macroeconomic conditions.
Material Risk Takers (MRT)	members of the Management Board and key managers with a significant impact on the risk profile of the Bank.
Model risk	risk of suffering losses in result of wrong business decisions taken on the basis of functioning models
NBP	National Bank of Poland
Net carrying value	Net carrying value: for on-balance-sheet items, the net value is the gross carrying value of exposure less allowances/impairments. For off-balance-sheet items, the net value is the gross carrying value of exposure less provisions
NSFR indicator	Net Stable Funding Ratio describes relation of total available stable funding to total required stable funding

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 does not include reputation risk and business risk.
Outsourcing	using external resources, by delegating certain tasks and actions to be performed by external companies on the basis of contracts
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 IV.
Partial adjusted liquidity gap	the difference between total assets and total liabilities, calculated for each maturity range; tells about a mismatch between matured assets and matured liabilities in a given tenor, their real-terms maturity date taken into account.
PBA	the Polish Bank Association.
PCBA	the Polish Classification of Business Activity.
Pre-settlement risk	the risk of the counterparty's losing creditworthiness while its transaction with the bank is pending .
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).
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.
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, application or process
Strategic tolerance limit	acceptable risk level defined by the Management Board.
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.
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)
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%.
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.
Unexpected Loss, UL	the maximum difference between the Bank's incurred loss at given probability during the year and the expected loss.
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.

CAPITAL ADEQUACY AND OTHER INFORMATION SUBJECT TO DISCLOSURE OF THE PKO BANK POLSKI SA GROUP FOR THE YEAR ENDED 31 DECEMBER 2018 (IN PLN MILLION)

Declaration of the Management Board of PKO Bank Polski SA

The Management Board of PKO Bank Polski SA certifies that:

- To the best of its knowledge, information disclosed in accordance with section eight of the CRR was prepared in conformity with internal control processes
- To the best of its knowledge, the adequacy of rules related to risk management in PKO Bank Polski SA - particularly with the liquidity risk, guarantees that the risk management systems utilized are well suited to the risk profile and strategy of the Bank and the Group.
- Approves the Report "Capital adequacy and other information subject to disclosure of the PKO Bank Polski SA Group as of 31 December 2018", which contains risk-related information, describes the general risk profile, including liquidity risk of the Bank and the Capital Group, related to their operational strategy, and contains key indicators and data, available to interested external parties, allowing for a comprehensive view of risk management in PKO Bank Polski SA and the Capital Group, including interaction between the Bank's risk profile and risk tolerance in the form of strategic tolerance limits, defined by the Management Board and accepted by the Supervisory Board.

Signatures of all members of the Management Board of PKO Bank Polski SA

17.04.2018	Zbigniew Jagiełło	President of the Management Board	.... (signature)
17.04.2018	Rafał Antczak	Vice-President of the Management Board	.... (signature)
17.04.2018	Rafał Kozłowski	Vice-President of the Management Board	.... (signature)
17.04.2018	Maks Kraczkowski	Vice-President of the Management Board	.... (signature)
17.04.2018	Mieczysław Król	Vice-President of the Management Board	.... (signature)
17.04.2018	Adam Marciniak	Vice-President of the Management Board	.... (signature)
17.04.2018	Piotr Mazur	Vice-President of the Management Board	.... (signature)
17.04.2018	Jakub Papierski	Vice-President of the Management Board	.... (signature)
17.04.2018	Jan Emeryk Rościszewski	Vice-President of the Management Board	.... (signature)