3. Risk management

The mBank Group manages risks on the basis of regulatory requirements and best market practice, by developing risk management strategies, policies and guidelines. The risk management functions and roles are released on all of the levels of the organizational structure, starting at the level of the Supervisory Board down to each business unit of the Group. Risk management is streamlined in unified process run by specialized organizational units.

3.1. General information

Location of risk management disclosures

mBank Group's risk management disclosures for 2015 are included in the Annual Report of the mBank Group and in the Disclosures regarding capital adequacy. The table below presents reference to disclosures regarding various aspects of risk management within the abovementioned documents.

Disclosures regarding capital adequacy of mBank S.A. Group as at 31 December 2015 and Management Board Report are not the part of mBank S.A. Group Consolidated Financial Statements.

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Glossary of terms

Add-on - estimated future potential exposure

Collateral - asset that is to be paid or received depending on the current valuation of the derivatives portfolio to mitigate potential credit risk in the future. Currently the main collateral asset is cash.

CCF (Credit Conversion Factor) – estimated level of off-balance sheet items converted to balance sheet items at the date of default.

Common Equity Tier 1 Capital Ratio (CET1 ratio) – shall mean the Common Equity Tier 1 Capital expressed as a percentage of the Total Risk Exposure Amount (TREA).

Coverage ratio of non-liquid assets and limited liquidity assets with own funds and stable external funds (measure M4) - the ratio defined in KNF Resolution No. 386/2008 of 17 December 2008 on establishing liquidity measures binding on banks, calculated as a ratio of own funds diminished by sum of capital requirement on market risk, sum of capital requirement on delivery settlement, counterparty risk and stable external funds to sum of limited liquidity assets and non-liquidity assets.

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 with further amendments (Capital Requirements Directive IV).

CRR - 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 with further amendments (Capital Requirements Regulation).

EAD (Exposure at Default) – estimated value of exposure in case of default.

Earnings at risk (EaR) - a potential decrease in the annual interest income within 12 months assuming defined change of market interest rates scenarios, fixed volume and structure of balance and off-balance portfolio and unchanged interest rate structure of particular position, therein interest margin.

Economic capital (EC) – the amount of capital required to cover unexpected loss (estimated by the Bank at the assumed confidence level over a one-year time horizon) arising from:

- credit risk,
- market risk,
- operational risk,
- business risk.

EL – statistically **Expected Loss** in case of default.

ICAAP – Internal Capital Adequacy Assessment Process.

Internal capital (IC) – the amount of capital estimated by the Bank required to cover unexpected loss arising from all material risks identified in the Group's activity within the risk inventory process. Internal capital is the sum of economic capital and capital necessary to cover other risks (including hard to quantify risks).

LCR (Liquidity Coverage Ratio) - a relation of liquid assets of the liquidity buffer to the expected net outflows within 30 calendar days.

Leverage ratio – shall mean the relation of Tier 1 Capital to the institution's total exposure measure, understood as the sum of the exposure values of all assets and off-balance sheet items not deducted, when determining the Tier 1 capital.

LGD (Loss Given Default) – estimated loss resulting from the default.

LtV (Loan to Value) – the ratio of the loan value to the property market value.

NSFR (Net Stable Funding Ratio) – a relation of own funds and stable liabilities ensuring stable financing to illiquid assets and receivables requiring stable financing.

PD – Probability of Default.

Ratio of coverage of non-liquidity assets with own funds (measure M3) - the ratio defined in KNF Resolution No. 386/2008 of 17 December 2008 on establishing liquidity measures binding on banks, calculated as a ratio of own funds diminished by sum of capital requirement on market risk to sum of non-liquidity assets.

RBC (**Risk Bearing Capacity)** – shall mean the relations of Risk Coverage Potential (RCP) to the internal capital – internal measure.

RCP (Risk Coverage Potential) - shall mean the amount of own funds adjusted by specific correcting items, in accordance with respective internal regulations in mBank – internal measure.

Short-term liquidity factor (measure M2) - the ratio defined in KNF Resolution No. 386/2008 of 17 December 2008 on establishing liquidity measures binding on banks, calculated as a ratio of primary and supplementary liquidity reserves to unstable external funds.

Short-term liquidity gap (measure M1) – the ratio defined in KNF Resolution No. 386/2008 of 17 December 2008 on establishing liquidity measures binding on banks, calculated as a sum of primary and supplementary liquidity reserves diminished by unstable external funds.

Tier 1 Capital Ratio (T1 ratio) – shall mean the Tier 1 Capital expressed as a percentage of the Total Risk Exposure Amount (TREA).

Total Capital Ratio (TCR) – shall mean the own funds expressed as a percentage of the Total Risk Exposure Amount (TREA).

Total Risk Exposure Amount (TREA) – shall mean the total of risk-weighted exposure amount for credit risk, counterparty credit risk and (multiplied by 12.5) own funds requirements for:

- market risk,
- operational risk,
- other risks, eg. credit valuation adjustment risk, large exposures in the trading book, etc.

Value at risk (VaR) – a measure of potential loss of market value (of financial instrument, portfolio, institution) to which the financial instrument, portfolio, institution is exposed over defined period of time at a given confidence level under normal market conditions.

3.2. Risk management in mBank Group in 2015 – external environment

3.2.1. Key external determinants

Basel III regulatory standards

The new rules on prudential requirements for banks set out in the Capital Requirements Regulation on prudential requirements for credit institutions and investment firms (CRR) and the Capital Requirements Directive (CRD IV) on access to the activity of banks and the prudential supervision, implementing provisions of Basel III, are effective in the European Union as of January 1, 2014. The amendments introduced under Basel III included:

- a universal definition and components of the bank's capital as well as implementation of capital ratio specified for the funds of the highest quality,
- introduction of own funds requirement associated with credit valuation adjustment,
- implementation of financial leverage ratio,
- introduction of additional capital buffers, including a capital conservation buffer, a countercyclical buffer, a global systemically important financial institutions buffer and systemic risk buffer,
- liquidity requirements, measured by the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR).

The new provisions of CRD IV were transposed into a national legislation, which took place in 2015 with the endorsement of the Act on Macro-prudential Supervision over the Financial System and

Crisis Management in the Financial System and with an update of the Banking Law. Whereas CRR took effect as of January 1, 2014 without harmonisation with national laws.

Recommendations of the Polish Financial Supervision Authority

In 2015 the Polish Financial Supervision Authority (KNF) issued the following recommendations for banks:

- Recommendation P concerning financial liquidity risk management at banks, which replaced the document issued in 2002. The amended Recommendation takes into account recommendations contained in international guidelines. It includes i.a. recommendations concerning the determination of the bank's tolerance for liquidity risk, recognition of the full range of liquidity risks, the diversification of liquid assets, conducting stress tests in conjunction with liquidity contingency plans, maintaining a surplus of unencumbered, high quality liquid assets and intraday liquidity management.
- Recommendation W concerning model risk management in banks, which sets standards for the process of model risk management, including the principles for building models and assessing their performance, while ensuring proper solutions within corporate governance. The aim of the recommendation is to establish supervisory expectations in terms of efficient process of model risk management, in particular the determination of the bank's tolerance for this type of risk as well as limiting the banking sector's exposure to model risk.

3.2.2. New regulatory standards

Capital ratios

In 2015, the Bank was gradually implementing the provisions of the European Commission's delegated act supplementing or detailing the CRR provisions.

Leverage ratio

In October 2014, the European Parliament approved the delegated act, in force since 2015, introducing modifications in calculating leverage ratio. Bank implemented necessary changes regarding calculation of the leverage ratio. However in light of the guidelines from European and Polish regulator prudential reporting with regard to leverage ratio was conducted under CRR provisions. Bank calculates leverage ratio under CRR provisions and under updated provisions of the delegated act.

Liquidity measures

Since October 2015, the Commission Delegated Regulation (EU) 2015/61 of 10 October 2014 to supplement Regulation (EU) No. 575/2013 of the European Parliament and the Council has been in force. However, pending the publication of a new, final LCR reporting standard, the Bank has been reporting to the National Bank of Poland in accordance with the existing standards. In terms of NSFR, there were carried out adaptations to the guidelines set out in the BIS document "Basel III: the net stable funding ratio" published in December 2014.

3.3. Principles of risk management

3.3.1 Division of responsibilities in the risk management process

1. **Supervisory Board,** through its **Risk Committee,** exercises constant supervision of the Bank's operations in the risk taking area, which includes among others approving the Risk Management Strategy of the Group and supervising its execution.
2. **Management Board of the Bank** accepts the Risk Management Strategy of the Group and is responsible for establishing and implementing the principles of managing individual risk types and for their coherence with the Strategy. Moreover, the Management Board defines the organisational structure of the Bank, ensuring the separation of roles, and allocates the tasks and responsibility to individual units.

   The Management Board undertakes activities aiming at assuring that the Bank conducts a policy enabling a management of all types of risks essential for the Bank's operations and has procedures to this extent, in particular including responsibility for preparing and introducing written strategies and procedures to the extent of: internal control system, risk management system, assessment process of internal capital, capital management and capital planning.

3. **Chief Risk Officer** is responsible for integrated management of the risk and capital of the Bank and the Group in the scope of: defining strategies and policies, measuring, controlling and independent reporting on all risk types (in particular credit risk, market risk, liquidity risk, non-financial risk including operational risk), approving risks models and limits (according to internal regulations), and for processes of managing the risk of the retail credit portfolio and corporate portfolio.

4. **Committees:**

a/ **Business and Risk Forum** is a formal decision and communication platform for the risk management area and organizational units in particular business lines of the Group.

The Business and Risk Forum is constituted by the following bodies:

- Retail Banking Risk Committee (KRD),
- Corporate and Investment Banking Risk Committee (KRK), and
- Financial Markets Risk Committee (KRF).

The committees are composed of the representatives of business lines and respective risk management departments.

Each committee is responsible for the all types of risk generated by business activity of the given business line.

The main function of the above mentioned committees is to develop the principles of credit risk, market risk and liquidity risk management and risk appetite, by taking decisions and making recommendations concerning in particular:

- credit risk policies,
- processes and tools for risk assessment,
- credit risk limitation system,
- assessing the quality and profitability of portfolio of exposures,
- liquidity risk issues such as methodology and limits.

The Bank's internal rules define specific competencies and tasks of the committees constituting the Business and Risk Forum.

b/ **Assets and Liabilities Committee** of the mBank Group (ALCO) is responsible, in particular, for developing, monitoring and managing the structure of assets and liabilities, obligations and off-balance sheet items, with the aim of optimizing funds allocation.

c/ **Capital Management Committee** is responsible, in particular, for managing capital. Based on the decisions made, the Committee issues recommendations for the Management Board of the Bank on measures in respect of capital management, capital level and structure, and on increasing the effectiveness of capital utilization, and recommendations on the internal procedures related to capital management and capital planning.

d/ **Credit Committee of the mBank Group** is responsible, in particular, for the supervision of concentration risk and large exposures at the Group level by taken decisions and made recommendations. The Committee shall also take decisions on debt conversion into shares, stocks, etc. as well as decisions on taking over properties in return for debts (applies to the bank).

e/ **Credit Committee of the Retail Banking** is responsible, in particular, for:

- making individual credit decisions concerning retail clients in the case when the total exposure to such a client, the value of the transaction or the values of AIRB risk parameters (PD/LGD/EL) set for the client/transaction achieve a specified threshold set for this decision-making level,
- making decisions on granting decision-making powers to individual employees of the Bank, or on changing/revoking those powers.

f/ **Data Quality and IT Systems Development Committee** is responsible for the tasks and decision making process in scope of principles and structure of operation of the data quality management system, approving operational standards of data management, assessing the effectiveness of the data quality management system, initiating actions aimed at improving data quality at the Bank, in particular, taking into account the needs related with calculating the regulatory capital requirements of the Bank under the AIRB approach.

g/ **Foreign Branch Supervision Committee of mBank S.A.** is responsible, among others, for issuing recommendations for the Management Board of the Bank on approval of the operational strategy and the rules for stable and prudent management of a particular foreign branch of the Bank, especially with reference to credit risk.

Other units:

1. Organisational units of the Risk Area

The function of management at the strategic level and the function of control of credit, market, liquidity and operational risks and risk of models used to quantify the aforesaid risk types are performed in the Risk Area supervised by the Vice-President of the Management Board, Chief Risk Officer.

The chart below presents the organisational structure of this area:

**organisational unit developing integral structures of foreign branches at mBank S.A.*

The roles played by particular units in the process of identifying, measuring, monitoring and controlling risk, which also includes assessing individual credit risk posed by clients and establishing the client selection rules, have been strictly defined. Within the scope of their powers, the units develop methodologies and systems supporting the aforesaid areas. Furthermore, the risk control units also report the risk and support the major authorities of the Bank.

Retail Risk Department:

- development of risk management principles and processes,
- acceptance of retail banking products, including the impact on the different types of risk and capital requirements,
- development of reports for monitoring of risk management policies,
- development and management of systems supporting the risk assessment and decision-making process,
- setting up decision-making rules,
- making credit decisions (for private individuals and micro-business clients),

- administration of the loan portfolio,
- collection, restructuring and development of policies for these processes,
- credit fraud prevention and operational risk control in the credit process.

Corporate Risk Assessment Department:

- implementation of the Bank’s credit policy regarding corporate customers, countries and financial institutions,
- credit risk management in the Bank and the Group subsidiaries in the abovementioned areas.

Corporate Risk Processes Department:

- developing and implementation of corporate credit process and supervision over its effectiveness,
- preparing corporate credit risk management strategy of mBank Group as well as credit policies including policies regarding industrial risk appetite,
- preparing portfolio analysis and reports for the purpose of management of corporate credit risk,
- developing and monitoring the quality of rating models for corporate, financial and retail clients (credit risk modelling),
- settlement and accounting of structured finance and mezzanine transactions and collection operations.

Financial Markets Risk Department:

- identifying, measuring and controlling market risk, liquidity risk, and interest rate risk of the banking book, in particular preparing of limits proposal for above mentioned risk types,
- developing methods for measuring particular risk types, and integrating the control of market risk, liquidity risk, and interest rate risk of the banking book at the Bank and mBank Group,
- measuring and controlling counterparty risk due to transactions assigned to financial markets area and derivatives transactions with bank customers, as well as preparing and developing the methods for determining credit exposure due to derivatives transactions,
- ensuring methodological adequacy of the techniques of valuing financial instruments included in the portfolios of the Financial Markets Department, the Treasury Department, the Brokerage Bureau, the Financial Markets Sales Department and the mezzanine finance transactions of the Structured and Mezzanine Finance Department,
- organising the following processes:
    - process of admitting to trading the financial instruments concluded by organisational units of the financial markets area,
    - process of assessing the adequacy of internal capital (ICAAP) with respect to market risk, liquidity risk, and interest rate risk of the banking book,
    - process of measuring economic capital for market risk,

  and supervising their execution,
- calculating and monitoring of P&L of business units from financial markets area,
- independent operational control of the risk generated by the Financial Markets Department, the Treasury Department and the Financial Markets Sales Department in the scope of trading in financial instruments in particular control of:
    - stop-loss limits utilisation,
    - market conformity of the transactions concluded by business units of financial markets area,
    - and reporting in this respect to the Management Board of the Bank and to collegial bodies of the Bank.

Integrated Risk and Capital Management Department:

- integration of risk and capital within the ICAAP,
- control of capital adequacy as well as planning and limiting risk capital,

- integration of risk valuation (economic capital, reserves, stress tests),
- integration of non-financial risks, including operational risk,
- formulation of risk appetite and coordination of the process of determining strategic risk limits,
- validation of quantitative models,
- Internal Control System Self-assessment (ICS),
- SREP - Supervisory Review and Evaluation Process.

Projects and Risk Architecture Management Department:

- Risk Projects Portfolio Management,
- competence centre in the area of process management,
- development and optimization of the architecture of IT processes and applications of Risk,
- management of the IT applications of Risk (maintenance and development),
- risk data management and cooperation with the Finance Division within the scope of centralized management information system.

Foreign Branches Risk Department:

- credit risk managing in the retail banking, supporting the credit risk assessment process and taking part in the decision making process regarding credits in the foreign branches,
- credits managing/settling in the foreign branches,
- handling the vindication process and performing the control in scope of the operational risk in the credit process for the credit products in foreign branches.

2. Organizational units outside the risk management area are in charge of the management and control of other risks identified in mBank Group's operations (business risk, capital risk, reputational risk, legal risk, IT systems risk, personnel and organisational risk, security risk and compliance risk).

3. Business units take part in managing particular risk types by means of taking risk into account in business decisions, in preparing the product offer and in the client acquisition process. The units assume the ultimate responsibility for taking risk within the set limits and for developing the Bank's results.

4. Control units:

- **Internal Audit Department (DAW)** carries out independent review of the process of identifying, taking, measuring, monitoring and controlling risk as part of its internal control and audit function.
- **Compliance Department (DC)** is responsible for establishing standards of managing the risk of non-compliance of internal regulations and standards of the Bank's operation with applicable law.

3.3.2 Risk culture

Lines of defence

Risk management roles and responsibilities in the Group are organised around the three lines of defence model:

- The first line of defence consists of **Business** (business lines) responsible for risk and capital management. The task of the Business is to take risk and capital into account in all its decisions and within the boundaries of risk appetite defined for the Group.
- The second line of defence where **Risk** (risk management area), **IT Security and Compliance** are major players, assists the Business by creating risk management strategy for each risk and appropriate policies that give guidance to the Business while taking risk minded decisions. The main goal for the second line functions is to support the Business with the implementation of the strategies and policies and to create oversight over the Group's control environment and risk exposure.

- The third line of defence is **Internal Audit**, ensuring independent assessment of the first and the second lines of defence.

Pillars of risk management

Risk management framework in mBank Group rests on **three pillars concept**:

- **Customer Focus** – striving to understand and balance specific needs of the Risk's diverse stakeholders (Business, Management Board, Supervisory Board, shareholders, regulators).
- **One Risk** understood as an integrated approach to risk management and responsibility to the clients for all risks (defined in Risk Catalogue of mBank Group).
- **Risk vs Rate of Return** perspective – supporting business decision-making process on the basis of long-term relationship between risk and rate of return avoiding tail risks.

Vision of Risk

Risk management area is a **key partner** of Business and the Management Board in creating sustainable value of the Bank by providing, over the long period, a **balance** between expected rate of return for shareholders and the Group's stability.

Mission of Risk

Responsibility of Risk is realized by:

- relevant strategies and policies of risk and capital management,
- challenging proposals and decisions of Business,
- independent control and risk reporting.

Implementation of Customer Focus Integrated Risk initiative

The risk control and management process in the mBank Group is subject to continuous improvement with emphasis on the improvement of customer-oriented integrated risk management.

The Customer Focus Integrated Risk initiative has been introduced within the "One Bank" Strategy. The initiative is realized in the following five key streams:

- strengthening the Business-Risk dialogue,
- risk appetite,
- improvement of the credit process,
- strengthening competences of employees in the risk management area,
- simplification and integration of the IT architecture in the risk management area.

Selected projects being implemented in 2015 are described below:

- **Internal Control System Self-assessment (ICS)**

  Implementation of the ICS aims at a comprehensive assessment of operational risk involved in the key processes in the Bank and in the mBank Group subsidiaries, in particular by:

  - identification of material operational risks,

  - inventory of control mechanisms dedicated to mitigate those risks,

  - assessment of adequacy and effectiveness of control mechanisms,

  - and assessment of the risk level and the development and implementation of the necessary corrective action plans.

  The Self-assessment implementation was divided into two stages. In mid-2015 the second stage of ICS implementation was completed in the Bank. Thus, the whole activity of the Bank was covered by the process. In Q4 2015, the implementation of the ICS in the Group subsidiaries was started.

  Furthermore, the implementation of the ICS in the Bank will enable to optimize and integrate the existing operational risk management tools in order to better adapt the new process of Self-assessment and control to the Group's business profile.

- **CRE Policy** – modification of "Credit policy of financing commercial income-producing real properties by mBank Group" (the first common policy at the Group level). In the course of the dialogue with the Business, a framework for the risk appetite and development of acquisition in this market was determined, particularly CRE definition was developed, risks were identified and their mitigants were introduced, as well as the tools to monitor CRE portfolio at the Group level.

- **MtM Migration.** Risk Area was the key partner in strategic project of migration of retail banking customers to the new transactional platform. The implementation, completed in October 2015, provides all customers with access to a modern platform and its mobile solutions.
- **mMove Project** consisting in optimizing of the process of granting mortgage loans for retail private customers.
- Program of continuous increase of effectiveness of work in the risk management area based on the principles of **Lean Management** with an emphasis on implementing a culture of responsibility and mechanisms for continuous improvement of processes. The aim of the program is to enable the absorption of the increasing number of tasks resulting from the growth of business and rapidly increasing regulatory requirements, without necessity to enlarge significantly the available resources. The program launched in 2015 will be continued in the coming years.

3.3.3 The risk management process documentation

The risk management process implemented in mBank and mBank Group is documented. The key documents are described below.

Strategies and policies:

- **Risk Management Strategy of the mBank S.A. Group**

  The document, developed in connection with the "One Bank" Strategy and the Muliti-year Plan of the mBank Group, defines the risk appetite within mBank Group, including key quantitative and qualitative risk guidelines, as well as existential threats lying beyond its scope.

- **Corporate Credit Risk Management Strategy in mBank S.A. Group**

  The document describes issues connected with credit risk in the corporate area: defines risk appetite level and general principles of corporate credit risk management and limitation in the Group.

- **Retail Credit Risk Management Strategy in mBank S.A. Group**

  The document defines the general, directional guidelines regarding credit risk management in the retail area, including issues such as: formal organization and responsibility for credit risk management, risk appetite, general guidelines for the functioning credit processes, decision-making models and reporting systems.

- **Operational Risk Management Strategy in mBank S.A. Group**

  The document describes the principles and components of operational risk management at the Bank, including, in particular, the following issues: operational risk profile of the Bank, the Bank's appetite for operational risk and operational risk management policies.

- **Market Risk Management Strategy of mBank S.A. Group**

  The document describes key issues concerning market risk management in the Group: specifies conditions influencing market risk profile, defines market risk appetite and provides framework of market risk management in the Group by determining organisation, roles and responsibilities, defining market risk management process as well as attitude to the market risk management in the Group subsidiaries.

- **Liquidity Risk Management Strategy of mBank S.A. Group**

  The document describes key issues concerning liquidity risk management in the Group: specifies conditions influencing liquidity risk profile, defines liquidity risk appetite and provides framework of liquidity risk management in the Group by determining organisation, roles and responsibilities, defining liquidity risk management process as well as attitude to the liquidity risk management in the Group subsidiaries.

- **Reputational Risk Management Strategy in mBank S.A. Group**

  The document specifies the principles and components of reputational risk management, including, in particular, the issues of reputational risk profile as well as organization and methods of reputational risk management.

- **Capital Management Policy of mBank S.A. Group**

  The Policy describes organization of capital management, including the main aims, principles and methods of capital management process as well as the Group's strategic objectives in the capital area.

- **Compliance Policy in mBank SA**

  The document stipulates a set of procedures and organisational rules that the Bank fulfils to comply with the requirements of Polish law and compliance rules of the Commerzbank Group, without prejudice to the provisions of Polish law, as well as a set of the basic rules of conduct for the Bank's employees and main processes of compliance risk identification that allows to manage compliance risk on all levels of the Bank's organisation.

- **Model Management Policy**

  The document determines the participants and the framework for model management process, including issues related to the development of models in the Group, their approval, implementation, verification/validation, monitoring, implementation of changes and the associated reporting process.

Limit system:

- **Limit Book. Rules for limitation of risk in mBank Group**

  The document contains a description of standardized framework both for the process and system of limits, which are widely used in managing and controlling risk all over the mBank Group and ensures fine application of the risk appetite to the certain risk limiting in the particular areas, and guarantees fulfilling the regulatory requirements.

ICAAP documentation:

- **Internal Capital Adequacy Assessment Process (ICAAP) in the mBank S.A. Group – Governing Principles**

  The document describes the internal capital adequacy assessment process (including the Risk Bearing Capacity concept) and the course of its individual components.

- **Document describing the rules for estimating capital for hard to quantify risks**
- **The concept of Risk Coverage Potential (RCP)**

3.3.4 Internal capital adequacy assessment process (ICAAP)

The mBank Group adjusts the own funds to the level and type of risk, the mBank Group is exposed to, and to the nature, the scale and the complexity of its operations. For that purpose, the ICAAP (Internal Capital Adequacy Assessment Process) is implemented in the mBank Group. The aim of this process is to maintain own funds at the level adequate to the profile and the level of risk in the mBank Group's operations.

The internal capital adequacy assessment process is composed of six stages implemented by organizational units of mBank and the mBank Group subsidiaries.

The process includes:

- risk inventory in the Group,
- estimation of internal capital for coverage of risk,
- capital aggregation,
- stress tests,
- planning and allocation of economic capital to business lines and the Group subsidiaries,
- monitoring consisting in a permanent identification of risk involved in mBank Group operations and analysis of the level of capital for risk coverage.

The process is reviewed by the Management Board of the Bank and supervised by the Supervisory Board of the Bank on a regular basis.

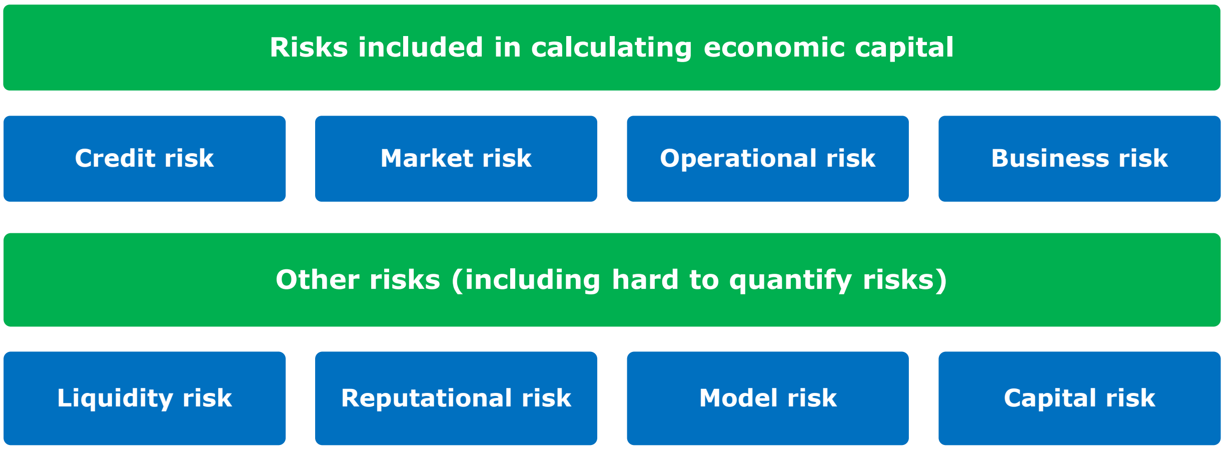
Material risks in mBank Group's operations

The Management Board is taking activities for ensuring that the Group manages all material risks arising from the implementation of adopted business strategy.

Material risks identified in the Group's operations as a result of the risk inventory process based on rules stipulated within ICAAP are classified to one of the two groups:

- the first group consists of risks included in the process of calculating economic capital;
- the second group comprises other risks (including hard to quantify risks) which are managed through adequate processes. In addition, in accordance with the ICAAP rules in force in the Group, capital buffer to cover other risks may be estimated.

The following risks were recognized as material for the Group as at 31 December 2015:



Internal capital

Internal capital is the amount of capital estimated by the Bank and required to cover material risks identified in the mBank Group's operations. Internal capital is the total of:

- the economic capital to cover risks included in economic capital calculation,
- capital necessary to cover other risks (including hard to quantify risks).

The economic capital is measured by means of quantitative methods which make it possible to adequately reflect the risk level.

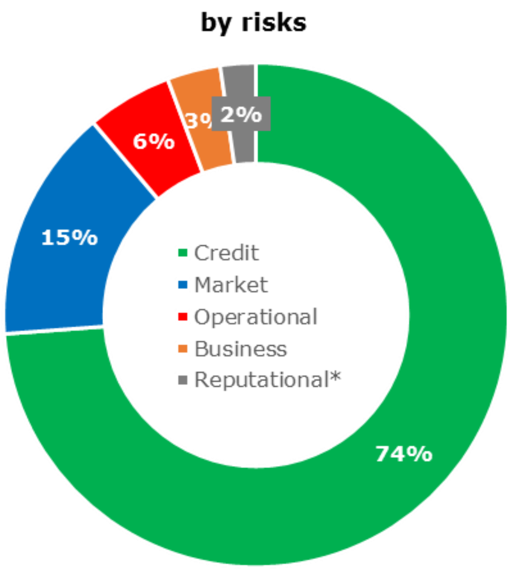
In 2015 (similarly as in 2014), the mBank calculated the economic capital at the 99.91% confidence level over a one-year time horizon, for all risk types. Diversification between different risks was not included while calculating the total of economic capital.

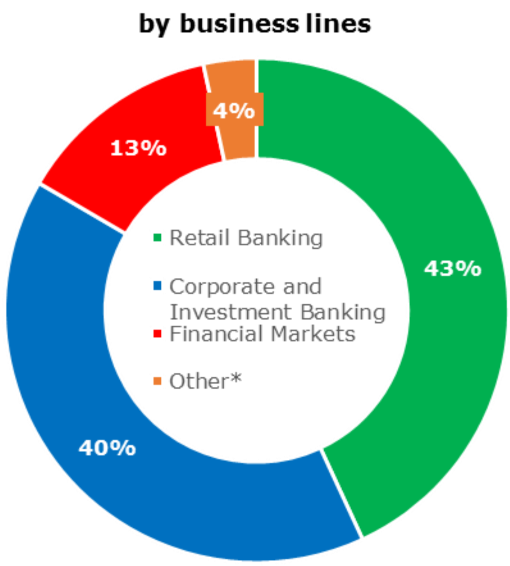
In accordance with internal regulations, the decision concerning the amount of capital for coverage of hard to quantify risks is taken by the Capital Management Committee. In 2015 the Bank maintained capital to cover reputational risk.

Structure of internal capital and total capital requirement

The charts below present the structure of internal capital and the total capital requirements of mBank Group as of 31.12.2015 by risks and business lines.

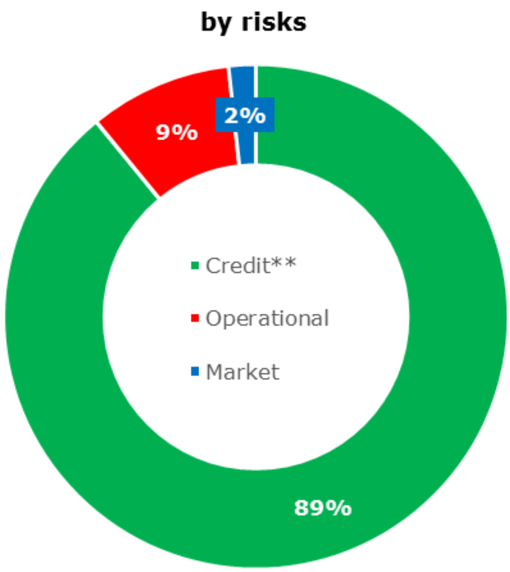
Structure of internal capital of mBank Group as of 31.12.2015

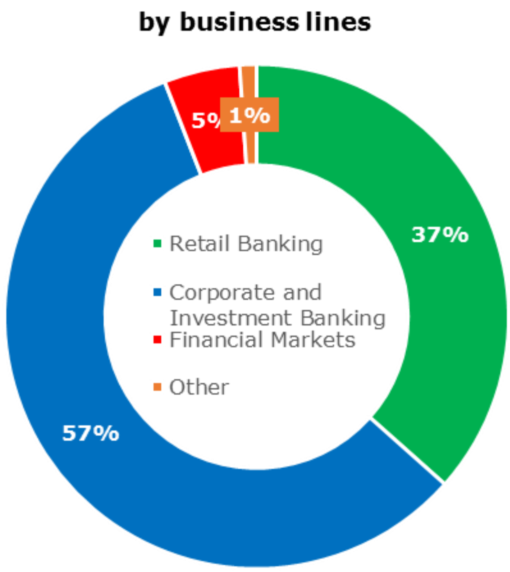




**Capital for coverage of hard to quantify risks (reputational risk) is not allocated to business lines. Reputational risk is included in „Other" on the chart presenting internal capital structure by business lines.*

Structure of total capital requirement of mBank Group as of 31.12.2015





***The item presenting "Credit" risk includes also supervisory floor resulting from coverage of mLeasing credit exposures by AIRB*

Higher share of market risk in the structure of internal capital (compared to the share in the structure of total capital requirement) results from the fact that the model of economic capital for market risk includes additional risk factors, which (in accordance with the current methodology) do not generate capital requirement (primarily interest rate risk of the banking book and credit spread on the portfolio of Treasury securities in the banking book).

Significantly lower share of internal capital assigned to the Corporate and Investment Banking (compared to the share of this business line in the structure of total capital requirement) results from the diversification effect recognized in the model of economic capital for credit risk. The opposite effect in the case of the Retail Banking stems from taking into account the horizon of mortgage products' maturity (particularly housing loans) in the model of economic capital for credit risk (versus lack of maturity adjustment in regulatory risk weight).

3.3.5 Risk appetite

Risk appetite is defined within the mBank Group as the maximum risk, in terms of both amount and structure, which the Bank is willing and able to incur in pursuing its business objectives under going concern scenario. Risk appetite resulting from the available capital and funding base is the starting point in the Group's risk management, and thus impacts the budgeting process and the capital allocation process.

Risk appetite management framework

The process of risk appetite management embedded within the Group is presented on the diagram below.

Risk appetite is based on assessment of the Group risk profile and risk capacity in the perspective of:

- capital,
- funding,
- non-financial risks,
- Risk Adjusted Performance Measures.

Risk appetite is the starting point for an ongoing dialogue about the risk profile within the organization. During the strategic discussions, the Management Board outlines directions for the development of the Group and particular business lines. The formulated general statements assure the foundation for ongoing dialogue between management and the Board, which materializes in the form of portfolio-specific statements. Risk appetite statements undergo further decomposition into key metrics and targets via the integrated strategic planning process, which are then cascaded down into the organization in operational phase of planning. Documentation of risk appetite and its monitoring activates appropriate control mechanism for protecting the Group's goals.

Capital buffers

Risk appetite is determined below the risk capacity set by the minimum standards on capital adequacy and liquidity set in European and Polish regulations in order to ensure that the Group survives in the case of negative changes in the Group or in its environment thereby providing the ability to assure risk bearing capacity. Level of funding sources and capital position of the Group, both regulatory and internal capital is taken into consideration while defining the risk capacity and risk appetite. The Bank maintains capital and liquid assets on the levels ensuring to meet regulatory requirements under normal and realistic stress conditions.

mBank Group's Risk appetite covers all significant risks and key risk concentrations embedded in its business strategy by setting appropriate capital buffers necessary in case of materialization of selected risk factors related to existing portfolios and planned business and addressing new regulatory requirements as well as potential negative macroeconomic changes.

Risk Bearing Capacity

Risk bearing capacity is expressed in terms of capital and funding resources available for allocation so as to ensure safety in normal scenario and risk scenario. The maximum risk that mBank Group is willing and able to incur, while accepting existential threats resulting from mBank Group business strategy, is subject to the following conditions:

- adequate economic risk-bearing capacity must be ensured (limits must be ensured in normal conditions),
- the internal floor set for regulatory capital ratios must be observed,
- financial liquidity and adequate structural liquidity must be ensured.

The approach of mBank Group to the assessment and control of mBank Group risk bearing capacity covers internal and regulatory requirements.

Risk limit system

To ensure effective allocation of the risk appetite the mBank Group applies a risk limit system. The structure of limits translates the risk appetite into specific constraints on risks incurred in the Group's activity. The concept of limit structure and limit management process is described in the document "Limit book. Rules for limitation of risk in mBank S.A. Group" accepted by the Supervisory Board. Accepted limit values are presented in the Limit Book - limit register.

3.3.6 Stress tests within ICAAP

Stress tests are an essential component of the ICAAP used for managing the Bank and the Group and for capital planning. Stress tests allow an assessment of the Group's resistance in the context of extreme, yet plausible scenarios of external events.

The **integrated stress tests** are conducted assuming scenario of unfavourable economic conditions that may adversely affect the Bank's financial situation in at least a full two-year time horizon (for liquidity risk - in one-year horizon). The risk scenario, ie. the most plausible (in at least a full two-year time horizon) scenario of negative deviations from the base scenario, expressed in terms of macroeconomic and financial ratios is common for all risk types and is aligned with the scenario accepted at the group level of the parent entity of the Bank.

The integrated macroeconomic scenario allows for a comprehensive analysis of all the risk types covered by internal capital and analysis of its impact on the capital adequacy and liquidity of the Bank and the Group.

The stress test results include the following measures:

1/ stressed economic capital (includes capital for credit risk, market risk, operational risk and business risk),

2/ stressed potential risk coverage (RCP),

3/ the liquidity norms under stress conditions.

The internal capital under stress scenario is defined as a product of calculation performed in line with the current methodology of internal capital calculation but on the basis of input parameters typical for stress conditions.

Macroeconomic stress scenarios are updated on quarterly basis or ad hoc, if needed. Based on the stress scenarios the resulting internal capital demand as well as negative financial effects of the adverse economic scenario are simulated.

Additionally, once a year, the Bank carries out **supplementary stress tests** using much more severe risk scenarios and/or events. The Group and the Bank carries out so called **reverse stress tests**, the goal of which is to identify events potentially leading to unviability of the Group and the Bank. Reverse stress tests are used for the verification of capital and liquidity contingency plans of the Group. Reverse stress tests are conducted in inverse mode to classic stress tests (from effect to causes) and serve as their complement. Reverse stress tests are carried out for material risks (internal capital) and are an additional element of the analysis of the Bank's robustness to negative macroeconomic and idiosyncratic factors.

The Group and the Bank take part in **regulatory stress tests** conducted annually by the Polish Financial Supervisory Authority (KNF), in order to determine the impact of assumed macroeconomic stress scenarios on the Group's balance sheet and P&L as well as on external supervisory norms.

3.3.7 Capital planning

Required capital planning – strategic phase

The strategic phase of capital planning takes the form of the strategic dialogue between the Management Board, risk management area, finance area and business lines, resulting in the determination of the desired directions of business development to support the realization of the business goals of the mBank Group.

The Group plans business activities and related risk appetite within its risk bearing capacity and constraints imposed by regulatory requirements which have to be satisfied under both normal and stress conditions.

In view of the above, the planned changes in the size and structure of the Group's business activities, as well as anticipated regulatory changes are taken into account in estimating the required capital during the planning process. The required capital is estimated using risk parameters reflecting macroeconomic expectations assumed in planning process and taking into consideration intended changes in the methodology.

Should the capital required to achieve business goals of the Group be greater than the capital available for allocation, then the said business goals need to be revised.

Following the establishment of strategic directions, the key risk concentrations arising from the current and planned risk profile are examined with the Management Board setting an acceptable level of the associated risk factors. Key risk concentrations are identified based on the reverse stress test analysis. Capital targets are set taking into account the capital needs arising from the potential materialization of key risk factors recognized in reverse stress test procedure and fixed at the levels accepted as corresponding with targeted risk tolerance. Impact of the risk factors on capital is determined through stress test calculations.

The process of setting strategic financial targets is accompanied by strategic allocation of capital resources to individual business areas taking into account longer-term return on capital.

Required capital planning – operational stage

Based on the strategic directions, general balance sheets targets are elaborated upon during operational phase of capital planning (bottom-up). At this stage the capital available is compared with the capital needed (resulting from business growth and stress test results) in order to determine an efficient capital allocation to lower levels.

Business units work out their partial plans based on accepted macroeconomic assumptions, financial targets and the assessment of business growth potential.

In order to determine an acceptable risk profile from the capital consumption perspective, the forecasted volumes (partial plans) and resulting demand for regulatory and economic capital are compared, in an iterative process, with available resources and strategic guidelines.

Limits supporting capital plan

Annually updated limits are set to ensure adequate use of available resources in order to achieve business targets. Multilevel limit structure aims to ensure that risk appetite is translated into specific constraints put on risks of the Group's activities in different business areas.

Available capital base

The final effect of the planning process is determination of target level of regulatory (own funds) and economic (RCP) capital base needed to cover risk concentrations of the current and planned activities, expressed by total regulatory capital requirement and total internal capital.

3.4. Credit risk

3.4.1 Organization of risk management

The mBank Group actively manages credit risk in order to optimise the level of profit in terms of return on risk. Analysis of the risk in the Group operations is continuous. For the purpose of identification and monitoring of credit risk, uniform credit risk management rules are applied across the Bank's structure and its subsidiaries; they are based, among others, on separation of the credit risk assessment function and the sales function at all levels up to the Management Board. A similar approach is applied to administration of credit risk exposures as this function is performed in the risk area and the operating area and is independent from sales functions. The model of Group-wide risk management assumes participation in the process of the Bank's risk management area organizational units as well as the Credit Committee of the mBank Group (KKG). The segregation of responsibilities in the process of credit risk management is as follows:

- **The Retail Risk Department (DRY)** is responsible for management of credit risk and other risk types in mBank's retail banking. The main operational responsibilities of DRY (in the domestic market) include: credit risk rating and credit decision-making for individual exposures and transactions, mitigation of operational risk (credit frauds), supervision over the automated credit process, administration of credit agreements concluded with retail clients and their monitoring, collection of credit receivables via telephone and legal collection of credit receivables. Furthermore, DRY develops rules of credit risk rating, calculating creditworthiness of retail clients and other components of credit policy submitted for the approval by the Retail Banking Risk Committee. Solutions applied on the Polish market are also adapted in foreign branches (in the Czech Republic and Slovakia) – in this respect DRY cooperates closely with the Foreign Branches Risk Department. Moreover, the Department is responsible for implementing the assessment principles in the tools supporting the credit decision-making process, reports on the quality of the credit portfolio, and monitors the quality of data used in the risk rating process. To the extent permitted by external regulations DRY participates in the risk management process of the subsidiaries having credit risk bearing retail products in the offer.
- **The Corporate Risk Assessment Department (DOR)** is responsible for management of the quality of the corporate loans portfolio of the Bank and subsidiaries of mBank Group including restructured exposures and subject to a restructuring. DOR's key functions include: developing credit policy concerning corporate clients, countries and financial institutions as well as guidelines for credit risk strategy in the abovementioned areas; decision-making or participation in decision-making concerning performing and non-performing loans, including their impact on operational risk, reputational risk, liquidity risk and for capital requirements and return on invested capital; analysis, evaluation and control of credit risk of countries, banks, international financial institutions and non-financial clients of the Bank and the Group subsidiaries in the corporate and investment banking area; control of credit risk limits imposed on countries, banks, international financial institutions and non-financial clients of the Bank and the Group subsidiaries in the corporate and investment banking area; implementation of the process of an early warning about the loss of creditworthiness of corporate clients (EW (Early Warning) Process), including the management of the Watch List (WL) and credit risk provisions in the Bank's corporate and investment banking area; monitoring the structure of exposures in the risk portfolio, in particular by sector, and the related concentration risk. The more extensive scope of credit risk controlling functions at the Group level is performed by a dedicated organizational unit: the mBank Group Credit Risk Division at the Corporate Risk Assessment Department. The main functions of the Division include: analysis of credit risk of new exposures of subsidiaries, monitoring credit risk of the largest exposures; participation in the projects of development and modification of the risk management strategy, policies and rules in subsidiaries.
- **Corporate Risk Processes Department (DPR)** responsible for: compiling the corporate credit risk strategy, shaping the credit policy within the corporate banking area, creating through portfolio analyses, including industry-based division, products and concentration; compiling reports and statements for financial supervision bodies, the Bank's governing bodies and the Bank's organisational units, from the scope of credit portfolio of the Bank and mBank Group entities. DPR compiles and introduces rules governing corporate risk process, monitors its efficiency, manages applications supporting credit process and provides support for their users. Within the area of DPR responsibilities lies development and quality control of the rating models for corporate, financial and individual clients of mBank and mBank Group entities. DPR manages the reserves for credit risk in the area of corporate banking, conducts settlement and accounting service of credits and guarantees issued by Structured and Mezzanine Finance Department and collected debts from Restructuring and Debt Collection Department portfolio.
- **Integrated Risk & Capital Management Department (DKR)** – is responsible for the portfolio provision for loans and advances to corporates and retail, integration of risk valuation (economic capital, stress tests, total risk exposure amount (TREA)) and validation of models.

Decision-making for credit exposures in the corporate area. Credit decisions are consistent with the accepted rules set in the Corporate Risk Policy. Levels of decision-making competences are determined by a decision-making matrix. The determination of level of decision-making authority for credit decision is based on EL-rating and total exposure on client/group of affiliated entities. The total exposure includes also exposures on the client/group of affiliated entities in the mBank Group subsidiaries.

Decision-making for credit exposures in the retail banking area. Due to a profile of retail banking clients, the accepted amount of exposure per client and standardisation of products offered to those clients, the credit decision-making process differs from that applied to corporate clients. The decision-making process is automated to a large extent, both in terms of acquiring data on the borrower from internal and external data sources, and in terms of risk assessment by means of scoring techniques and standardised decision-making criteria. The tasks, which are not automated concern mainly the verification of credit documentation and potential derogations when a decision is made with the escalation to the decision-making level in accordance with the applicable rules. In addition, in case of mortgage loans, the value of the collateral is established (internally or with the use of external appraisal report) and its compliance with the binding credit policy including acceptable LtV is assessed. These functions are performed by operating units located within the Retail Risk Department, in complete separation from sales functions.

In mBank Group, mortgage loans to retail customers are also granted by mBank Hipoteczny. The credit process and the principles of risk assessment are consistent with the solutions used in mBank - the main difference is another method of property valuation, i.e. the use of the mortgage lending value (estimated in accordance with the Act on Covered Bonds and Mortgage Banks) instead of market value.

3.4.2 Credit Policy

mBank manages credit risk based on supervisory requirements and market best practices. Credit policies, established separately for retail banking and corporate banking, play the key role in the credit risk management process. Credit policies include e.g.:

- target customer groups,
- minimum acceptable ratings' levels defined by the expected loss value,
- criteria for acceptance of financed subjects and collaterals,
- rules for mitigating concentration risk,
- rules for selected industries and customers segments.

3.4.3 Collateral accepted

Collateral accepted for granted credit products. The collateral policy is an important part of the credit policy. It provides that, in making a decision about granting a credit risk bearing product, the Bank strives to obtain collateral that would be adequate to the accepted risk. The quality of the proposed tangible collateral is assessed according to its liquidity and market value (or the mortgage lending value – in case of mBank Hipoteczny), and the quality of personal collateral is assessed according to the financial situation of the guarantor. Moreover, the impact of collateral on limitation of the impairment of the loan portfolio is a significant factor in the assessment of the collateral's quality. The quality of accepted collateral is linked to the amount of the credit risk bearing product and the level of risk related to granting such a product. The most common forms of accepted collateral include:

- mortgage on real estate,
- cession of receivables (cession of rights),
- registered pledge,
- transfer of ownership to collateral (partial or conditional),
- monetary deposit,
- guarantee deposit or cash blocked,
- bill of exchange,
- guarantees and warranties,
- a letter of comfort issued by a company whose reliability and fairness is known on the international financial markets.

In the case of personal collateral (e.g. warranty, guarantee), the situation and reliability of the entity issuing such collateral is evaluated against the same standards as those applicable to the assessment of borrowers.

Tangible collaterals are evaluated in accordance with the internal rules of the Group. The value of fixed assets (other than vehicles) taken as collateral is determined in most cases on the basis of an estimate prepared by a certified expert. These estimates submitted to the Bank is verified by a team of specialists situated in the Risk Area, who verify the correctness of the market value assumptions and assess the liquidity of the collateral from the Bank's point of view. The following factors are taken, among others, into account in the verification process:

a) for collateral on real estate:

- type of real estate,
- legal status,
- designation in the local land development plan,
- technical description of buildings and structures,
- description of land,
- situation on the local market,
- other price-making factors,

b) for collateral on plant and machinery:

- general application and function in the technological process/possibilities of alternative use,
- technical description and parameters,
- exploitation and maintenance conditions,
- compliance with applicable standards,
- availability of similar devices and machinery,
- current market situation,
- forecasts of demand for specific machinery in connection with the situation in the industrial sectors applying such machinery.

c) for collateral on inventories:

- formal and legal requirements related to specific products,
- saleability,
- warehousing conditions required,
- security and insurance of both the warehouse and the goods stored therein.

Collateral accepted for transactions in derivative instruments. The Bank manages the risk of derivative instruments. Credit exposures arising from concluded derivative transactions are managed as a part of clients' general credit limits, taking into account potential impact of changes in market parameters on the value of the exposure. Existing master agreements with contractors obligate the Bank to monitor the value of exposure to the client on a daily basis and provide for additional collateral against the exposure to be contributed by the client if the exposure value increases or the limit is exceeded. In case of default, the master agreements provide for early settlement of the transaction with the client. mBank applies an Early Warning Process in order to monitor the usage of limits on derivatives and enables the Bank's quick reaction if client's open transaction nears the maximum limit. Moreover, taking into consideration credit risk related to a derivative limit granted to a specific client, the Bank may apply additional collaterals from standard catalogue of collaterals of credit risk-bearing products.

Collateral on securities resulting from buy-sell-back transactions. The Bank accepts collateral in the form of securities in connection with the buy-sell-back transactions concluded. Depending on the agreement such collateral may be sold or repledged.

Collaterals accepted by the mBank Group subsidiaries. The mBank Group subsidiaries accept various forms of legal collateral of credit risk-bearing products. Their list depends on the specific nature of activities, type of offered products and transaction risk.

mBank Hipoteczny applies mortgage on the financed real estate as the basic collateral. Additional collateral may include bills of exchange or civil surety by the borrowing company's owners, as well as pledge on shares in the borrower's company. Loan insurance in an insurance company approved by the Bank may be accepted for a period necessary to effectively set up collateral.

mLeasing applies types of collateral that are most similar to those of mBank. It accepts both standard personal collateral: bill of exchange and civil surety, letters of comfort, guarantees, assuming the debt, debt take over, and tangible collateral: mortgage, registered liens, transfer of ownership of collateral, transfer of receivables and cession of receivables and rights to an insurance policy, and deposits. mLeasing also accepts declarations of voluntary submission for enforcement.

mFaktoring accepts only highly liquid collateral. Apart from own blank bills of exchange, these are mainly bill of exchange surety of the owners of the customer's company, cession of receivables from bank accounts (mainly those maintained by mBank), insurance of receivables, cession of rights from insurance policies in respect of receivables, concluded by customers. In the case of providing services to several companies belonging to one group, a customary form of collateral is a power of attorney to perform cross-settlement of agreements concluded with the particular companies.

3.4.4 Rating system

The rating system is a key element of the credit risk management process in the corporate banking area. It consists of two main elements:

- customer rating (PD-rating) – describing the probability of default (PD),
- credit rating (EL-rating) – describing expected loss (EL) and taking into consideration both customer risk (PD) and transaction risk (LGD, Loss Given Default – loss resulting from default). EL can be described as PD*LGD. EL indicator is used mainly at the credit decision-making stage.

The rating produces relative credit risk measures, both as percentages (PD%, EL%) and on a conventional scale from 1.0 to 6.5 (PD-rating, EL-rating) for corporations (sales over PLN 30 million) and SMEs (sales below PLN 30 million). PD rating calculation is a strictly defined process, which comprises seven steps including: financial analysis of annual reports, financial analysis of interim figures, assessment of timeliness of presenting financial statements, analysis of qualitative risks, warning indicators, level of integration of the debtor’s group, and additional discretionary criteria. Credit rating based on expected loss (EL) is created by combining customer risk rating and transaction risk rating, which results from the value of exposure (EAD, Exposure at Default) and the character and coverage with collateral for transactions concluded with the client (LGD). LGD, described as % of EAD, is a function of possibly executed value of tangible and financial collateral and depends on the type and the value of the collateral, the type of transaction and the ratio of recovery from sources other than collateral.

The rating system generates the borrower’s probability of default directly in the form of a PD ratio, expressed as a percentage (continuous scale). Rating classes are calculated on the basis of procedures of dividing percentage PD into groups based on geometric stepladder. In external reporting, the Bank maps the internal PD rating scale onto external ratings. The table below presents the mapping system.

Sub-portfolio	1				2			3		4			5			6	7		8	
PD-rating	1.0 - 1.2	1.4	1.6	1.8	2	2.2	2.4 - 2.6	2.8	3	3.2 - 3.4	3.6	3.8	4	4.2 - 4.6	4.8	5	5.2 - 5.4	5.6 - 5.8	No rating	6.1 - 6.5
S&P	AAA	AA+	AA, AA-	A+, A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B+	B	B-	B-	CCC+	CCC down to CC-	n/a	C, D-I, D-II
	Investment Grade								Non-Investment Grade											Default

The following models comprised by the rating system are used in the retail banking area:

- Loss Given Default (LGD) model, which covers the entire retail portfolio. In the model, loss is defined as a function dependent on the level of recovery from clients’ own payments and possible value of collateral using real estate collected in enforcement procedures,
- Credit Conversion Factor (CCF) model, which covers the entire retail banking portfolio. The model is based on historical data. The Credit Conversion Factor is an integral part of,
- PD model with a modular structure, which integrates application and behavioural models in the retail banking area as well as models which use Credit Information Bureau (BIK) data.

All mBank Group subsidiaries, whose operations are burdened with credit risk, before concluding an agreement and upon its performance, apply a monitoring process to estimate the risk using rating systems applied by the mBank Group. Rating systems that are used by the Group subsidiaries are due to the nature of their business; at the same time the factoring and leasing companies use the PD-rating of the customer, and the leasing company applies additionally credit rating (EL-rating). A rating based on supervisory measures (slotting approach) is applied in the case of mortgage loans and real estate leasing.

3.4.5 Monitoring and validation of models

All models of risk parameters applied in mBank and in the Group subsidiaries, including, i.a., scoring models, PD models, LGD models and CCF models are subject to detailed and annual monitoring by modelling units and are validated by the mBank's independent validation unit.

The monitoring includes tests to check discriminatory power of individual models or their components, stability over time, the materiality of individual deviations of empirical values from theoretical values and the impact on portfolio parameters. In case of identification of some mismatches, the modelling unit recalibrates the respective models.

Reports on the performed monitoring/backtests are presented to the model users and the independent validation unit.

Validation

Validation is an internal, complex process of independent and objective assessment of model operation, which, in case of the AIRB method, meets the supervisory guidelines set out in the CRR. The validation rules are set out in general in the "Model Management Policy" and described in details in other mBank's internal regulations. The validation covers models directly and indirectly used in the assessment of capital adequacy under the AIRB approach and other models indicated in the Model Register maintained in mBank.

In case of AIRB models there is assured an independence of validation unit in the organizational structures of the Bank or the Group's subsidiary in relation to the units involved in the model's construction/maintenance, ie. the model owner and users. The Validation Division of the Integrated Risk and Capital Management Department (Validation Unit) is responsible for the validation in mBank.

The scope of validation performed by the Validation Unit covers the assessment of:

- models,
- model implementation,
- their application process.

Depending on the materiality and complexity of the model, the validation may be advanced (covers both quantitative and qualitative elements) or basic (mainly focused on the quantitative analyses and selected qualitative elements). The validation results are documented in the validation report containing, in particular, an assessment used for the purpose of approving the model, and recommendations, if any, about the irregularities found.

Validation tasks are performed in accordance with the annual validation plan, approved by the Vicepresident of the Management Board, Chief Risk Officer.

All the models used for the purpose of calculating capital requirements for credit risk under the AIRB method are validated.

IRB Method Change Policy

The Bank implemented the IRB Method Change Policy approved by the Management Board. The Policy contains internal rules for the change management within the IRB approach, based on the supervisory guidelines and taking into account the organizational specifics of the Bank. The Policy specifies the stages of the change management process, defines roles and responsibilities, describes in details the rules of classification of changes as well as the rules and responsibilities related to the need to meet documentary requirements connected with the maintenance of statistical method change register.

3.4.6 Calculating impairment charges and provisions

The method of calculating impairment charges and provisions is consistent with the International Financial Reporting Standards.

Credit exposures with evidence for impairment are identified in order to recognize impairment. Then, a comparison of the carrying value of the gross credit exposure with the value of estimated future cash flows, discounted at the original effective interest rate is made. An impairment is recognized when the discounted value of future cash flows is lower than the gross carrying amount. This results in the impairment charge for balance sheet credit exposure and/or provision for off-balance sheet credit exposure.

Otherwise, impairment is not recognized and the exposure is classified to the IBNR (Incurred But Not Reported loss) portfolio, covered by a group provision.

The amount of provision (for exposure included in IBNR portfolio) is an estimate of incurred loss and is assumed at the expected level of exposure at the impairment date, considering the book value of loss (in percentage terms) and the probability of default.

3.4.6.1 Corporate portfolio

The probability of disclosure of a loss is modelled using logistic regression based on financial indicators and qualitative data on financed entity. The model is calibrated on the Bank's internal data, comprising a several years' period of observation of the corporate portfolio. On the basis of the monitoring period existing in the Bank, it was estimated that 6-8 months (depending on the size of the company) is the average period between the loss event occurrence and the possibility of its identification by the Bank (loss identification period 'LIP'). Therefore, the Bank performs calculations on the basis of 6-8-month horizon for probability of default obtained via scaling the original 12-month PD-rating coming from the corporate PD model. The value of incurred loss is assumed at the level of the expected value of exposure in case of default (EAD) multiplied by PD and LGD.

In the opinion of the Management Board, the profile of the corporate rating system as a model sensitive to changes in economic cycle (Point-in-Time) as well as recognition of interim financial data and warning indicators as rating assessment drivers should ensure adequate reflection of the amounts of the calculated portfolio provision to the changing market environment.

3.4.6.2 Retail portfolio

For the purpose of measuring impairment in the retail area, the Bank applies two approaches for determining credit risk parameters. In the case of the Polish market, the Bank applies parameters analogous to those derived from the AIRB methodology (advanced internal ratings based approach for calculating capital requirement for credit risk), after necessary adjustments aimed at elimination of differences between AIRB and IAS-90. In the case of the Czech and Slovak markets, risk parameters are estimated based on migration matrices.

12-month loss identification period (LIP) based on the current internal data on banking processes and abilities to detect the incurred losses is applied in the retail area to estimate the probability of default.

3.4.6.3 Impairment triggers - corporate portfolio

The intranet application IMPAIRMENT-KORPO is a tool used to calculate impairment losses for impaired exposures granted to corporate customers and banks. The classification of customers to default portfolio and calculation of impairment write-off is as follows:

a) identifying impairment indicator on individual basis (loss events) and if they exist, classifying a customer to a default category;

b) assessing estimated future cash flows (repayments) both from collateral and from repayments by a customer;

c) calculating impairment losses taking into account the current amount of estimated future recovery discounted at the effective interest rate;

d) booking of impairment losses and provisions.

Loss events were divided into definite ('hard') loss events of which occurrence requires the client to be classified into the default category, and indefinite ('soft') loss events of which occurrence may imply that there is a need to classify the client into the default category. In the case of indefinite loss events, credit analyst assesses additionally whether the event impacted adversely the obligor's creditworthiness. Indefinite loss events have been introduced in order to signal situations that may increase the credit risk of the debtor, which may result in the loss of the debtor's ability to repay loan the Bank.

<u>The list of definite loss events:</u>

1. The number of days past due is above 90 days (14 days in the case of banks) and the overdue amount exceeds PLN 3,000.

2. The Bank has sold exposures with a significant economic loss related to the decrease of the debtor creditworthiness.

3. The Bank performed enforced restructuring of the exposure, which resulted in the change of the loan/transaction service schedule due to the lack of possibility of the obligor to meet his obligations under loan/transaction agreement, as initially stipulated, which resulted in:

a) remitting part of these obligations, or

b) postponing the repayment of the substantial part of the principal, interest or (if it refers to) commission; provided that the lack of approval for restructuring would cause more than 90 calendar days delay in repayment of substantial part of the obligation.

4. Filing by the Bank, the parent or subsidiary entity of the Bank a bankruptcy motion against debtor or filing similar motion in respect of credit obligations of the debtor towards the Bank, the parent or subsidiary entity of the Bank.

5. Bankruptcy of debtor or acquiring by him a similar legal protection resulting in his evasion of or delay in repayment of credit obligations towards the Bank, the parent or subsidiary entity of the Bank.

6. Termination of part or whole credit agreement by the Bank and the beginning of restructuring/collection procedures.

7. Client's fraud.

The list of required conditions for indefinite loss events is prepared separately for each following entity type:

a) governments and central banks,

b) banks,

c) corporations, including specialised lending,

d) local government units,

e) insurers,

f) pension fund managing companies, investment fund managing companies.

Defining separately the conditions for indefinite loss events for particular types of entities aims at reflecting specificity of particular types of entities in identification of loss events.

In order to assess if the impairment loss has occurred, identification of credit exposures with premises for impairment is carried out. Subsequently the comparison of the gross balance sheet credit exposure with the value of estimated future cash flows discounted at the original effective interest rate is carried out, which leads to the conclusion whether the impairment loss has occurred. If the discounted value of future cash flow is higher than the gross balance sheet value, the impairment charge is not recognised.

In case of specific situation, when the future cash flows are clearly dependent on individual events (based on discrete metric), the Bank estimates the probability of such events as the basis for calculating the impairment charge.

3.4.6.4 Impairment triggers - retail portfolio

In the Bank's retail banking in Poland, a debtor-oriented approach, including all exposures of the customers, is applied for identification of impairment triggers. In the foreign branches transactional approach, in which each exposure is analyzed independently, is applied.

The main impairment trigger is delay in repayment, which is identified in different ways depending on the abovementioned approach. In the retail banking in Poland, impairment trigger is identified, when the total of all customer's exposures past due more than 30 days exceeds PLN 500 and the eldest delay exceeds 90 days.

In the Czech and Slovak branches, an individual exposure is considered impaired when the overdue amount exceeds CZK 3000 or EUR 120, respectively, while the delay is more than 90 days.

Additionally, the following events are treated as impairment triggers in all branches:

a. enforced restructuring of debt,
b. bankruptcy of debtor,
c. recognition of the contract as fraudulent,
d. sale of the exposure with considerable economic loss,
e. uncollectable status of debt,
f. payout of low downpayment insurance.

3.4.6.5 Provision coverage of individual sub-portfolios

The table below shows the percentage of the Group's balance sheet and off-balance sheet items relating to loans and advances, guarantees and other financial facilities to individuals, corporate entities an public sector and the coverage of the exposure with impairment provision for each of the Bank's internal rating categories (the description of rating model is included in Note 3.4.4).

Sub-portfolio	31.12.2015		31.12.2014	
	Exposure (%)	Provision coverage (%)	Exposure (%)	Provision coverage (%)
1	4.95	0.02	4.52	-
2	37.38	0.04	31.53	0.04
3	20.22	0.17	17.34	0.13
4	22.02	0.28	25.49	0.33
5	5.53	0.87	5.83	1.04
6	0.64	1.54	0.51	1.69
7	1.80	3.61	2.23	3.81
8	1.03	0.02	4.80	0.01
other *)	2.40	-	2.39	-
Default category	4.03	57.57	5.36	49.03
Total	**100.00**	**2.55**	**100.00**	**2.90**

*) "Other" applies to subsidiaries which do not use similar systems as mBank S.A.

As at 31 December 2015, 42.33% of the loans and advances portfolio for balance sheet and off-balance sheet exposures is categorized in the top two grades of the internal rating system (36.05% as of 31 December 2014).

A distribution of share of exposures for non-default portfolios remained without significant changes compared to 2014. The share of provision coverage for default portfolio visibly increased (from 49.03% to 57.57%).

3.4.6.6 Repossessed collateral

The Group classifies repossessed collaterals as assets repossessed for debt and measures them in accordance with the adopted accounting policies described in paragraph 2.25. Repossessed collaterals classified as assets held for sale will be put up for sale on an appropriate market and sold at the soonest possible date. The process of selling collaterals repossessed by the Bank is arranged in line with the policies and procedures specified by the units managing the collection process for individual types of repossessed collaterals.

The policy of the companies of the Group is to sell repossessed assets or - in the case of leases - lease them out again to another customer. Cases in which the repossessed collateral is used for own needs are rare – such a step must be economically justified and reflect the Group companies' urgent need, and must at each time be approved by their Management Boards. In 2015 and 2014, the Group did not have any repossessed collaterals that were difficult to sell. As at 31 December 2015, value of repossessed collaterals was PLN 6 768 thousand (31 December 2014: PLN 8 192 thousand) included mainly real estate which constitute collaterals for mortgage loans and leasing assets. The value of repossessed collaterals was included in the item inventories under Note 27.

3.4.7. mBank Group Forbearance Policy

Definition

The mBank Group's forbearance policy is a set of activities relating to negotiation and restructuration of terms of loan agreements which is defined by internal regulations.

The Group offers forbearance to assist customers, who are temporarily in financial distress and are unable to meet their original contractual repayment terms, through agreements with less restrictive terms of repayment, without which financial difficulties would prevent satisfactory repayment under the original terms and conditions of the contract. These agreements may be initiated by the customer or the Group entities and include e.g. debt restructuring, new repayments schedule and capital repayments deferrals with interest repayments kept.

The Group does not consider loans with modified terms as falling under the forbearance policy in the case when changes result from the customer's application and there are no current or anticipated customer's financial difficulties, and, in addition, modifications of the contract meet the criteria of decision-making policy for a healthy portfolio.

The type of concession offered should be appropriate to the nature and the expected duration of the customer's financial distress. Financing entity's belief in the customer's willingness and ability to repay the loan is necessary to conclude an agreement. Prior to granting a concession, an assessment of its impact on improving customer's ability to repay the loan is carried out.

The Group renegotiates loan agreements with customers in financial difficulties to maximise possibility of receivables repayment and minimise the risk of default (situation when client fails to fulfil his contractual obligation).

Exposures with modified terms and conditions under forbearance policy (hereinafter - forborne exposures) are subject to regulatory and internal reporting.

Instruments used

The Group maintains open communication with clients in order to detect any financial difficulties as early as possible and to know the reasons of such difficulties. In case of retail customers with temporary financial difficulties forbearance solutions focus on temporary reductions of contractual payments in form of capital repayments suspension with only interest repayments kept.

For customers under long term financial distress extension of contractual repayment schedule may be offered which can include instalments reduction. In case of debt refinancing, as a rule, client is reclassified into the default category.

For the corporate clients in financial distress, as part of the business support process, the Group offers concessions, starting from participating in debt standstills and finishing on debt restructuring agreements. Debt restructuring agreements may improve Group's security by replacing open financing (overdraft) with factoring or invoice discount and they can waive or ease covenants (additional conditions included in the primary agreement), if it represents optimal strategy for client's business continuity.

The following list does not exhaust all possible actions that are subject to forbearance, but it includes the most common:

- Loan increase,
- Deferral of scheduled repayments,
- Maturity extension/ extension of loan duration,
- Restructuring (medium or long term refinancing),
- Capitalization of interest,
- Interest deferrals,
- Principal deferrals,
- Covenant waiver,
- Standstills.

Risk management

Forbearance activities have been an integral part of Group's risk management area for many years. Forbearance portfolios are subject to regular review and reporting to the area management. The effectiveness of undertaken actions, regularity of restructured transactions' service in respect of types of product and client's segment are subject to assessment. The risk analysis of retail forbearance portfolio is based on portfolio approach and corporate portfolio analysis is based on individual approach.

In corporate banking, the concession granting process is accompanied by impairment test. Recognition of impairment results in client being taken over by the specialised unit dedicated to restructuring. All loans granted to clients being served by restructuring unit have the forbearance status. Clients without impairment, who received the concession, are subject to close monitoring (Watch List – WL) by all units involved in the loan granting process. Their financial situation is subject to close monitoring and they are under constant review to establish whether any of impairment indicators had materialised.

The Group does not use dedicated models to determine level of IBNI provision and impairment provision for forbearance portfolio.

Forbearance exit conditions

The Group ceases to recognise the product as forborne if all of the following conditions are met:

- the agreement is recognised as performing,
- debtor financial situation's analysis showed improvement,
- two years after recognising exposure as performing have passed,
- at least from the middle of the probation period regular capital or interest payments have been made (lack of delays in repayment longer than 31 days) according to the schedule set at the moment of concession granting,
- none of the debtor exposures is overdue more than 31 days in the amount of more than PLN 500.

Portfolio characteristics

The table below presents changes in the carrying value of the forborne exposures in 2015

31.12.2015	Gross carrying amount	Of which defaulted	Provisions created	Net value
As at 31.12.2014	**2 281 718**	**1 749 003**	**745 806**	**1 535 912**
Outputs	(418 141)	(358 851)	(187 837)	(230 304)
New forbearance	505 926	156 103	71 516	434 410
Changes on existing loans	(162 592)	(222 844)	27 124	(189 716)
As at 31.12.2015	**2 206 911**	**1 323 411**	**656 609**	**1 550 302**

The table below presents changes in the carrying value of the forborne exposures in 2014

31.12.2014	Gross carrying amount	Of which defaulted	Provisions created	Net value
As at 31.12.2013	**1 995 592**	**1 526 073**	**588 260**	**1 407 332**
Outputs	(148 406)	(124 487)	(51 335)	(97 071)
New forbearance	605 363	261 236	92 086	513 277
Changes on existing loans	(170 831)	86 181	116 795	(287 626)
As at 31.12.2014	**2 281 718**	**1 749 003**	**745 806**	**1 535 912**

Forbearance portfolio as at 31 December 2015

31.12.2015	Gross carrying amount	Of which defaulted	Provisions created	Net value
Loans and advances to banks	-	-	-	-
Loans and advances to customers, including:	2 206 911	1 323 411	656 609	1 550 302
Loans to individuals:	696 427	187 684	69 770	626 657
- Current accounts	52 130	5 871	2 472	49 658
- Term loans, including:	644 297	181 813	67 298	576 999
housing and mortgage loans	515 660	116 469	36 393	479 267
Loans to corporate clients:	1 510 484	1 135 727	586 839	923 645
corporate & institutional enterprises	572 640	436 131	244 646	327 994
medium & small enterprises	937 844	699 596	342 193	595 651
Loans and advances to public sector	-	-	-	-
Total	**2 206 911**	**1 323 411**	**656 609**	**1 550 302**

Forbearance portfolio as at 31 December 2014

31.12.2014	Gross carrying amount	Of which defaulted	Provisions created	Net value
Loans and advances to banks	1	-	-	1
Loans and advances to customers, including:	2 281 717	1 749 003	745 806	1 535 911
Loans to individuals:	469 240	186 589	70 746	398 494
- Current accounts	22 222	17 119	6 888	15 334
- Term loans, including:	447 018	169 470	63 858	383 160
housing and mortgage loans	379 103	124 180	51 564	327 539
Loans to corporate clients:	1 812 477	1 562 414	675 060	1 137 417
corporate & institutional enterprises	765 447	693 510	369 616	395 831
medium & small enterprises	1 047 030	868 904	305 444	741 586
Loans and advances to public sector	-	-	-	-
Total	**2 281 718**	**1 749 003**	**745 806**	**1 535 912**

The share of credit forbearance portfolio constitutes 2.74% (2014: 2.91%) of the whole portfolio. The most of forbearance portfolio (60%) is defaulted (2014: 76%). This portfolio is covered in 46% by the special-purpose provision (2014: 42%) and furthermore the risk of the lack of payment is mitigated by collaterals taken in the nominal amount of PLN 1.32 billion (2014: 1.56 billion).

Forborne exposures by type of concession as at 31 December 2015

31.12.2015 Type of concession	Gross carrying amount	Of which defaulted	Provisions created	Net value
Refinancing	404 615	300 604	193 030	211 585
Modification of terms and conditions	1 802 296	1 022 807	463 579	1 338 717
Total	**2 206 911**	**1 323 411**	**656 609**	**1 550 302**

Forborne exposures by type of concession as at 31 December 2014

31.12.2014 Type of concession	Gross carrying amount	Of which defaulted	Provisions created	Net value
Refinancing	87 616	75 919	30 938	56 678
Modification of terms and conditions	2 194 102	1 673 084	714 868	1 479 234
Total	**2 281 718**	**1 749 003**	**745 806**	**1 535 912**

Forborne exposures by geographical breakdown as at 31 December 2015

31.12.2015	Gross carrying amount	Of which defaulted	Provisions created	Net value
Poland	1 780 493	896 993	400 842	1 379 651
Other countries	426 418	426 418	255 767	170 651
Total	**2 206 911**	**1 323 411**	**656 609**	**1 550 302**

Forborne exposures by geographical breakdown as at 31 December 2014

31.12.2014	Gross carrying amount	Of which defaulted	Provisions created	Net value
Poland	1 677 732	1 145 017	535 520	1 142 212
Other countries	603 986	603 986	210 286	393 700
Total	**2 281 718**	**1 749 003**	**745 806**	**1 535 912**

Forborne, not impaired exposures by period of overdue as 31 December 2015

31.12.2015 Overdue period	Gross carrying amount	Of which defaulted	Provisions created	Net value
Not past due	803 512	37 483	4 986	798 526
Past due less than 30 days	92 803	4 490	2 479	90 324
Past due 31 - 90 days	21 788	3 388	626	21 162
Past due over 90 days	10 360	10 360	62	10 298
Total	**928 463**	**55 721**	**8 153**	**920 310**

Forborne, not impaired exposures by period of overdue as 31 December 2014

31.12.2014 Overdue period	Gross carrying amount	Of which defaulted	Provisions created	Net value
Not past due	337 904	81 317	1 495	336 409
Past due less than 30 days	35 576	12 393	217	35 359
Past due 31 - 90 days	1 881	1 093	-	1 881
Past due over 90 days	125 117	125 117	88	125 029
Total	**500 478**	**219 920**	**1 800**	**498 678**

Forborne, impaired exposures by period of overdue as at 31 December 2015

31.12.2015 Overdue period	Gross carrying amount	Of which defaulted	Provisions created	Net value
Not past due	421 074	415 503	200 536	220 538
Past due less than 30 days	47 575	43 235	11 104	36 471
Past due 31 - 90 days	36 698	35 848	17 434	19 264
Past due over 90 days	773 101	773 104	419 382	353 719
Total	**1 278 448**	**1 267 690**	**648 456**	**629 992**

Forborne, impaired exposures by period of overdue as at 31 December 2014

31.12.2014 Overdue period	Gross carrying amount	Of which defaulted	Provisions created	Net value
Not past due	551 981	363 797	184 529	367 452
Past due less than 30 days	108 621	55 558	20 253	88 368
Past due 31 - 90 days	72 579	61 669	32 984	39 595
Past due over 90 days	1 048 059	1 048 059	506 240	541 819
Total	**1 781 240**	**1 529 083**	**744 006**	**1 037 234**

Forborne exposures by the industry as at 31 December 2015

31.12.2015 Sectors	Gross carrying amount	Of which defaulted	Provisions created	Net value
Forestry	231 521	215 010	161 051	70 470
Financial activities	1 837	423	89	1 748
Food sector	32 832	31 971	9 853	22 979
Construction	124 264	104 228	17 845	106 419
Scientific and technical activities	50 834	13 136	8 313	42 521
Education	1 714	1 316	81	1 633
Electronics and household equipment	96 706	5 980	6 876	89 830
Power, power and heating distribution	100 013	100 013	25 876	74 137
Retail trade	82 086	62 017	22 189	59 897
Wholesale trade	84 844	50 527	38 909	45 935
Hotels and restaurants	65 051	53 027	6 998	58 053
Information and communication	65 647	63 792	33 316	32 331
Arts, entertainment	47 718	47 303	35 451	12 267
Metals	207 192	205 038	157 336	49 856
Health care	4 720	4 513	614	4 106
Fuels and chemicals	13 390	7 631	4 288	9 102
Other manufactoring	13 583	12 612	6 764	6 819
Real estate management	284 304	121 374	44 256	240 048
Agriculture	3 799	3 788	3 320	479
Textiles and clothing	5 156	3 353	947	4 209
Transport and logistics	10 410	6 295	2 980	7 430
Services	62 860	56 831	16 098	46 762
Municipal services	257	197	116	141
Other	616 173	153 036	53 043	563 130
Total	**2 206 911**	**1 323 411**	**656 609**	**1 550 302**

Forborne exposures by the industry as at 31 December 2014

31.12.2014 Sectors	Gross carrying amount	Of which defaulted	Provisions created	Net value
Forestry	240 825	220 775	112 399	128 426
Financial activities	964	964	1	963
Food sector	56 040	51 225	22 004	34 036
Construction	154 328	144 880	19 774	134 554
Scientific and technical activities	41 047	2 535	1 535	39 512
Education	20 001	20 001	4 936	15 065
Electronics and household equipment	88 767	82 441	66 739	22 028
Power, power and heating distribution	109 109	109 109	17 619	91 490
Mining	91 303	91 303	45 742	45 561
Retail trade	91 098	82 096	36 920	54 178
Wholesale trade	75 536	44 814	34 603	40 933
Hotels and restaurants	40 543	40 543	13	40 530
Information and communication	41 529	32 723	25 147	16 382
Arts, entertainment	46 424	46 424	11 668	34 756
Construction materials	13 753	13 753	13 753	-
Metals	217 634	208 372	139 783	77 851
Health care	6 174	6 174	819	5 355
Fuels and chemicals	10 968	2 043	627	10 341
Other manufactoring	6 068	6 068	2 982	3 086
Real estate management	393 359	290 378	77 534	315 825
Agriculture	11 269	11 269	10 976	293
Textiles and clothing	10 925	10 925	4 709	6 216
Transport and logistics	23 611	19 717	13 811	9 800
Services	53 392	53 389	12 539	40 853
Municipal services	178	178	178	-
Other	436 873	156 904	68 995	367 878
Total	**2 281 718**	**1 749 003**	**745 806**	**1 535 912**

3.4.8 Counterparty risk that arises from derivatives transactions

The credit exposure on mBank portfolio from derivatives transactions is calculated as the sum of the replacement cost for each transaction (which is its current net present value - NPV) and its estimated future potential exposure (Add-on). Moreover bank uses credit mitigation techniques such as netting and collateralization. Therefore netting is taken into account if there are close-out netting agreements in place, whereas CSA agreements are required to collateralize the exposure. CSAs allow for variation margin to be called if current valuation of the portfolio exceeds the predefined level (threshold). Therefore, credit exposure of the derivatives portfolio is adjusted appropriately based on whether the collateral is paid or received and in accordance with the binding agreements.

Credit exposure control is performed through an integrated system and in real time. In particular the level of the allocated credit exposure limit usage is monitored and checked intraday. Credit exposure limits are subject to limit decomposition into different products and maturities. In case of central clearing houses additionally posted types of collateral (initial margin, default fund) have been taken into account.

The decomposition of the mBank credit exposure of the derivatives portfolio based on the counterparty type is as follows:

- 57% banks,
- 21% corporates,
- 14% central clearing houses (CCP),
- 8% financial institutions.

The decomposition of the mBank credit exposure of the derivatives portfolio based on the internal PD-rating (PDR) as at 31 December 2015 is as follows:

PDR	1	1.2	1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4
Credit exposure (PLN m)	0.0	2.1	216.3	526.7	571.4	100.4	120.4	290.1	172.8	658.2	136.1	23.4	133.0

PDR	3.6	3.8	4	4.2	4.4	4.6	4.8	5	5.2	5.4	5.6	5.8	>5.8
Credit exposure (PLN m)	5.4	19.3	58.1	6.4	6.1	0.0	0.0	0.0	0.0	0.0	0.7	0.1	0.0

Total mBank credit exposure with counterparties without PDR equals to PLN 143 million, whereas total credit exposure of the counterparties with PDR at the level of 3.0 or better accounts for 88% of the total credit exposure of the derivatives portfolio (31 December 2014 respectively: PLN 107 million; 85%).

The PD-rating scale is compliant with scale presented in chapter 3.4.4 Rating system.

Total counterparty risk exposures for mBank of the derivatives portfolio decomposed into current NPV and add-on has been depicted below:

(PLN m)	Banks		CCP		Corporates	
	2015	2014	2015	2014	2015	2014
NPV	107	153	-	-	246	456
add-on	1 727	2 051	445	-	695	701
collateral	(1)	(342)	(14)	-	30	37

In order to reflect credit risk embedded in derivative instruments, the Group uses correction to fair value that takes into account the element of credit risk of the counterparty. Write off due to credit risk of contractor is based on expected loss until maturity of the contract and is calculated at the level of Bank in accordance with the adopted CVA/DVA methodology. The amount of the correction is then allocated to individual transactions. The value of this correction is included in income statement in net trading income.

The table below presents the percentage of derivatives with the correction due to credit risk of the counterparty, which constitute the component of financial assets in the total carrying value for each of the Group's internal rating categories (the rating model is described under Note 3.4.4).

Sub-portfolio	31.12.2015		31.12.2014	
	Fair value %	Provision coverage (%)	Fair value %	Provision coverage (%)
1	29.31	0.16	38.88	0.11
2	34.07	0.10	47.69	0.05
3	29.46	0.53	7.74	0.67
4	3.04	1.63	5.38	0.72
5	3.05	0.74	0.26	3.46
6	0.03	4.21	0.01	0.72
7	0.03	3.11	0.00	3.61
8	1.00	0.05	0.03	-
Default category	0.01	5.53	0.01	-
Total	**100.00**	**0.31**	**100.00**	**0.17**

3.5. Debt Instruments: treasury bonds and other eligible debt securities

31 December 2015	Trading securities			Investment debt securities	Total
Rating	Government bonds	Treasury bills	Other debt securities		
AAA	-	-	-	46 353	46 353
AA- to AA+	-	-	-	827 919	827 919
A- to A+	178 492	-	24 313	28 913 377	29 116 182
BBB+ to BBB-	-	-	219 484	388 301	607 785
BB+ to BB-	-	-	128 406	361 620	490 026
B+ to B-	-	-	-	-	-
Lower than B-	-	-	-	-	-
Unrated	-	-	-	-	-
Total	**178 492**	**-**	**372 203**	**30 537 570**	**31 088 265**

31 December 2014	Trading securities			Investment debt securities	Total
Rating	Government bonds	Treasury bills	Other debt securities		
AAA	-	-	-	46 964	46 964
AA- to AA+	-	-	-	809 850	809 850
A- to A+	617 906	-	73 418	26 297 387	26 988 711
BBB+ to BBB-	-	-	316 363	129 393	445 756
BB+ to BB-	-	-	136 335	133 404	269 739
B+ to B-	-	-	1 975	-	1 975
Lower than B-	-	-	-	-	-
Unrated	-	-	-	-	-
Total	**617 906**	**-**	**528 091**	**27 416 998**	**28 562 995**

96.47% of the investments in debt securities is rated at least on A- credit rating (31 December 2014: 97.49%).

Information about impairment allowance for investment equity securities occurs under Note 23.

3.6. Concentration of assets, liabilities and off-balance sheet items

Geographic concentration risk

In order to actively manage the risk of concentration by country, the Group:

- complies with the formal procedures aimed at identifying, measurement and monitoring this risk,
- complies with the formal limits mitigating the risk by country and the procedures to be followed when the limits are exceeded,
- uses a management reporting system, which enables monitoring the risk level by country and supports the decision-making process related to management,
- maintains contacts with a selected group of the largest banks with good ratings, which are active in handling foreign transactions. On some markets, where the risk is difficult to estimate, the Group avails itself of the services of its foreign correspondent banks, e.g. Commerzbank, and insurance in the Export Credit Insurance Corporation ('KUKE'), which covers the economic and political risk.

As at 31 December 2015 there was no substantial level of geographical concentration in the credit portfolio of mBank Group. In terms of exposure relating to countries other than Poland there was no substantial share of impaired exposures.

Sector concentration risk

Monitoring exposures in sectors, defined in line with Polish Classification Economic Activities, is carried out in individual subsidiaries of the Group.

mBank analyses the sector concentration risk in order to build mBank's corporate portfolio in a safe and effective way. Monitoring and analysis covers all the sectors in which the Bank's exposure exceeds 5% of the total amount of exposures at the end of a given reporting period, and sectors additionally indicated by the Chief Risk Officer.

The Bank manages industrial concentration risk determining industrial limits. Unless the Corporate and Investment Banking Risk Committee (KRK) decides otherwise, an industrial limit for any sector is set on a level not higher than:

- 12% of the gross loan portfolio in the prior reporting period for low risk sectors,
- 10% of the gross loan portfolio in the prior reporting period for medium risk sectors,
- 5% of the gross loan portfolio in the prior reporting period for high risk sectors.

In the case of exceeding any industrial limit or an expectation that such a limit may be exceeded in the next reporting period, activities preventing the exceeding of limits are implemented and any decision in this regard shall be taken by the KRK.

The table below presents the structure of concentration of mBank Group's exposures in particular sectors.

The structure of concentration of carrying amounts of exposure of mBank Group

No.	Sectors	Principal exposure (in PLN million)	%	Principal exposure (in PLN million)	%
		31.12.2015		31.12.2014	
1.	Household customers	46 258 683	56.82	41 560 477	53.71
2.	Real estate management	4 975 227	6.11	4 901 307	6.33
3.	Construction	3 743 369	4.60	2 884 365	3.73
4.	Wholesale trade	3 141 017	3.86	2 977 441	3.85
5.	Retail trade	2 244 062	2.76	2 430 956	3.14
6.	Food sector	1 899 778	2.33	1 705 944	2.20
7.	Transport and logistics	1 858 064	2.28	1 819 827	2.35
8.	Fuels and chemicals	1 789 636	2.20	1 628 617	2.10
9.	Forestry	1 552 832	1.91	1 286 566	1.66
10.	Power, power and heating distribution	1 472 862	1.81	1 422 625	1.84
11.	Metals	1 395 689	1.71	1 266 991	1.64
12.	Public administration	1 161 955	1.43	1 574 513	2.03
13.	Information and communication	1 032 953	1.27	1 197 133	1.55
14.	Financial activities	934 170	1.15	427 299	0.55
15.	Scientific and technical activities	734 330	0.90	586 923	0.76
16.	Hotels and restaurants	645 710	0.79	455 059	0.59
17.	Services	538 987	0.66	453 169	0.59
18.	Electronics and household equipment	517 183	0.64	408 000	0.53
19.	Mining	498 312	0.61	479 192	0.62
20.	Motorization	489 478	0.60	452 873	0.59
21.	Arts, entertainment	448 834	0.55	439 693	0.57
22.	Industry	438 525	0.54	307 850	0.40
23.	Municipal services	369 308	0.45	299 883	0.39

In 2015, the total exposure of the Group in the above sectors (excluding household customers) amounts to 39.16% of the credit portfolio (2014: 38.01%).

The risk of investing in these sectors (in a 3-point scale, i.e., low, medium, high) as at the end of 2015 was estimated by the Bank's sector analysts according to the following table.

No.	Sectors	31.12.2015	31.12.2014
1.	Real estate management	medium	medium
2.	Construction	medium	high
3.	Wholesale trade	medium	medium
4.	Retail trade	medium	medium
5.	Food sector	medium	medium
6.	Transport and logistics	medium	medium
7.	Fuels and chemicals	medium	medium
8.	Forestry	medium	medium
9.	Power, power and heating distribution	medium	medium
10.	Metals	high	high
11.	Public administration	low	low
12.	Information and communication	medium	medium
13.	Financial activities	medium	medium
14.	Scientific and technical activities	medium	medium
15.	Hotels and restaurants	medium	medium
16.	Services	medium	medium
17.	Electronics and household equipment	medium	medium
18.	Mining	high	high
19.	Motorization	medium	medium
20.	Arts, entertainment	high	high
21.	Industry	medium	medium
22.	Municipal services	medium	low

Large exposures concentration risk

The purpose of management of the large exposures concentration risk is an ongoing monitoring of the level of limits set by the CRR Regulation. In order to ensure safety against the risk of exceeding the regulatory limits in mBank:

- internal limits, lower than those specified in the CRR Regulation, are set,
- daily monitoring of large exposures is carried out and the participants of the lending and investment processes are immediately informed in the case of internal limits exceeding.

These activities have a direct impact on the Bank's decisions concerning new exposures and the increase of existing exposures to customers and groups of affiliated customers.

mBank pays particular attention to the correct identification of the scale of risk of significant credit exposures defined in the Bank's internal regulations. In the case of exceeding specified amount of exposure/limit to a customer/group of affiliated customers identified as bulk risk, the financing requires additional decision of the Bank's Management Board irrespective of the PD-rating and the decision-making level.

Bank monitors exposures to a customer or group of affiliated customers considered a large exposure limit ie. exposures after taking into account the effect of the credit risk mitigation (in accordance with art. 401-403 CRR Regulation) and exemptions (art. 390 paragraph. 6, Art. 400, Art. 493, paragraph. 3 CRR Regulation), which are equal or exceed 10% of the eligible capital. At the end of 2015 there was no exposure in line with the above definition.

The Credit Committee of mBank Group, first started in November 2014, is responsible for the supervision over risk concentration and large exposures at the level of mBank subsidiaries.

3.7. Market risk

3.7.1 Organization of risk management

In the process of organisation of the market risk management, the Bank follows rules and requirements set forth in Polish Financial Supervision Authority (KNF) regulations and recommendations, in particular in Recommendations A and I.

The fundamental principle applied in the organisation of the market risk management in the Bank is the separation of risk control and monitoring functions from structures undertaking and operationally managing Bank’s risk positions. Monitoring and controlling of the market risk is performed by the Financial Markets Risk Department under supervision of the Vice-president of the Management Board (CRO), while the market risk positions are operationally managed by Financial Markets Department, Brokerage Bureau and Treasury Department reporting to the Vice-president of the Management Board – Head of Financial Markets. The Brokerage Bureau is an organisational unit of the Bank separated from the Financial Markets Department focusing its activity on financial instruments subject to trading on the Warsaw Stock Exchange (WSE).

Debt Securities Issue Department (DCM) is responsible for debt issuance and managing of non-government debt securities in banking book. Moreover, the investment positions sensitive to market risk factors (e.g. prices of shares listed on the WSE) are managed in the Structured and Mezzanine Finance Department. DCM and DFS are operating in the Corporate & Investment Banking area.

Market risk management is performed in a single process by the Financial Markets Risk Department (DRR), which is responsible for measurement of exposures to market risk of the Bank’s front-office units portfolios by the use of market risk measures: Value at Risk (VaR) and stress tests. DRR is responsible for control of utilisation of the limits for these risk measures established by the Management Board and the Financial Markets Risk Committee and provides daily and periodical reporting on the market risk exposure to managers of the Bank’s front-office units, to the Financial Markets Risk Committee, and directly to the CRO. DRR develops also market risk measurement methodologies, pre-settlement counterparty risk of derivative transactions, and establishes valuation models for financial instruments.

Moreover, the Financial Markets Risk Department is responsible for calculation and reconciliation of financial results on transactions carried out by the front-office units and provides daily valuation of financial instruments to the Finance Area. The valuation of derivative transactions with the Bank’s clients is also delivered to the business units responsible for managing clients (corporate and investment banking area). Valuations prepared by DRR are the basis for managing collaterals for concluded transactions on derivative instruments.

DRR is responsible for the administration of the front-office IT systems, i.e. administration of users’ access rights to the systems, parameterization in the systems of financial instruments, as well as counterparties and issuers and is responsible for market data input to the systems. DRR monitors utilization of counterparty limits (pre-settlement, settlement, issuer and country risk limits) and escalates if limits are exceeded. Moreover, DRR verifies the market conformity of the transactions concluded by the front-office units and supervises the process of modification and deletion of deals in the front-office systems.

3.7.2 Tools and measures

In the course of Bank’s operations, the Bank is exposed to market risk, which is defined as a risk resulting from unfavourable change of the current valuation of the Bank’s open positions in interest rate, foreign currency and equity instruments due to changes of the appropriate market risk factors, in particular interest rates, foreign exchange rates, stock share prices and indices, implied volatilities of relevant options and credit spreads.

The Bank identifies market risk primarily on the trading book positions valuated at fair value (either directly to market prices or via models) and as such may lead to losses reported in Bank’s financial results. Furthermore, the Bank assigns market risk to its banking positions independently of the accounting rules of calculating financial results on these positions. In particular, in order to reflect the interest rate risk of the retail and corporate banking products with unspecified interest revaluation dates or rates administered by the Bank, the Bank uses the so-called replicating portfolio models. Bank presents active approach to capital management which resulted in case of market risk measurements in capital modelling within 5-year investment horizon. Market risk measures applicable to interest rate banking book positions are based on net present value (NPV) models.

Exposure to market risk is quantified by:

- measurement of the value at risk (VaR),
- measurement of expected loss under condition that this loss exceeds value at risk (ES – Expected Shortfall),
- measurement of the value at risk in stressed conditions (Stressed VaR),
- measurement of economic capital to cover market risk,
- stress tests scenario analyses.

The Value at Risk (VaR) is calculated using historical method on a daily basis for a 1-day and a 10-day holding period and a 95%, 97.5% and 99% confidence level. In this method historical data concerning risk factors concerning last 254 business days are taken into consideration. From September 2015 measurement of the value at risk in stressed conditions was introduced. In case of this measure the calculation is analogous to value at risk calculation, but the only difference is in time of stressed conditions, which is marked out on the basis of 7-year series of value at risk based on following 12-months windows of risk factors changes from last 8 years. In 2015 it was a year which ended up in June 2009. This period is verified at least once a year.

The VaR methodology takes into account the following risk factors:

- interest rates,
- foreign exchange rates,
- shares prices and equity indices and its volatilities,
- credit spreads (to the extent reflecting market fluctuations of debt instruments prices, reflecting credit spread for corporate bonds, and spread between government yield and swap rate for government bonds).

The expected loss under condition that it exceeds value at risk is calculated on the basis of daily VaR calculation as the average of six worst losses.

The economic capital for market risk is a capital to cover losses in the course of one year coming from changes in valuation of financial instruments which built Bank’s portfolios and resulting from changes of prices and values of market parameters.

Stress tests are additional measures of market risk, supplementing the measurement of the value at risk, which show the hypothetical changes in the current valuation of the Bank's portfolios, which would take place as a result of realisation of the so-called stress scenarios – i.e. market situations at which the risk factors would reach specified extreme values, assuming taking static portfolio.

Stress tests consist of two parts: standard stress tests designated for standard risk factors: currency exchange rates, interest rates, stock prices and their volatility, as well as a stress test, which involves changes in credit spreads. In this way, there was addressed among others, the need for covering in stress tests analysis the independent effect of basis risk (the spread between interest rates on government bonds and IRS), which the Bank is exposed to, due to maintaining a portfolio of Treasury bonds.

In July 2015 the methodology of stress test calculation was adjusted by additional scenarios of changes in FX rates and credit spreads, but in existing scenarios of interest rates, FX rates and credit spreads changes of values of those factors were introduced.

Market risk, in particular interest rate risk of the banking book is also quantified by calculation of the earnings at risk (EaR) measure for the banking portfolio, which is described in chapter concerning interest rate risk.

In order to mitigate market risk exposure, by decision of Supervisory Board (with respect to mBank Group portfolio), Management Board (with respect to mBank portfolio) and the Financial Markets Risk Committee (with respect to business lines portfolios) limits on VaR at 97,5% confidence level for 1-day holding period and stress tests limits are established.

3.7.3 Risk measurement

Value at Risk, Expected Shortfall

In 2015, Bank’s market risk exposure, as measured by the value at risk (VaR, for one day holding period, at 97.5% confidence level), was in relation to the established limits on moderate level. The average utilisation of VaR limit for Financial Markets Department, whose positions consist of trading book portfolios, amounted to 41% (PLN 2.3 million), for the Brokerage Bureau (BM) 13% (PLN 0.2 million), while for the Treasury Department, whose positions are classified solely to the banking book, it was 64% (PLN 27.0 million) for the positions without capital modelling and 56% (PLN 23.5 million) for the positions with capital modelling.

The average utilization of VaR limit for Debt Securities Issue Department (DCM) is 18% (PLN 0.4 million). The average utilisation of the VaR limit for the position of the Structured and Mezzanine Finance Department (DFS) in shares listed in the Warsaw Stock Exchange accounted for 57% (PLN 5.1 million).

In 2015, the VaR figures for mBank's portfolio were driven mainly by portfolios of instruments sensitive to interest rates and separated credit spread – the banking book T-bonds portfolios managed by Treasury Department and the trading book portfolios and interest rate exchange positions managed by Financial Markets Department.

Second most significant portfolio having impact on the Bank's risk profile were positions of DFS, where crucial risk factor remained the rate of PZU shares, due to holding significant investment position in shares of the company. The position was liquidated by sale of PZU shares. The DFM portfolios of instruments sensitive to changes in exchange rates like FX spots, currency options, as well as the exposure of BM to equity price risk and risk of implied volatility of options traded on the Warsaw Stock, had a relatively low impact on the Bank's risk profile.

mBank VaR and ES

The tables below present VaR and Expected Shortfall statistics for the Bank's portfolio.

PLN 000's	2015				2014			
	31.12.2015	Mean	Maximum	Minimum	31.12.2014	Mean	Maximum	Minimum
VaR IR	13 688	16 085	23 329	12 739	16 457	14 693	19 081	8 122
VaR FX	496	685	1 096	453	937	348	1 162	95
VaR EQ	79	5 170	6 588	67	6 243	6 507	7 647	5 836
VaR CS	26 320	23 916	26 345	20 426	25 142	27 245	31 279	25 049
VaR	**29 943**	**27 877**	**34 881**	**21 266**	**33 393**	**29 448**	**36 453**	**15 968**
ES	**40 007**	**37 576**	**45 102**	**28 954**	**42 853**	**37 861**	**45 791**	**21 304**

VaR IR – interest rate risk
VaR FX – currency risk
VaR EQ – equity risk
VaR CS – credit spread risk

VaR and ES of mBank Group

The main sources of market risk of the mBank Group are the Bank's positions. The tables below show VaR statistics (at 97.5% confidence level for a one-day holding period) and expected shortfall for mBank Group (i.e. mBank, mBank Hipoteczny, mLeasing, Dom Maklerski mBanku) in 2015 for individual members of the Group in which market risk positions were identified and value at risk measure decomposition to the VaRs corresponding to the main risk factor types – interest rate risk (VaR IR), foreign exchange risk (VaR FX), and equity prices risk (VaR EQ). The table below presents VaR for mBank as of the end of 2015.

PLN 000's	mBank Group	mBank	mBH	mLeasing	DM mBanku
VaR IR Mean	16 437	16 085	29	348	7
VaR FX Mean	687	685	23	17	22
VaR EQ mean	5 192	5 170	0	0	98
VaR CS Mean	23 916	23 916	0	0	0
VaR Mean	28 265	27 877	40	349	100
VaR Maximum	35 005	34 881	492	462	161
VaR Minimum	21 591	21 266	12	241	47
VaR	**30 158**	**29 943**	**99**	**273**	**56**

For comparison, at the end of 2014 VaR for the mBank Group was PLN 33 513 thousand, including VaR for mBank at PLN 33 393 thousand, mBank Hipoteczny – PLN 53 thousand, mLeasing – PLN 424 thousands and Dom Maklerski mBanku – PLN 112 thousand.

PLN 000's	mBank Group	mBank	mBH	mLeasing	DM mBanku
VaR IR Mean	15 119	14 693	75	436	8
VaR FX Mean	357	348	26	108	20
VaR EQ mean	6 540	6 507	0	0	137
VaR CS Mean	27 245	27 245	0	0	0
VaR Mean	29 678	29 448	86	418	134
VaR Maximum	36 718	36 453	251	627	171
VaR Minimum	16 183	15 968	45	308	71
VaR	**33 513**	**33 393**	**53**	**424**	**112**

The values of Expected Shortfall as of the end of 2015 are presented in table below.

PLN 000's	mBank Group	mBank	mBH	mLeasing	DM mBanku
ES mean	37 822	37 576	55	440	139
ES max	45 275	45 102	558	584	208
ES min	29 198	28 954	16	325	74
ES	**40 232**	**40 007**	**114**	**365**	**95**

The values of Expected Shortfall as of the end of 2014 are presented in table below.

PLN 000's	mBank Group	mBank	mBH	mLeasing	DM mBanku
ES średni	38 129	37 861	128	640	195
ES max	46 012	45 791	314	1 000	253
ES min	21 683	21 304	57	354	118
ES	**43 032**	**42 853**	**83**	**478**	**151**

Stressed Value at Risk

The new value at risk in stressed conditions was introduced from September 2015 (it is observed measure). The table below presents statistics of this measure for mBank for last quarter of 2015.

PLN 000's	2015			
	31.12.2015	Mean	Maximum	Minimum
Stressed VaR IR	37 742	35 742	39 293	31 053
Stressed VaR FX	1 338	1 376	2 933	516
Stressed VaR EQ	4	8 721	13 074	4
Stressed VaR CS	73 992	75 255	77 899	73 530
Stressed VaR	**103 060**	**111 038**	**116 945**	**102 035**

The table below presents statistics of this measure for mBank Group for last quarter of 2015.

PLN 000's	mBank Group	mBank	mBH	mLeasing	DM mBanku
Stressed VaR IR	36 600	35 742	119	728	42
Stressed VaR FX	1 384	1 376	103	41	88
Stressed VaR EQ	8 768	8 721	0	0	75
Stressed VaR CS	75 255	75 255	0	0	0
Stressed VaR Mean	111 503	111 038	192	730	91
Stressed VaR Maximum	117 341	116 945	411	811	124
Stressed VaR Minimum	102 454	102 035	86	667	57
Stressed VaR	**103 580**	**103 060**	**406**	**720**	**113**

Economic capital for market risk

The average utilisation of limit on economic capital for market risk for mBank Group in 2015 amounted to 58% (PLN 754.5 million). The average level of economic capital for mBank was equal to PLN 740.8million. As of end of 2015 the economic capital for market risk for mBank Group was PLN 655.8 million, and for mBank was PLN 643.5 million. For comparison, at the end of 2014 values of this measures were PLN 733.1 million and PLN 717 million, respectively.

Stress testing

The average utilisation of stress test limits for mBank Group in 2015 was 59% (PLN 801.7 million) for portfolio without capital modelling and 56% (PLN 757.0 million) for portfolio including capital modelling.

Average utilisation of stress test limits in mBank in 2015 amounted to 60% (PLN 796.4 million) for portfolio without capital modelling.

The average utilisation of the limits in 2015 for the Treasury Department portfolio without capital modelling was 68% (PLN 643.4 million) and 65% (PLN 615.0 million) including capital modelling. For the Financial Markets Department portfolio the average utilisation was 37% (PLN 93.2 million), for BM portfolio 12% (PLN 1.0 million), for DCM portfolio 59% (PLN 35.9 million) and for DFS portfolio

58% (PLN 28.9 million). The most significant part of presented stress test values constitutes credit spread stress test for government bonds portfolio because stress test scenarios include scenario in which interest rates increase on average by 100 bps.

The table below presents utilisation of stress test for mBank Group (without capital modelling) in 2015 in comparison to 2014:

PLN million	2015				2014			
	31.12.2015	Mean	Maximum	Minimum	31.12.2014	Mean	Maximum	Minimum
Base ST	78	111	139	72	98	89	134	43
CS ST	647	691	772	613	706	701	762	634
Total ST	**725**	**802**	**905**	**705**	**805**	**789**	**894**	**683**

Base stress test – standard stress test
CS stress test – stress test for credit spread scenarios
Total stress test – total stress test (sum of standard stress test and stress test for credit spread scenarios).

3.8. Currency risk

The Group is exposed to changes in currency exchange rates due to its financial assets and liabilities other than PLN. The following tables present the exposure of the Group to currency risk as at 31 December 2015 and 31 December 2014. The tables bellow present assets and liabilities of the Group at balance sheet carrying amount, for each currency.

31.12.2015	PLN	EUR	USD	CHF	CZK	Other	Total
ASSETS							
Cash and balances with the Central Bank	5 581 797	158 265	47 965	14 535	78 932	56 639	**5 938 133**
Loans and advances to banks	891 088	674 235	167 265	2 341	107 015	55 390	**1 897 334**
Trading securities	557 541	-	-	-	-	-	**557 541**
Derivative financial instruments	2 912 454	328 614	48 001	56 263	3 996	-	**3 349 328**
Loans and advances to customers	37 075 852	16 805 432	1 749 824	19 760 541	2 845 762	196 135	**78 433 546**
Hedge accounting adjustments related to fair value of hedged items	-	-	-	-	130	-	**130**
Investments in joint ventures	29 046 825	862 205	-	-	827 919	-	**30 736 949**
Investment securities	7 359	-	-	-	-	-	**7 359**
Intangible assets	518 006	261	-	-	782	-	**519 049**
Tangible fixed assets	735 131	3 592	-	-	5 799	-	**744 522**
Other assets, including tax assets	1 199 624	70 311	56 062	16	3 707	9 410	**1 339 130**
Total assets	**78 525 677**	**18 902 915**	**2 069 117**	**19 833 696**	**3 874 042**	**317 574**	**123 523 021**
LIABILITIES							
Amounts due to the Central Bank	-	-	-	-	-	-	**-**
Amounts due to other banks	2 251 356	491 733	198 557	9 069 323	61	8 301	**12 019 331**
Derivative financial instruments	2 945 888	164 737	63 013	-	-	-	**3 173 638**
Amounts due to customers	61 949 417	12 092 703	1 752 010	532 631	4 498 170	315 935	**81 140 866**
Debt securities in issue	2 558 597	5 519 934	-	788 687	78 977	-	**8 946 195**
Hedge accounting adjustments related to fair value of hedged items - debt securities in issue	-	78 672	-	20 659	767	-	**100 098**
Other liabilities including tax liabilities	1 575 093	121 568	62 356	4 960	42 205	9 016	**1 815 198**
Provisions	219 471	4 614	695	354	280	2	**225 416**
Subordinated liabilities	1 263 940	-	-	2 563 375	-	-	**3 827 315**
Total liabilities	**72 763 762**	**18 473 961**	**2 076 631**	**12 979 989**	**4 620 460**	**333 254**	**111 248 057**
Net on-balance sheet position	**5 761 915**	**428 954**	**(7 514)**	**6 853 707**	**(746 418)**	**(15 680)**	**12 274 964**
Loan commitments and other commitments	**18 776 300**	**1 448 173**	**454 856**	**-**	**330 750**	**2 486**	**21 012 565**
Guarantees, banker's acceptances, documentary and commercial letters of credit	**3 746 579**	**1 150 464**	**161 334**	**-**	**3 542**	**19 981**	**5 081 900**

31.12.2014	PLN	EUR	USD	CHF	CZK	Other	Total
ASSETS							
Cash and balances with the Central Bank	2 928 696	71 888	13 590	1 881	26 591	11 903	**3 054 549**
Loans and advances to banks	2 097 640	795 082	493 600	5 292	249 455	110 346	**3 751 415**
Trading securities	1 163 944	-	-	-	-	-	**1 163 944**
Derivative financial instruments	4 490 735	316 206	32 713	19 807	4 883	1 173	**4 865 517**
Loans and advances to customers	38 523 638	13 315 492	1 331 869	18 949 649	2 268 520	193 182	**74 582 350**
Hedge accounting adjustments related to fair value of hedged items	-	-	-	-	461	-	**461**
Investment securities	26 188 304	676 526	-	-	813 784	-	**27 678 614**
Non-current assets held for sale	285 009	185 903	1 724	-	99 965	4 237	**576 838**
Intangible assets	464 899	293	-	-	434	-	**465 626**
Tangible fixed assets	706 883	3 650	-	-	6 844	-	**717 377**
Other assets, including tax assets	1 019 280	63 441	11 253	-	13 253	21 904	**1 129 131**
Total assets	**77 869 028**	**15 428 481**	**1 884 749**	**18 976 629**	**3 484 190**	**342 745**	**117 985 822**
LIABILITIES							
Amounts due to the Central Bank	-	-	-	-	-	-	**-**
Amounts due to other banks	1 922 740	251 510	3 516	11 189 925	16 138	-	**13 383 829**
Derivative financial instruments	4 516 135	162 691	40 157	-	-	73	**4 719 056**
Amounts due to customers	55 753 910	10 420 148	1 400 101	480 565	3 794 164	573 591	**72 422 479**
Debt securities in issue	2 243 632	7 310 874	-	710 272	76 964	-	**10 341 742**
Hedge accounting adjustments related to fair value of hedged items - debt securities in issue	-	87 587	-	14 380	1 415	-	**103 382**
Liabilities held for sale	178 778	46 812	1 805	2 810	45 837	299	**276 341**
Other liabilities including tax liabilities	1 164 181	99 483	47 275	2 629	39 822	8 018	**1 361 408**
Provisions	170 405	4 306	282	11	1 867	10	**176 881**
Subordinated liabilities	1 251 846	-	-	2 875 878	-	-	**4 127 724**
Total liabilities	**67 201 627**	**18 383 411**	**1 493 136**	**15 276 470**	**3 976 207**	**581 991**	**106 912 842**
Net on-balance sheet position	**10 667 401**	**(2 954 930)**	**391 613**	**3 700 159**	**(492 017)**	**(239 246)**	**11 072 980**
Loan commitments and other commitments	**17 713 880**	**1 450 929**	**384 434**	**-**	**333 067**	**1 092**	**19 883 402**
Guarantees, banker's acceptances, documentary and commercial letters of credit	**2 744 417**	**768 976**	**72 579**	**-**	**2 482**	**21 923**	**3 610 377**

3.9. Interest rate risk

mBank S.A.

In the process of managing interest rate risk of the banking book, the risk monitoring and control functions are performed by the Financial Markets Risk Department supervised by the Vice-president of the Management Board (CRO), whereas operational management of risk positions takes place in the Treasury Department supervised by the Vice-president of the Management Board, Head of Financial Markets. This way the Bank ensures independence of risk measurement, monitoring and control functions from operational activity, which gives rise to the positions taken by the bank.

Interest rate risk of the banking book results from the exposure of the bank's interest income and capital to adverse change in the levels of interest rates. Guided by the KNF recommendations, in particular Recommendation G, the Bank monitors the banking book structure in terms of repricing gap as well as basis risk, yield curve risk and customer option risk.

The basic measures used to control interest rate risk in the banking book are:

- the repricing gap (difference between assets, liabilities and off-balance banking book positions, measured in defined repricing buckets, based on next potential interest rate change of interest rate sensitive products), and
- the net interest earnings exposed to risk (EaR - Earnings at Risk – potential decrease of interest income in one year horizon due to unfavourable change of market interest rates. The measure assumes constant volume and structure of banking book, constant construction of interest rate, constant interest margin and parallel shift of the yield curve. EaR is calculated for 5 main currencies - PLN, CHF, EUR, CZK, USD).

The mBank Group has set BPV (basis point value +1bp) limit for total mBank Group exposure for interest rates for tenors above 20 years and above 30 years. As of end of 2015 utilisation of these limit for tenors above 20 years was equal to 0,5% (PLN 466), and limit for tenors above 30 years was zero and has not been exceeded.

Moreover, the Bank performs also stress test analyses aimed to estimate the impact of adverse interest rate fluctuations on net interest earnings and the economic value of the banking portfolio.

Interest rate risk of the banking book is also quantified using market risk measures: Value at Risk and stress tests.

Exposure to interest rate risk is limited for the banking portfolio by means of repricing gap limits (management action triggers) and market risk limits imposed on the value at risk (VaR) and stress tests. The utilisation of all those limits is monitored and controlled on a daily basis.

Interest income subject to risk

As of 31 December 2015 and 31 December 2014, a sudden, permanent and unfavourable shift of market interest rates by 100 basis points for all maturities would result in decrease in the interest income within 12 months after the year-end date by the following amounts:

(PLN mln)	2015				2014			
	31.12.2015	Mean	Maximum	Minimum	31.12.2014	Mean	Maximum	Minimum
PLN	99.4	55.4	122.2	8.4	32.8	28.4	69.8	4.2
USD	3.7	2.4	7.5	0.7	1.0	1.4	4.0	0.2
EUR	52.5	37.3	63.1	0.0	4.5	6.6	12.6	1.4
CHF	2.4	8.1	38.8	0.0	13.3	0.8	15.7	0.0
CZK	2.7	2.3	4.8	1.3	2.3	4.2	8.5	2.2

To calculate these values, the Bank assumed that the structure of financial assets and liabilities disclosed in the financial statements as of above indicated dates would be fixed during the year and the Bank would not take any measures to change related exposure to interest rate change risk. In calculation there were included positions resulted from modelling of repricing period according to replicating portfolio method.

Stress tests

The Bank runs also other analyses of the changes of the economic value of the banking book under stress test scenarios. Under the stress test, which assumes unfavourable shift of the interest rates for respective currencies by 200 bps, the economic value of the banking book at the end of 2015 would change by PLN 497.92 million (at the end of 2014: PLN 377.5 million). During the calculation of these values no correlation between currencies was taken into account and it was assumed that taking into account small interest rate values after the negative shift cannot become less than or equal to zero.

Important position in banking portfolio, in respect of fair value calculations, is debt securities portfolio in PLN (NBP bills, Polish Treasury bonds and bills). Interest rate risk of this portfolio is calculated additionally using stress test methodology (described above in p. 3.7). The methodology includes changes of market interest rates scenarios as well as credit spread, which in case of treasury debt securities may reflect basis risk (spread changes between government and swap curve).

mBank Hipoteczny S.A.

Repricing date misfit gap and interest earnings at risk (EaR) based on the former are the key interest rate risk measures at mBank Hipoteczny S.A.

As at 31 December 2015 and 31 December 2014 a sudden, lasting and disadvantageous change of market interest rates by 100 basis points for all maturities would result in decrease in the annual interest income by the following amounts:

EaR (PLN 000's)	31.12.2015	31.12.2014
for position expressed in PLN	7 518	4 585
for position expressed in USD	5	3
for position expressed in EUR	312	316

To calculate these values, the Bank assumed that the structure of financial assets and liabilities disclosed in the financial statements as of above indicated dates would be fixed during the year and the mBank Hipoteczny would not take any measures to change related exposure to interest rate change risk.

mLeasing Sp. z o.o.

Market risk means a potential loss caused by disadvantageous changes of market prices or parameters affected by market prices. The Company is exposed to risk arising from open currency positions and non-adjustment of products charged with the interest rate risk within the scope of maturity and/or revaluation periods.

The Company applies a global measure to measure the value of bank portfolio exposed to currency and interest rate risk, namely VAR (Value at Risk). This is a synthetic measure of currency and interest rate risk.

The sum of VAR of interest rate and VAR of exchange rate constitutes the global VAR of the Company. VAR of the interest rate risk presents the impact of interest rate changes on the value of the Company's portfolio. VAR of exchange rate risk presents the impact of changes of exchange rates on estimation of items of balance-sheet assets and liabilities until the date of their revaluation (change of interest).

Pursuant to the decision of the Risk Committee of mBank SA concerning the rules of monitoring the level of market risk in subsidiaries belonging to the mBank Group, mBank provides indicated values of risk measures for the portfolio of mLeasing.

The amount of VAR (97.5% confidence level, holding period 1 day) cannot exceed the basic VAR limit for mLeasing applied by mBank SA in a given period (PLN 1 milion at the end of 2015).

The table below presents VAR values as at 31.12.2015 and 31.12.2014, calculated using the parameters specified above.

PLN 000's	VaR	
	31.12.2015	31.12.2014
Interest rate risk	267	407
Currency risk	6	17
Total VaR	**273**	**424**

mBank S.A. Group interest rate risk

The following tables present the Group's exposure to interest rate risk. The tables present the Group’s financial instruments at carrying amounts, categorised by the earlier of contractual repricing or maturity dates.

31.12.2015	Up to 1 month	1-3 months	3-12 months	1-5 years	More than 5 years	Non-interest bearing	Total
ASSETS							
Cash and balances with the Central Bank	2 558 894	-	-	-	-	3 379 239	**5 938 133**
Loans and advances to banks	1 462 615	131 653	119 035	10 056	-	173 975	**1 897 334**
Trading and investment securities	11 839 915	407 071	4 500 509	13 445 724	895 046	206 225	**31 294 490**
Loans and advances to customers	57 686 531	12 893 190	3 907 016	3 464 555	239 563	242 691	**78 433 546**
Other assets and derivative financial instruments	738 581	653 572	1 190 512	680 643	101 110	956 102	**4 320 520**
Total assets	**74 286 536**	**14 085 486**	**9 717 072**	**17 600 978**	**1 235 719**	**4 958 232**	**121 884 023**
LIABILITIES							
Amounts due to the Central Bank	-	-	-	-	-	-	**-**
Amounts due to other banks	5 604 991	6 390 976	21 310	-	-	2 054	**12 019 331**
Amounts due to customers	64 014 736	9 217 228	6 566 507	1 028 305	196 722	117 368	**81 140 866**
Debt securities in issue	809 068	1 350 802	1 402 511	2 952 326	2 431 488	-	**8 946 195**
Subordinated liabilities	1 435 282	1 891 372	500 661	-	-	-	**3 827 315**
Other liabilities and derivative financial instruments	607 593	670 412	1 223 740	618 912	86 002	1 731 070	**4 937 729**
Total liabilities	**72 471 670**	**19 520 790**	**9 714 729**	**4 599 543**	**2 714 212**	**1 850 492**	**110 871 436**
Total interest repricing gap	**1 814 866**	**(5 435 304)**	**2 343**	**13 001 435**	**(1 478 493)**		

31.12.2014	Up to 1 month	1-3 months	3-12 months	1-5 years	More than 5 years	Non-interest bearing	Total
ASSETS							
Cash and balances with the Central Bank	2 124 756	-	-	-	-	929 793	**3 054 549**
Loans and advances to banks	3 088 814	74 917	164 886	380	-	422 418	**3 751 415**
Trading and investment securities	10 385 364	210 285	4 985 791	12 826 940	173 210	260 968	**28 842 558**
Loans and advances to customers	58 298 128	9 212 909	3 293 937	2 613 027	25 505	1 138 844	**74 582 350**
Other assets and derivative financial instruments	778 870	863 502	2 047 725	992 435	94 510	883 439	**5 660 481**
T o t a l a s s e t s	**74 675 932**	**10 361 613**	**10 492 339**	**16 432 782**	**293 225**	**3 635 462**	**115 891 353**
LIABILITIES							
Amounts due to the Central Bank	-	-	-	-	-	-	**-**
Amounts due to other banks	7 512 690	5 858 317	10 083	-	-	2 739	**13 383 829**
Amounts due to customers	58 714 053	9 319 680	3 955 680	284 873	-	148 193	**72 422 479**
Debt securities in issue	1 013 216	543 244	3 704 809	2 656 217	2 424 256	-	**10 341 742**
Subordinated liabilities	605 518	2 270 219	1 251 987	-	-	-	**4 127 724**
Other liabilities and derivative financial instruments	617 056	868 643	2 088 779	922 384	79 951	1 491 897	**6 068 710**
Total liabilities	**68 462 533**	**18 860 103**	**11 011 338**	**3 863 474**	**2 504 207**	**1 642 829**	**106 344 484**
Total interest repricing gap	**6 213 399**	**(8 498 490)**	**(518 999)**	**12 569 308**	**(2 210 982)**		

3.10.Liquidity risk

Sources of liquidity risk

The liquidity risk is understood as the risk of failure to fund assets and meet payment obligations arising from balance sheet and off-balance sheet items owed by the Bank in a timely manner and at a market price.

The reasons for liquidity risk may appear with respect to assets, liabilities and off-balance sheet liabilities and receivables.

As regards to **assets**, their main sources of liquidity risk are market Liquidity Risk and untimely repayments of loans. Market liquidity risk is a threat of complete or partial impossibility of liquidating the assets held, or the possibility of selling these assets only at an unfavourable price. It is covered in liquidity analysis by taking conservative assumptions regarding the liquidity of assets (Liquidity Reserves in particular) and capacity for their liquidation reflected in liquidation profile (in ANL Stress scenario). For this reason in a market crisis scenario (ANL Plegde scenario) it is assumed to use lombard credit offered by NBP collateralized by eligible securities taking into account adequate haircuts applied by NBP. Liquidity Risk from untimely repayments of the loans is related to rapid materialization of credit risk related to the market of the retail or commercial real estate.

As regards to **liabilities**, the risks posed by funding and withdrawal of funds by the clients are the most common source of the Liquidity Risk. The former is a type of risk in terms of which, should the crisis occur, funding can be acquired only at a higher price, and in an extreme situation, it is not possible to acquire funding or renew existing. The latter is a type of threat associated with uncertainty as to the behaviour of clients whose decisions (for instance, about withdrawal of deposited funds) may weaken the Bank's ability to service its current financial obligations.

A source of risk for **off-balance sheet liabilities** is a risk posed by clients' behaviour and unexpected drawdown of granted lines. It also concerns the use of intraday and overdraft lines by custody and corporate clients. Materialisation of such a risk may be experienced as severe especially in the case of high concentration of commitments. In respect of derivatives transactions concluded embedded with CSA agreements (Credit Support Annex) or settled by CCP, Liquidity Risk can materialize in consequence of adverse and severe changes in market conditions resulting in sudden decrease in valuation of derivatives instruments and related to necessity of pledging the collateral.

Daily operations of the Bank require settlements of various payment operations. Such activity generates high level of liquidity needs during a business day. Intraday liquidity facility (technical credit) on a systemic level is offered by NBP to allow for undisturbed flow of cash in the banking system. In order to use the facility Bank maintains adequate portfolio of eligible securities.

Taking into account **mBank Group** the liquidity risk is also identified as a possibility of unexpected growth in significant liquidity needs of subsidiaries of mBank. In line with the decision of the Bank’s Management Board of 25 November 2014 a centralised approach to the management of the Group’s financing was introduced in order to increase the effectiveness of the used liquidity resources and to ensure better tenor match of financing with assets. Subsidiaries are financed through the agency of DS, mBank Hipoteczny obtains funding on the market through the issue of covered bonds and from mBank, while mLeasing and other subsidiaries obtain funds almost solely from mBank. The risk of unexpected growth in significant liquidity needs of the subsidiaries of mBank may occur as a result of e.g. no possibility of obtaining external financing (mBank Hipoteczny) or unexpected increase in materialisation of credit risk.

Liquidity risk may appear as a result of usage of inappropriate models in liquidity analysis (e.g. deposit base stable part model), which may lead to underestimation of Liquidity Risk. It is monitored by verification and back-testing models pursuant to Model Management Policy.

Organization of risk management

In order to ensure that the liquidity risk management process is effective, the Management Board of the Bank lies down an adequate organizational structure and delegates powers to dedicated units and Committees. The existing process covers the liquidity risk management area at both the strategic and operational level, and the liquidity risk measurement and control area.

Liquidity risk management aims at ensuring and maintaining the Bank's and the Group's ability to fulfil both current and future liabilities taking into account the cost of liquidity. The liquidity management process consists of procedures that aim at identification, measurement, controlling, monitoring, reducing and defining the acceptable level of exposure to risks. This process can be divided into two main elements in the operational sense: the part involving all forms of liquidity management and the part of controlling and monitoring liquidity risk. The mBank Group Assets and Liabilities Management Committee, the Financial Markets Risk Committee and the Management Board of the Bank are responsible for liquidity management on the strategic level. Below mentioned organisational units are responsible for liquidity management and control.

- **The Financial Markets Settlement and Services Department (DOF)** – is responsible for operational supervision over cash flows in accounts.
- **The Treasury Department (DS) -** performs treasury functions for the Bank and within the scope of intraday liquidity risk management is responsible for providing necessary funds for settlements in the Bank's accounts, implementing strategic recommendations made by the mBank Group Assets and Liabilities Management Committee, calibrating the structure of the future cash flows within the limits imposed by the Management Board and the Financial Markets Risk Committee, maintaining defined securities portfolios kept to secure liquidity within the limits imposed by the Management Board, the Financial Markets Risk Committee and the mBank Group Assets and Liabilities Management Committee. The Treasury Department is supported in these functions by the Financial Institutions Department, in relation to funding from domestic and foreign banks and international financial institutions, and the Financial Markets Department, in relation to issues of the Bank's debt securities. Moreover DS is responsible for monitoring of liquidity risk and financing of subsidiaries of mBank Group in terms of compliance with internal documentation of the Bank, participating as an observer on behalf of the Bank in ALCO meetings of the subsidiaries of mBank Group (in particular mBank Hipoteczny S.A.).
- **The Financial Markets Risk Department (DRR)** is in charge of controlling and monitoring liquidity risk of the Bank on the strategic level and reporting to the Vice-president of the Management Board - Chief Risk Officer, the Financial Markets Risk Committee and the mBank Group Assets and Liabilities Management Committee. The Department monitors financial liquidity on a daily basis using methods based on cash flow analysis. Liquidity risk measurement is based on the regulatory model and an internal model, which has been established taking into consideration the specific character of the Bank, the volatility of the deposit base, the level of funding concentration, and the projected development of particular portfolios.

mBank S.A.

The objective of liquidity risk management is to ensure and maintain the Bank's ability to fulfil both current and future commitments. The Bank achieves this objective by diversifying stable funding sources in terms of client group (from whom acquires deposits), product and currency groups, and at the same time, optimizes its balance sheet in terms of profitability. Long-term activities of mBank in this scope are carried out taking into account conditions on funding capacity and business profitability.

In 2015, the liquidity situation was monitored and kept at a level adequate to the Bank's needs by adjusting the deposit base and securing additional funding sources depending on the development of lending activity and other funding needs.

Tools and measures used in measuring liquidity risk

As part of liquidity risk management, a range of risk measures are being analysed. The basic measure reflecting the Bank's liquidity situation is the mismatch account of future cash flows, and the mismatch gap related with it. It covers all the assets, liabilities and off-balance sheet items of the Bank in all the currencies and time-bands set by the Bank. In 2015, the Bank held liquidity surplus, adequate to Bank's business activity and current market situation, in the form of a portfolio of liquid treasury and money market securities that may be pledged or sold at any time without any considerable loss in value. In accordance with KNF Resolution No. 386/2008 on establishing liquidity measures binding on banks, the Bank calculates the supervisory liquidity measures. In 2015, the supervisory limits on short-term and long-term liquidity measures were not exceeded. Moreover, in line with the Resolution, the Bank conducts an in-depth analysis of long-term liquidity and sets internal limits (management action triggers) on involvement in long-term assets. Relevant analysis of the stability and structure of the funding sources, including the core and concentration level of term deposits and current accounts are performed. Additionally, the Bank analyses the variability of the balance sheet and off-balance sheet items, in particular the open credit line facilities and current account and overdrafts limits utilisation.

The ongoing analysis covers not only liquidity under normal conditions, but also on the assumption of a potential liquidity loss. In order to determine the Bank's resistance to major unfavourable events, the Bank conducts scenario analyses covering extreme assumptions on the operation of financial markets and behavioural events relative to the Bank's clients. For this purpose two scenarios are performed on regular basis: ANL Stress reflecting idiosyncratic crisis and ANL Pledge reflecting market wide crisis.

Main assumptions in ANL Stress scenario:

- outflow of customer deposits,
- materialization of undrawn commitments,
- sale of liquid securities in the market in estimated amounts,
- use of central bank secured lending for unsold amount of liquid securities.

Main assumptions in ANL Pledge scenario:

- outflow of customer deposits,
- materialization of undrawn commitments,
- inability to sell Liquidity Reserve in the market,
- use of central bank secured lending for unsold amount of liquid securities

Liquidity stress tests are used in the Bank for operational management of liquidity risk and are reported to the Financial Markets Risk Committee, Assets and Liabilities Committee of the mBank Group (ALCO) as well as Supervisory Board of the Bank. In addition, the scenarios used in Bank's Contingency Plan are consistent with those used in liquidity stress testing. In order to implement the requirements of amended Recommendation P new scenarios have been worked out.

Execution of the strategy of ensuring liquidity of the Bank consists in active management of the structure of future cash flows and keeping a relevant liquidity gap surplus adequate to the liquidity needs, resulting from the activity and structure of the balance sheet of the Bank, obligations to subsidiaries and the current market situation. For this purpose the Bank keeps a surplus of liquid and unencumbered assets constituting the Liquidity Reserves, for which there is a possibility of pledging, transaction on repo market or selling at any time without significant loss in value. Liquidity Reserves were composed of Polish Government debt securities in PLN and EUR, bills issued by the National Bank of Poland in PLN and Czech Republic's Government debt securities in CZK. Values of these Reserves amounted to:

Value of Liquidity Reserves (in PLN million)	
31.12.2015	**31.12.2014**
22 900	22 541

In the Group the Liquidity Reserves are held also by mBank Hipoteczny S.A. Both mBank S.A. and mBank Hipoteczny are subject to compliance with the same regulatory measures imposed on banks. Liquidity Reserves of mBank Hipoteczny S.A. were composed of Polish Government debt securities in PLN and bills issued by the National Bank of Poland in PLN and amounted to:

Value of Liquidity Reserves (in PLN million)	
31.12.2015	31.12.2014
675	530

In order to support the process of liquidity risk management, a system of early warnings indicators was developed in the Bank. It is composed of indicators monitoring the level of regulatory and internal limits and additionally, indicators monitoring significant changes of market factors, as well as changes in the Bank's balance sheet.

Due to the use by the Bank of FX swap i CIRS instruments to convert surpluses in local currencies into foreign currencies, internal limits were introduce on the use of these instruments. Moreover, in order to limit the concentration in FX swaps, the amounts obtained in such transactions are monitored in monthly time bands up to 1 year.

Other measures of liquidity risk are calculated and reported in the Bank as follows:

- concentrations of funding sources,
- stability of deposit base,
- early withdrawals of deposits,
- ratio of long-term funding for the real estate market.

The Bank includes product's liquidity in its liquidity risk management framework. It is reflected in terms of measuring of market liquidity of Treasury bonds, which make up Liquidity Reserves. The analysis is performed on monthly basis and takes account of market liquidity determinants such as: market trading, order book depth, purchase/sale transaction spread and issue volume. The measurement of market liquidity is included in the ANL Stress risk measure, where the scenario structure provides for liquidating State Treasury bonds denominated in PLN held by the Bank in line with market trading in particular series of bonds. A similar check is carried out in the context of the market potential of pledging particular bond series.

The measurement, limiting and reporting the liquidity risk

At the Bank, there is a reporting process of liquidity risk. It covers both daily information delivery to entities engaged in operational management of liquidity risk and entities controlling liquidity risk management on operational level, as well as regular reporting to higher management levels for the purpose of making strategic decisions on liquidity risk.

Daily reporting covers:

- regulatory measures,
- liquidity gaps for mBank, mBank Group and material subsidiaries from liquidity risk perspective with the utilization of limits imposed on these measures,
- intraday liquidity,
- other internal liquidity risk measures.

Weekly reporting covers:

- Early Warnings Indicators (EWI).

Monthly reporting covers:

- regulatory measures and internal liquidity measures to Financial Markets Risk Committee (KRF),
- regulatory measures, internal liquidity measures and forecasts of liquidity measures based on business development forecasts to Assets and Liabilities Committee of the mBank Group.

Regulatory measures and internal liquidity measures are reported on a quarterly basis to mBank's Supervisory Board.

For the purpose of current monitoring of liquidity, the Bank establishes values of realistic, cumulated gap of cash flows misfit. The gap is calculated on the basis of contractual cash flows (Note 3.10.1). Cash flows in portfolios of non-banking customers' deposits, overdrafts and term loans are mainly amended. In the calculation of the liquidity measures the Bank takes into account the possibilities of raising the funds by selling or pledging the debt securities from Bank's Liquidity Reserves.

Value of realistic, cumulative gap of cash flows misfit (in PLN million)				
Time range	gap (31.12.2015)		gap (31.12.2014)	
	bucket	cumulative	bucket	cumulative
up to 1 working day	10 494	10 494	10 021	10 021
up to 3 working days	(5 946)	4 548	(3 184)	6 837
up to 7 calendar days	(5 946)	4 548	(3 184)	6 837
up to 15 calendar days	3 610	8 158	587	7 424
up to 1 month	775	8 933	3 745	11 169
up to 2 months	1 637	10 570	1 528	12 697
up to 3 months	442	11 012	623	13 320
up to 4 months	427	11 439	411	13 731
up to 5 months	(256)	11 183	166	13 897
up to 6 months	74	11 257	350	14 247
up to 7 months	247	11 504	(387)	13 860
up to 8 months	196	11 700	220	14 080
up to 9 months	52	11 752	(118)	13 962
up to 10 months	(516)	11 236	(2 879)	11 083
up to 11 months	(1 674)	9 562	(145)	10 938
up to 12 months	588	10 150	242	11 180

The above values should be interpreted as liquidity surplus in relevant time buckets. Despite positive dynamics of non-banking term deposits and current accounts increases (PLN 10.18 billion – with fixed exchange rate as of 31 December 2015 used in calculations) exceeding dynamics of loans portfolio development (PLN 2.85 billion – with fixed exchange rate as of 31 December 2015 used in calculations) decrease of liquidity gap as of the end of 2015 has been noticed.

Liquidity outflow resulted from repurchase of PLN 385 million of own bonds and EUR 500 million of bonds issued under the Euro Medium Term Note Program (EMTN) by the company mFF, accompanied by reduction of debts towards main shareholder, Commerzbank A.G., in amount of CHF 1 010 million (repayment of CHF 850 million borrowings and CHF 160 million subordinated debts). Simultaneously, taking into account in cash flow mismatch cumulated gap, debt from Commerzbank remained to be repaid in 2016 in amount of CHF 800 million.

Additional factor, that negatively influenced liquidity were sudden FX rates changes (especially CHF), resulting in collateral calls due to FX swap and CIRS transactions. As a result of these changes ANL Stress methodology has been completed by additional liquidity outflow due to collateral calls of FX swap and CIRS transactions (position value as of the end of 2015 – PLN 905 million).

Moreover the Bank calculates the amount of additional collateral requirement resulting from signed agreements with the counterparties that the Bank would have to deliver in case of potential rating downgrade. As of 31 December 2015 the maximum amount was PLN 1.84 million.

In 2015 Bank's liquidity remained at a safe level which was reflected in surplus of liquid assets over short-term liabilities according to ANL Stress terms and supervisory liquidity measures.

ANL Stress gap mismatch in terms up to 1 month and up to 1 year within 2015 and supervisory liquidity measures M1, M2 and LCR are presented in the following table:

Measure*	2015			
	31.12.2015	Mean	Maximum	Minimum
ANL Stress 1M	8 933	8 355	13 968	3 442
ANL Stress 1Y	10 150	9 752	13 886	4 551
M1	13 388	9 655	14 789	4 657
M2	1.47	1.34	1.59	1.15
M3	4.68	5.22	6.08	4.29
M4	1.33	1.30	1.33	1.25
LCR	144%	132%	154%	111%

(*) – ANL Stress measures and M1 are in PLN m, whereas M2, M3 and M4 are relative measures expressed as decimal fraction.

Short-term liquidity supervisory measures (M1, M2) in 2015 remained on safe level with a minimum value of PLN 4.7 billion (M1) above the limit of 0. The long-term coverage ratios (M3, M4) are characterized by high stability on safe level, above minimum established by regulatory authority equals 1. In particular, M3 oscillated between 4.29 and 6.08 in 2015, whereas M4 between 1.25 and 1.33. The LCR measure remained on safe level, significantly exceeds 100%.

Funding sources

The strategic assumptions concerning the diversification of funding sources and profitable structure of the balance sheet are reflected in the financial plan of mBank Group defined by selected measures, e.g. L/D ratio (Loans to Deposits). The Bank measures a specific relation of loans to deposits in order to maintain a stable structure of its balance sheet. In 2015, L/D ratio improved from 103.0% to 96.6%. The Bank aims at building a stable deposit base by offering to clients deposit and investment products, regular and specific-purpose savings offerings, as well as operating deposits of the subsidiaries. Means acquired from the Bank's clients constitute the major funding source for the business activity. The second largest funding source is the portfolio of long-term loans from banks (with maturities over 1 year), in particular from Commerzbank (Note 28). The loans together with subordinated loans (Note 31) are the core funding source for the portfolio of mortgage loans in CHF. According to the suspension of granting new mortgage loans in CHF, Bank's receivables in this currency have been decreasing successively along with credit repayments. The funds obtained from the repayment of the said loans are used to reduce the Bank's debt in CHF owed mBank's main shareholder. In 2015, the debt to Commerzbank A.G. was reduced by CHF 1 010 million (repayment of CHF 850 million borrowings and CHF 160 million subordinated debts).

Moreover, in order to acquire funding (also in foreign currencies) the Bank uses mid-term and long-term instruments, including credit line facilities within Commerzbank Group and on the international market (debts from EBI – equivalent of PLN 3.6 billion remaining to repay as of the end of 2015) as well as FX swap and CIRS transactions. In 2015 the Group repurchased part of bonds issued under the Euro Medium Term Note Program (EMTN), reducing commitments by EUR 500 million (commitment as of the end of 2014 – EUR 1.5 billion, as of the end of 2015 – EUR 1 billion), at the same time in 2015, the Bank recorded increase in net liabilities due to FX swap and CIRS.

In the Group except mBank, only mBank Hipoteczny has access to external funding via issuance of mortgage covered bonds.

When making funding-related decisions, in order to match the term structure of its funding sources with the structure of long-term assets, the Group takes into consideration the supervisory liquidity measures and limits, as well as the internal liquidity risk limits.

mBank S.A.Group

Liquidity risk in mBank Group is generated mainly by mBank's items. Nevertheless, liquidity risk level in mBank Group subsidiaries, where liquidity risk was deemed significant, is also a subject to monitoring. In subsidiaries generating the greatest liquidity risk (mHipoteczny, mLeasing and mDom Maklerski) the Bank monitors the level of liquidity risk on a daily basis. The data provided by these companies allow for reporting contractual cash-flow mismatch as well as calculation of a realistic cash-flows mismatch based of ANL Stress model and modelling assumptions for selected products according to risk profiles, funding possibilities and products specificity of the subsidiary. The levels of realistic, cumulative cash-flow mismatch in mBank Group presented in the following table:

Value of realistic, cumulative gap of cash flows misfit (in PLN million)				
Time range	gap (31.12.2015)		gap (31.12.2014)	
	bucket	cumulative	bucket	cumulative
up to 1 working day	12 064	12 064	11 275	11 275
up to 3 working days	(5 686)	6 378	(2 946)	8 329
up to 7 calendar days	(5 686)	6 378	(2 946)	8 329
up to 15 calendar days	3 610	9 988	564	8 893
up to 1 month	761	10 749	3 696	12 589
up to 2 months	1 506	12 255	1 536	14 125
up to 3 months	426	12 681	791	14 916
up to 4 months	327	13 008	420	15 336
up to 5 months	(230)	12 778	161	15 497
up to 6 months	80	12 858	442	15 939
up to 7 months	253	13 111	(419)	15 520
up to 8 months	243	13 354	299	15 819
up to 9 months	51	13 405	(106)	15 713
up to 10 months	(485)	12 920	(3 182)	12 531
up to 11 months	(1 639)	11 281	(103)	12 428
up to 12 months	620	11 901	289	12 717

In other subsidiaries, due to lower total assets and simpler amounts products, the process is carried out on a monthly basis and is based on aggregated information about mismatch of cash-flows in contractual terms, delivered by these subsidiaries to Financial Markets Risk Department.

3.10.1 Cash flows from transactions in non-derivative financial instruments

The table below shows cash flows the Group is required to settle, resulting from financial liabilities. The cash flows have been presented as at the year-end date, categorised by the remaining contractual maturities. The amounts denominated in foreign currencies were converted to Polish zloty at the average rate of exchange announced by the National Bank of Poland at the year-end date. The amounts disclosed in maturity dates analysis are undiscounted contractual cash flows.

Liabilities (by contractual maturity dates) as at 31.12.2015

	Up to 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Total
Amounts due to the Central Bank	-	-	-	-	-	**-**
Amounts due to other banks	2 851 640	96 521	3 222 019	6 185 231	-	**12 355 411**
Amounts due to customers	63 745 088	7 217 641	6 974 481	5 357 648	4 754 575	**88 049 433**
Debt securities in issue	5 958	15 659	576 440	5 444 067	3 865 127	**9 907 251**
Subordinated liabilities	1 018 826	1 596	39 277	1 774 492	1 441 788	**4 275 979**
Other liabilities	1 169 584	17 687	197 087	10 046	654	**1 395 058**
Total liabilities	**68 791 096**	**7 349 104**	**11 009 304**	**18 771 484**	**10 062 144**	**115 983 132**
Assets (by remaining contractual maturity dates)						
Total assets	**21 446 385**	**5 963 310**	**20 516 069**	**51 501 499**	**46 524 777**	**145 952 040**
Net liquidity gap	**(47 344 711)**	**(1 385 794)**	**9 506 765**	**32 730 015**	**36 462 633**	**29 968 908**

Liabilities (by contractual maturity dates) as at 31.12.2014

	Up to 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Total
Amounts due to the Central Bank	-	-	-	-	-	**-**
Amounts due to other banks	2 157 014	20 941	3 028 226	8 467 080	12 423	**13 685 684**
Amounts due to customers	57 838 987	7 595 466	3 475 053	2 444 201	2 401 412	**73 755 119**
Debt securities in issue	397 577	69 873	2 756 909	4 897 972	3 046 975	**11 169 306**
Subordinated liabilities	896 043	7 675	62 494	2 247 576	1 507 545	**4 721 333**
Technical-insurance provisions	17 074	38 865	60 647	12 752	5 749	**135 087**
Other liabilities	934 160	37 438	188 628	6 961	5 749	**1 172 936**
Total liabilities	**62 240 855**	**7 770 258**	**9 571 957**	**18 076 542**	**6 979 853**	**104 639 465**
Assets (by remaining contractual maturity dates)						
Total assets	**16 277 193**	**5 301 846**	**17 202 800**	**47 581 194**	**41 644 406**	**128 007 439**
Net liquidity gap	**(45 963 662)**	**(2 468 412)**	**7 630 843**	**29 504 652**	**34 664 553**	**23 367 974**

The assets which ensure the payment of all the liabilities and lending commitments comprise cash in hand, cash at the Central Bank, cash in transit and treasury bonds and other eligible bonds; amounts due from banks; loans and advances to customers.

In the normal course of business, some of the loans granted to customers with the contractual repayment date falling due within the year, will be prolonged. Moreover, a part of debt securities, were pledged as collateral for liabilities. The Group could ensure cash for unexpected net outflows by selling securities and availing itself of other sources of financing, such as the market of securities secured with assets.

3.10.2 Cash flows from derivatives

Derivative financial instruments settled in net amounts

Derivative financial instruments settled in net amounts by the Group comprise:

- Futures,
- Forward Rate Agreements (FRA),
- Options,
- Warrants,
- Interest rate swaps (IRS),
- Cross currency interest rate swaps (CIRS),
- Security forwards.

The table below shows derivative financial liabilities of the Group, which valuation as of end of 2015 was negative, grouped by appropriate remaining maturities as at the balance sheet date and are presented as contractual maturities apart from Other up to 1 month and Futures contracts which are presented as net present value (NPV). The amounts denominated in foreign currencies were converted to Polish zloty at the average rate of exchange announced by the National Bank of Poland at the balance sheet date.

31.12.2015

Derivatives settled on a net basis	Up to 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Total
Forward Rate Agreements (FRA)	4 405	12 096	2 815	505	-	**19 821**
Overnight Index Swaps (OIS)	78	331	616	93	-	**1 118**
Interest Rate Swaps (IRS)	74 196	360 473	692 750	1 645 746	279 670	**3 052 835**
Cross Currency Interest Rate Swaps (CIRS)	14 888	(2 452)	(18 874)	(8 278)	984	**(13 732)**
Options	(2 766)	1 377	(11 212)	(141)	(2)	**(12 744)**
Other	113	2 064	3 576	381	-	**6 134**
Total derivatives settled on a net basis	**90 914**	**373 889**	**669 671**	**1 638 306**	**280 652**	**3 053 432**

31.12.2014

Derivatives settled on a net basis	Up to 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Total
Forward Rate Agreements (FRA)	20 938	29 491	66 344	13 027	-	**129 800**
Overnight Index Swaps (OIS)	1 605	347	7 587	-	-	**9 539**
Interest Rate Swaps (IRS)	111 390	430 978	911 220	2 676 074	549 025	**4 678 687**
Cross Currency Interest Rate Swaps (CIRS)	11 028	884	(4 969)	4 757	-	**11 700**
Options	2 806	(1 014)	(10 521)	(14 553)	128	**(23 154)**
Futures contracts	-	11	-	-	-	**11**
Other	147	-	5 944	-	-	**6 091**
Total derivatives settled on a net basis	**147 914**	**460 697**	**975 605**	**2 679 305**	**549 153**	**4 812 674**

<u>Derivative financial instruments settled in gross amounts</u>

Derivative financial instruments settled in gross amounts by the Group comprise foreign exchange derivatives: currency forwards and currency swaps.

The table below shows derivative financial liabilities/assets of the Group, which will be settled on a gross basis, grouped by appropriate remaining maturities as at the Balance Sheet date. The amounts denominated in foreign currencies were converted to Polish zloty at the average rate of exchange announced by the National Bank of Poland at the balance sheet date.

31.12.2015

Derivatives settled on a gross basis	Up to 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Total
Currency derivatives:						
-outflows	15 078 298	4 600 883	8 408 120	1 051 490	-	**29 138 791**
-inflows	15 109 535	4 588 461	8 480 786	1 034 073	-	**29 212 855**

31.12.2014

Derivatives settled on a gross basis	Up to 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Total
Currency derivatives:						
-outflows	13 082 812	5 126 921	3 776 553	416 470	-	**22 402 756**
-inflows	13 094 178	5 133 165	3 769 438	412 353	-	**22 409 134**

The amounts disclosed in the table are undiscounted contractual outflows/inflows.

The amounts presented in the table above are nominal cash flows of currency derivatives, which have not been settled, while the Note 20 shows nominal values of all open derivative transactions.

Detailed data concerning liquidity risk related to off-balance sheet items are presented in the Note 36.

3.11.Operational risk

Operational risk is understood as the risk of loss resulting from a mismatch or unreliability of internal processes, people or systems or external events. In accordance with the Risk Catalogue of mBank Group, operational risk includes, in particular, the following sub-categories:

- legal risk,
- IT systems risk,
- personnel and organizational risk,
- security risk,
- compliance risk.

Operational risk does not include reputational risk, however materialization of operational risk may increase reputational risk.

Organization of risk management

Operational risk management is performed in mBank and, at the consolidated level, in mBank Group.

- **The Integrated Risk and Capital Management Department (DKR)** is responsible for the measurement, control and monitoring of operational risk level in the Bank and in mBank Group.

  Within the scope of its operational risk control function, the DKR closely co-operates with other units and projects within the Bank involved in operational risk, in particular with the Compliance Department, the Legal Department, the Internal Audit Department and the Security Department. The results of operational risk control and monitoring are reported to the Risk Committee of the Supervisory Board, the Management Board of the Bank, the committees of Business and Risk Forum of mBank Group, and the Chief Risk Officer.

While organizing the operational risk management process, the Bank takes into account regulatory requirements. Resolutions and recommendations of the Polish Financial Supervision Authority (including Recommendation M, Recommendation H and Recommendation D) are the starting point for preparation of framework for the operational risk control and management system in the Bank and the Group.

General principle of operational risk management in the Bank is to minimize it that is to reduce the causes of operational events, the probability of their occurrence and the severity of potential consequences. Cost vs benefits analysis is considered while deciding on an acceptable operational risk level.

Tools and measures

Operational risk control and management consists of a set of activities aimed at identifying, monitoring, measurement, assessment, reporting as well as reduction, avoidance, transfer or acceptance of operational risk, the Bank is exposed to in particular areas of its operations. It is based on quantitative and qualitative methods and tools for operational risk control. The tools applied by the Bank intend to cause-oriented operational risk management and focus on bottom-up approach to identify risk.

Qualitative tools are aimed at establishing (within the Bank and the mBank Group) consistent qualitative assessment of internal and external factors affecting the operational risk management process.

The basic qualitative tool is the self-assessment of internal control system carried out by the organizational units. It presents an assessment of the level of operational risk for the Bank, as well as for individual processes and organizational units. Since 2014, the Bank started to replace the existing Business Environment Assessment Surveys with the Internal Control System Self-assessment (ICS) process, which will enable to identify and assess the most important operational risks and control mechanisms in the Group, and then to develop and implement necessary corrective action plans. In mid-2015 the second stage of ICS implementation was completed in the Bank. Thus, the whole activity of the Bank was covered by the process. In Q4 2015, the implementation of the ICS in the Group subsidiaries was started.

In addition, in order to control operational risk, mBank collects data about operational risk events and losses of the Group, collects and monitors key risk indicators, and develops and performs operational scenario analyses in order to identify exposure to potential high-severity events. At the same time, the communication with all areas of the Bank (business and support areas) is maintained for the purpose of monitoring and taking preventive actions once the risk of critical events has been signalled in any area.

Operational losses

The vast majority of the Group's operational losses refers to the following business lines (separated in accordance with the CRR Regulation): commercial banking, retail banking and trading and sales.

In terms of losses by risk category, the Group incurs the highest losses in three categories of operational risk: (i) crimes committed by outsiders; (ii) execution, delivery and process management; (iii) customers, products and business practices.

The following table presents the distribution of actual net losses (net of recoveries) by operational risk category, incurred by the mBank Group in 2015:

Operational risk category	Distribution	Value of losses in relation to the value of gross profit
Crimes committed by outsiders	55%	1.4%
Customers, products and business practices	33%	0.9%
Execution, delivery and process management	11%	0.3%
Other	1%	0.0%
Total	100%	2.6%

The level of operational risk losses is constantly monitored and regularly reported to the management and Supervisory Board. Monitoring takes place at the level of individual transactions and at the level of the value of total losses. In the case of single operational events with a high loss or a total of losses exceeding the set thresholds, analysis of the causes and development of corrective action plans that will reduce the occurrence of similar losses in the future is required.

3.11.1 Compliance risk

Compliance risk management in mBank is realized according, in particular, with the Compliance policy at mBank S.A., which stipulates a set of procedures and organisational rules that the Bank fulfils to comply with the requirements of Polish law and compliance rules of the Commerzbank Group, without prejudice to the provisions of Polish law. The Policy includes also a set of basic rules of conduct for the Bank's employees and main processes of compliance risk identification that allow to manage compliance risk on all levels of the Bank's organisation.

The compliance risk is understood as a consequence of failure to observe the law, internal regulations and standards of conduct adopted by the Bank. Compliance risk management aims to mitigate the risk connected with the Bank's failure to observe and comply with the law, internal regulations, and the standards of conduct adopted by the Bank. Non-compliance of the Bank's operation with internal regulations, mentioned above, is understood as non-compliance of the internal regulations with the generally applicable law and standards of conduct adopted by the Bank, including the failure to implement recommendations issued by the Polish Financial Supervision Authority and other supervisory authorities executing theirs task towards financial institutions.

Providing compliance of the Bank's internal regulations with the provisions of law (Polish and international) and adopted by the Bank standards of conduct as well as observing internal rules by the Bank employees aims to mitigate the compliance risk and to eliminate or minimize the possibility of occurrence of the following risks: legal, reputational, imposed sanctions and financial losses as well as the one resulting from discrepancies in interpretation of the law.

All the Bank employees are responsible for implementation of the provisions hereof, in line with their scope of responsibilities as well as granted authorisations.

Compliance Department is responsible for coordination and supervision of the compliance management process. In particular the Compliance Department is:

1/ developing and implementing guidelines, rules and standard procedures at the Bank in the compliance area, including common standards applicable in the Commerzbank AG Group, subject to stipulations of the Polish legal requirements,
2/ exercising supervision over the execution of tasks from the compliance area, including advisory and merit-based instruction as well as controlling organisational units of the Bank responsible for their execution,
3/ exercising supervision, including advisory and merit-based instruction, over implementing common standards of operation in the compliance area within mBank Group by relevant compliance forces in foreign branches and in subsidiaries,
4/ identifying risk in the compliance area,
5/ introducing control policies and procedures in the scope of operation of Compliance Department, to minimise the risks hereof,
6/ adjusting hereof and internal regulations, whose owner is Compliance Department, to the changing legal conditions and standards of conduct,
7/ carrying out and monitoring training sessions on the compliance area for employees of the Bank,

8/ maintaining ongoing contacts with the unit responsible for the performance of the compliance area in Commerzbank AG Group for the purpose of the implementation of common standards.

The supervision over introduction by the mBank's Group entities common rules in the compliance area is exercised in particular on the basis of concluded contracts and additional agreements that specify, among others the reporting obligations of the subsidiaries and rules of supervision visits in those entities conducted by authorised organizational units of the Bank.

3.12.Business risk

Business risk shall mean the risk of potential losses resulting from deviation between actual net operating income and plan. Net operating income is calculated as operating revenues deducted by operating costs. The calculation of deviations between actual and planned values is done separately for revenues and costs. Business risk includes, in particular, strategic risk connected with the possibility of occurrence of negative financial consequences as a result of wrong or disadvantageous decisions or their wrong implementations. It is assumed, that the results of the strategic decisions are reflected in deviations of operating profit in one-year horizon.

Business risk management is performed in mBank and, at the consolidated level, in mBank Group.

- **Controlling and Management Information Department** is responsible for ongoing monitoring of financial results of business units and preparing forecasts of the Group's results; development of methodology and measurement of economic capital for business risk and preparing information on the changes of its level, as well as for the stress testing of business risk.

One of the tools used by the Bank in order to manage and effectively reduce business risk is an ongoing monitoring of financial results of all business units and preparation of forecasts of the Group's future financial results. In case of high fluctuations, the Controlling and Management Information Department is responsible for the analysis of their causes. The results of the analysis are included in the form of notes to the financial results of the Bank and the Group provided to the Management Board.

Business risk is included in the calculation of economic capital of mBank and mBank Group.

3.13.Model risk

Model risk is understood as the risk of negative consequences connected with the decisions made on the basis of the output data of models which have been improperly constructed or are improperly administered. Model risk may result in financial losses or in the loss of potential profits, improper business or strategic decisions or negatively influence the bank's reputation.

The following specific subcategories can be distinguished in particular in model risk:

- **Data risk** understood as the risk arising from necessity to use data of unsatisfactory quality, completeness and reliability and/or outdated in the models construction and validation.
- **Assumptions/methodology risk** understood as the risk arising from incorrect assumptions or over-simplification made in the model construction or resulting from the usage of inappropriate mathematical, statistical techniques, improper expert solutions or incorrect usage of them while developing the model.
- **Models administration risk** understood as the risk of incorrect usage of models or their improper operation because of inadequate documentation, monitoring, validation and updates of these models, including assessing the adequacy of the model for current conditions.

Model risk management is coordinated by the Integrated Risk and Capital Management Department through its Validation Unit.

- **Integrated Risk and Capital Management Department (Validation Unit)** performs the following tasks: develops policies and organizes the process of managing models used for the purposes of the management and measurement of credit risk, market risk, interest rate risk in the banking book, liquidity risk as well as other risks deemed material in the process of calculating regulatory and economic capital; organizes and monitors the process of model risk assessment in the Bank's organizational units and the Group subsidiaries responsible for model development and ensures consistency of model risk assessment within the Group.

Model risk is managed on a systemic basis by a proper internal regulations concerning monitoring and validation of models.

The Model Management Policy determines the participants and the framework for model management process, including issues related to the development of models in the Group, their approval, implementation, verification/validation, monitoring, implementation of changes and the associated reporting process.

With regard to the Recommendation W on model risk management in the banks, published in July 2015 by the Polish Financial Supervision Authority, mBank commenced adaptation works in terms of:

- development of principles of models' classification and model risk measurement and monitoring in line with regulatory requirements,
- implementation of the required reporting system concerning model risk at different levels of the organization,
- supplementing the existing models' management process, particularly in the field of documentation, with elements indicated in the Recommendation.

Implementation date of the above mentioned Recommendation is defined as 30 June 2016.

3.14.Reputational risk

In today's competitive environment, the reputation of a company is increasingly gaining in importance. Banks, as public trust companies, not only are expected to be profitable and offer shareholders an adequate return, but also to be ethical, environmentally friendly, and socially responsible.

The aim of management of reputational risk, defined as a risk resulting from a negative perception of the image of the Bank or other member in the Group among its stakeholders, is to identify, assess and address reputational risk in specific processes in order to safeguard and enhance the good name of mBank and mBank Group.

The Bank's business units, foreign branches, and subsidiaries are directly responsible for any reputational risk arising from their own business activities. The key role in reputational risk management is played by the Communication and Marketing Strategy Department, which is in charge of shaping the image and brand of the Bank and mBank Group.

- **Communication and Marketing Strategy Department** is responsible for: development of external communication strategy of mBank and mBank Group and realisation of mBank external communication strategy; planning and realisation of marketing activities for business lines, with exclusion of retail banking (where the responsibility rests with the **Retail Banking Marketing Department**); planning and coordination of activities of mBank and mBank Group in regards to marketing research relating to brand positioning as well as realization of activities in the area of marketing research; development and realization of strategy relating to corporate responsibility; monitoring of activities related to the Bank's image, reputation and identification in accordance with the Bank's strategic positioning; management of crisis situations which bear the reputational risk for the Bank and the mBank Group.

  Substantial functions in the reputational risk management process are performed by other organizational units of the Bank, that is: Compliance Department, Employee and Organization Culture Development Department, Corporate Banking Management Department, Business Support Department, Retail Banking Business Development Department, and **Integrated Risk and Capital Management Department**, which is responsible for: development of reputational risk management strategy in cooperation with other organizational units and supervision over the Internal Control System Self-assessment (ICS), including also aspects of reputational risk.

The following tools and methods are used in mBank to monitor and manage reputational risk:

- mBank's values (client-centric organization, simplicity, professionalism, engagement and forward looking), which are the mBank's code used while building either business relations or internal inside of the Group,
- engagement culture survey – perception of mBank by its employees,
- Corporate Social Responsibility - responsible activities for the benefit of customers, employees, the environment and local communities (including employee volunteer projects) and participation in projects of the mBank Foundation,
- monitoring of press publications, comments in the Internet, social media or internet forums,

- customer satisfaction analysis in retail and corporate banking,
- new product process - reputational risk is one of the topics analyzed within new products' implementation process,
- analysis of customers' complaints.

Reputational Risk Management Strategy of mBank Group describes rules and components of reputational risk management, and emphasizes, in particular, such issues as: reputational risk profile and organization and methods of reputational risk management

In 2015, the "Strategy for corporate sustainability and responsibility of mBank SA" for the years 2016-2020 has been adopted. It focuses on 5 key areas of responsibility, which are as follows:

- building stable and long-term customer relations (Goal: "We want to understand, respect and share our clients' values. We want to be open. We want to think and feel like they do."),
- pursuing socially responsible credit policy (Goal: "We want to be a responsible lender."),
- building an exceptional team (Goal: "We want to build an exceptional team, competence and skills. We want to share what's best about us with others. We want to be unique."),
- limiting the Bank's environmental footprint (Goal: "We want to limit our impact on the natural environment.")
- enhancing the mechanisms of responsible corporate management, including supply chain management (Goal: "We want to enhance our management approach.").

As an organization managed in accordance with the concept of corporate social responsibility, mBank wants to provide services to its clients and generate profits for its shareholders taking social, ethical and environmental aspects into consideration. Therefore, certain restrictions have been introduced on providing services to companies whose operations might be controversial from the social point of view.

3.15.Capital risk

Capital risk management is performed in mBank and, at a consolidated level, in mBank Group.

- **Controlling and Management Information Department** is responsible for: development of the capital management policy of mBank Group; measurement of efficiency of the capital utilization and monitoring ratios of return on capital in the Bank's organizational units and the Group subsidiaries, and updating the respective methodology; preparation of forecast of changes of own funds as well as capital adequacy ratios for the Bank and mBank Group.
- **Integrated Risk and Capital Management Department** is responsible for: monitoring of capital adequacy, risk bearing capacity and risk profile of the Group; organization of the processes of planning, forecasting and monitoring regulatory and internal capital; development of the risk bearing capacity concept and the methodology of limiting regulatory and internal capital; monitoring regulatory requirements regarding the application of AIRB method in calculating capital requirements, sensitivity analyses, stress tests and analyses of influence of new products and new calculation methods for the level of capital requirements and regulatory capital ratios; preparation of reports and information for the statutory bodies of the mBank and for the purposes of consolidated supervision in regards to capital adequacy, risk bearing capacity and risk profile of the Bank and mBank Group.

In order to prevent materialization of capital risk, understood as risk resulting from the lack of sufficient capital assurance to absorb unexpected losses, the Bank applies a capital management process.

The capital management in mBank Group is organised as a process including planning, steering and controlling within the frames of economic capital, regulatory capital and internal capital. Within the framework of capital management process, regular monitoring of capital adequacy and effectiveness is conducted, aimed at assurance that adequate and optimum level of capital is maintained in mBank Group. This is supported by analysis and stress testing procedures, designed to provide in depth view on current capital position, as well as possible development in the future.

The capital management in mBank Group is a multi-level process including all subsidiaries and organisational units whose activity influences the level of own funds requirements as well as the value of internal capital.

The capital management process in mBank Group is documented. The Capital Management Policy constitutes the core documentation in this respect. It is directly linked to the General Business

Strategy and Risk Management Strategy as well as the Multi-year Financial Plan of mBank Group and with the ICAAP documentation.

The underlying assumption of the Capital Management Policy is to ensure effective planning and deployment of the capital base within the mBank and mBank Group. The goal of the Policy is to set up the effective decision-making process for capital management. This is provided mainly by applying risk appetite guidelines and developing guidelines to assure sufficient capital to cover risks identified in business activity, as well as defining the organisational framework for the efficient functioning of capital management system.

The Capital Management Policy is based on two fundamental pillars:

- maintenance of optimal level and structure of own funds, assuring capital adequacy above the established minimum requirement (including risk appetite defined by the Management Board) as well as ensuring coverage against all material risks identified in mBank Group's activity,
- effective use of the capital base, guaranteeing achievement of expected returns, including return on regulatory capital and risk adjusted capital.

In addition, the document focuses on capital management in an environment of capital shortage.

3.16.Fair value of financial assets and liabilities

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A fair value measurement assumes that the transaction of selling the asset or transferring a liability occurs either:

- on the main market for the asset or liability,
- in the absence of a main market, for the most advantageous market for the asset or liability.

The main and the most advantageous markets must be both available to the Group.

Following market practices the Group values open positions in financial instruments using either the mark-to-market approach or is applying pricing models well established in market practice (mark-to-model method) which use as inputs market prices or market parameters, and in few cases parameters estimated internally by the Group. All significant open positions in derivatives (currency or interest rates) are valued by marked-to-model using prices observable in the market. Domestic commercial papers are marked to model (by discounting cash flows), which in addition to market interest rate curve uses credit spreads estimated internally.

The Group assumed that the fair value of short-term financial liabilities (less than 1 year) is equal to the balance sheet values of such items.

In addition, the Group assumes that the estimated fair value of financial assets and financial liabilities longer than 1 year is based on discounted cash flows using appropriate interest rates.

The following table presents a summary of balance sheet values and fair values for each group of financial assets and liabilities not recognised in the statement of financial position of the Group at their fair values.

	31.12.2015		31.12.2014	
	Carrying value	Fair value	Carrying value	Fair value
Financial assets				
Loans and advances to banks	**1 897 334**	**1 895 673**	**3 751 415**	**3 748 671**
Loans and advances to customers	**78 433 546**	**78 962 650**	**74 582 350**	**75 070 826**
Loans and advances to individuals	**44 726 181**	**45 635 346**	**40 080 064**	**40 874 882**
current accounts	5 214 087	5 283 808	4 848 799	4 927 627
term loans including:	39 512 094	40 351 538	35 231 265	35 947 255
- housing and mortgage loans	33 692 879	34 412 912	29 969 161	30 553 308
Loans and advances to corporate entities	**32 004 393**	**31 635 612**	**31 531 987**	**31 236 748**
current accounts	3 771 327	3 737 886	3 460 379	3 435 981
term loans	25 788 441	25 453 099	22 915 949	22 645 108
- corporate & institutional enterprises	5 667 803	5 591 521	5 557 635	5 516 855
- medium & small enterprises	20 120 638	19 861 578	17 358 314	17 128 253
reverse repo / buy sell back transactions	1 031 029	1 031 029	3 838 553	3 838 553
other	1 413 596	1 413 598	1 317 106	1 317 106
Loans and advances to public sector	**1 519 617**	**1 508 337**	**1 923 026**	**1 911 923**
Other receivables	**183 355**	**183 355**	**1 047 273**	**1 047 273**
Financial liabilities				
Amounts due to other banks	**12 019 331**	**11 813 534**	**13 383 829**	**13 508 323**
Amounts due to customers	**81 140 866**	**81 266 808**	**74 422 479**	**72 501 565**
Debt securities in issue	**8 946 195**	**8 890 686**	**10 341 742**	**10 425 444**
Subordinated liabilities	**3 827 315**	**3 919 644**	**4 127 724**	**4 105 811**

The following sections present the key assumptions and methods used by the Group for estimation of the fair values of financial instruments:

Loans and advances to banks and loans and advances to customers. The fair value for loans and advances to banks and loans and advances to customers is disclosed as the present value of future cash flows using current interest rates including appropriate credit spreads and is based on the expected maturity of the respective loan agreements. The level of credit spread was determined based on market quotation of median credit spreads for Moody's rating grade. Attribution of a credit spread to a given credit exposure is based on a mapping between Moody's rating grade and internal rating grades of the Group. To reflect the fact that the majority of the Group's exposures is collateralised whereas the median of market quotation is centred around unsecured issues, the Group applied appropriate adjustments.

Available for sale financial assets. Listed available for sale financial instruments held by the Group are valued at fair value. The fair value of debt securities not listed at an active market is calculated using current interest rates taking into account credit spreads for an appropriate issuer.

Financial liabilities. Financial instruments representing liabilities for the Group include the following:

- Contracted borrowings;
- Deposits;
- Issues of debt securities;
- Subordinated liabilities.

The fair value for these financial liabilities with more than 1 year to maturity is based on cash flows discounted using interest rates. For loans received from Commerzbank in CHF, the Group used the curve based on quotations of Commerzbank CDS for exposures in EUR and quotations of issued bonds under EMTN programme in EUR and CHF. For the loans received from European Investment Bank in EUR the Group used the EBI yield curve. With regard to the own issue as part of the EMTN programme the market price of the relevant financial services has been used.

In the case of deposits, the Group has applied the curve constructed on the basis of quotations of money market rates as well as FRA and IRS contracts for appropriate currencies and maturities. In case of subordinated liabilities the Group used curves based on cross-currency basis swap levels taking into account the original spread on subordinated liabilities and their maturities.

In case of covered bonds and other debt securities issued by mBank Hipoteczny, for the purpose of the disclosures swap curves and forecasted initial spreads for certain issues are used.

The Group assumed that the fair values of these instruments with less than 1 year to maturity was equal to the carrying amounts of the instruments.

The table below presents the fair value hierarchy of financial assets and liabilities measured at fair value in accordance with the assumptions and methods described above, exclusively for disclosure as at 31 December 2015 and 31 December 2014.

31.12.2015	Including:	Level 1 Quoted prices in active markets	Level 2 Valuation techniques based on observable market data	Level 3 Other valuation techniques
VALUATION ONLY FOR PURPOSES OF DISCLOSURE				
FINANCIAL ASSETS				
Loans and advances to banks	1 895 673	-	-	1 895 673
Loans and advances to customers	78 962 650	-	-	78 962 650
FINANCIAL LIABILITIES				
Amounts due to other banks	11 813 534	-	9 143 977	2 669 557
Amounts due to customers	81 266 808	-	1 631 894	79 634 914
Debt securities in issue	8 890 686	5 144 935	-	3 745 751
Subordinated liabilities	3 919 644	-	3 919 644	-
Total financial assets	**80 858 323**	**-**	**-**	**80 858 323**
Total financial liabilities	**105 890 672**	**5 144 935**	**14 695 515**	**86 050 222**

31.12.2014	Including:	Level 1 Quoted prices in active markets	Level 2 Valuation techniques based on observable market data	Level 3 Other valuation techniques
VALUATION ONLY FOR PURPOSES OF DISCLOSURE				
FINANCIAL ASSETS				
Loans and advances to banks	3 748 671	-	-	3 748 671
Loans and advances to customers	75 070 806	-	-	75 070 806
FINANCIAL LIABILITIES				
Amounts due to other banks	13 508 323	-	11 442 821	2 065 502
Amounts due to customers	72 501 565	-	5 558 939	66 942 626
Debt securities in issue	10 425 444	7 338 400	-	3 087 044
Subordinated liabilities	4 105 811	-	4 105 811	-
Total financial assets	**78 819 477**	**-**	**-**	**78 819 477**
Total financial liabilities	**100 541 143**	**7 338 400**	**21 107 571**	**72 095 172**

Level 1

Level 1 includes the fair value of bonds issued by the Bank's subsidiary mFinance France (Note 30). For the purpose of disclosures the Group applied market price of the issued debt securities.

Level 2

Level 2 includes the fair value of long-term loans received from banks, the fair value of long-term deposits placed by customers and the fair value of the loan received from the EIB (Note 29). In addition, at level 2, the Group has presented subordinated liabilities.

The fair value of financial liabilities included in level 2 with more than 1 year to maturity is based on cash flows discounted using interest rates. For received loans in EUR the Bank used the swap curve amended by the spread determined based on observable Commerzbank CDS quotations in EUR for various maturities and a fixed spread which represents the assumed credit spread differential for Bank risk (derived from market quotation of bond issued under the EMTN programme). For the loans in other currencies, the above spreads for EUR were applied and cross currency swaps quotations to EUR. In case of the loans received from European Investment Bank in EUR, the Bank used EIB yield curve and the value of margin which was agreed upon the last contract for a loan. Based on that assumption, the spread of Bank to market swap curve was estimated. In case of deposits the Bank used the curve based on money market rates, as well as FRA contracts and IRS contracts for appropriate currencies and maturities. For debt securities in issue the Bank used the prices directly from the market for these securities. For the purpose of measurement of subordinated liabilities the Bank used obtained primary market spreads of subordinated bonds issued by the Bank and if required corresponding cross-currency basis swap levels for the respective maturities.

Level 3

Level 3 includes the fair value of loans and advances to banks and loans and advances to customers. The fair value for loans and advances to banks and loans and advances to customers is disclosed as the present value of future cash flows using current interest rates including appropriate credit spreads and is based on the expected maturity of the respective loan agreements. The level of credit spread was determined based on market quotation of median credit spreads for Moody's rating grade. Attribution of a credit spread to a given credit exposure is based on a mapping between Moody's rating grade and internal rating grades of mBank. To reflect the fact that the majority of the Bank's exposures is collateralised whereas the median of market quotation is centred around unsecured issues, the Bank performed appropriate adjustments.

Level 3 includes also the fair value of the mortgage bonds and other debt securities issued by mBank Hipoteczny. For the valuation of the Group has applied the technique of estimation of interest flow using swap curve and discounting with the rate amended by credit spread which is obtainable in case of issue depending on currency and maturity of financial instrument.

Moreover, level 3 includes short term liabilities due to banks and customers.

The following table presents the hierarchy of fair values of financial assets and liabilities recognised in the statement of financial position of the Group at their fair values.

31.12.2015	Including:	Level 1 Quoted prices in active markets	Level 2 Valuation techniques based on observable market data	Level 3 Other valuation techniques
RECURRING FAIR VALUE MEASUREMENTS				
FINANCIAL ASSETS				
TRADING SECURITIES	**557 541**	**183 658**	**2 654**	**371 229**
Debt securities	**550 695**	**179 466**	**-**	**371 229**
- government bonds	178 492	178 492	-	-
- deposit certificates	73 124	-	-	73 124
- banks bonds	248 156	974	-	247 182
- corporate bonds	50 923	-	-	50 923
Equity securities	**6 846**	**4 192**	**2 654**	**-**
- listed	4 192	4 192	-	-
- unlisted	2 654	-	2 654	-
DERIVATIVE FINANCIAL INSTRUMENTS	**3 349 328**	**-**	**3 348 908**	**420**
Derivative financial instruments held for trading	**3 151 873**	**-**	**3 151 453**	**420**
- interest rate derivatives	2 783 388	-	2 783 388	-
- foreign exchange derivatives	348 317	-	348 317	-
- market risks derivatives	20 168	-	19 748	420
Derivative financial instruments held for hedging	**197 455**	**-**	**197 455**	**-**
- derivatives designated as fair value hedges	146 694	-	146 694	-
- derivatives designated as cash flow hedges	50 761	-	50 761	-
INVESTMENT SECURITIES	**30 736 949**	**22 279 327**	**7 442 384**	**1 015 238**
Debt securities	**30 537 570**	**22 278 572**	**7 442 384**	**816 614**
- government bonds	22 238 625	22 238 625	-	-
- money bills	7 442 384	-	7 442 384	-
- banks bonds	233 158	-	-	233 158
- corporate bonds	583 456	-	-	583 456
- communal bonds	39 947	39 947	-	-
Equity securities	**199 379**	**755**	**-**	**198 624**
- unlisted	199 379	755	-	198 624
TOTAL FINANCIAL ASSETS	**34 643 818**	**22 462 985**	**10 793 946**	**1 386 887**

31.12.2015	Including:	Level 1 Quoted prices in active markets	Level 2 Valuation techniques based on observable market data	Level 3 Other valuation techniques
FINANCIAL LIABILITIES				
Derivative financial instruments	**3 173 638**	**-**	**3 173 638**	**-**
Derivative financial instruments held for trading	**3 171 624**	**-**	**3 171 624**	**-**
- interest rate derivatives	2 811 493	-	2 811 493	-
- foreign exchange derivatives	342 407	-	342 407	-
- market risks derivatives	17 724	-	17 724	-
Derivative financial instruments held for trading	**2 014**	**-**	**2 014**	**-**
- derivatives designated as fair value hedges	2 014	-	2 014	-
Total financial liabilities	**3 173 638**	**-**	**3 173 638**	**-**
TOTAL RECURRING FAIR VALUE MEASUREMENTS				
FINANCIAL ASSETS	**34 643 818**	**22 462 985**	**10 793 946**	**1 386 887**
FINANCIAL LIABILITIES	**3 173 638**	**-**	**3 173 638**	**-**

Assets Measured at Fair Value Based on Level 3 - changes in 2015	Debt trading securities	Equity trading securities	Derivative financial instruments	Debt investment securities	Equity investment securities
As at the beginning of the period	**527 067**	**22**	**469**	**309 761**	**30 696**
Gains and losses for the period:	**931**	**(18)**	**(49)**	**14 312**	**160 974**
Recognised in profit or loss:	931	(18)	(49)	3 967	1 827
- Net trading income	*931*	*(18)*	*(49)*	*-*	*99*
- Gains less losses from investment securities, investments in subsidiaries and associates	-	-	-	*3 967*	*1 728*
Recognised in other comprehensive income:	-	-	-	*10 345*	*159 147*
- Available for sale financial assets	-	-	-	*10 345*	*159 147*
Purchases	1 870 076	-	-	308 663	9 850
Redemptions	(281 307)	-	-	(49 980)	-
Sales	(7 594 537)	-	-	(984 211)	(2 753)
Issues	5 848 999	-	-	1 218 069	-
Settlements	-	-	-	-	(381)
Transfers into Level 3	-	-	-	-	*238*
Transfers out of Level 3	-	*(4)*	-	-	-
As at the end of the period	**371 229**	**-**	**420**	**816 614**	**198 624**

With regard to financial instruments valuated in repetitive way to the fair value classified as level 1 and 2 in hierarchy of fair value, any cases in which transfer between these levels may occur, are monitored by Financial Market Risk Department on the basis of internal rules. In case if there is no market price used to a direct valuation for more than 5 working days, the method of valuation is changed, i.e. change from marked-to-market valuation to marked-to-model valuation under the assumption that the valuation model for the respective type of this instrument has been already approved. The return to marked-to-market valuation method takes place after a period of at least 10 working days in which the market price was available on a continuous basis. If there is no market prices for a debt treasury bonds the above terms are respectively 2 and 5 working days.

Transfers between levels in 2015	Transfer into level 1	Transfer out of level 1	Transfer into level 2	Transfer out of level 2
Investment securities	**4**	**(238)**	**-**	**-**
Equity securities	4	(238)	-	-

In 2015, one transfer has been observed from level 1 to level 3 of fair value hierarchy which resulted from the liquidation process of the issuer.

Moreover, in 2015 there has been observed one transfer from level 3 to level 1 of fair value hierarchy which resulted from the effect of valuation techniques revision applied to minority stakes of low value held by the Bank.

31.12.2014	Including:	Level 1 Quoted prices in active markets	Level 2 Valuation techniques based on observable market data	Level 3 Other valuation techniques
RECURRING FAIR VALUE MEASUREMENTS				
FINANCIAL ASSETS				
TRADING SECURITIES	**1 163 944**	**629 361**	**7 494**	**527 089**
Debt securities	1 145 997	618 930	-	527 067
- government bonds	617 906	617 906	-	-
- banks bonds	473 097	1 024	-	472 073
- corporate bonds	54 994	-	-	54 994
Equity securities	**17 947**	**10 431**	**7 494**	**22**
- listed	10 431	10 431	-	-
- unlisted	7 516	-	7 494	22
DERIVATIVE FINANCIAL INSTRUMENTS	**4 865 517**	**-**	**4 865 048**	**469**
Derivative financial instruments held for trading	**4 711 124**	**-**	**4 710 655**	**469**
- interest rate derivatives	4 406 512	-	4 406 512	-
- foreign exchange derivatives	295 564	-	295 564	-
- market risks derivatives	9 048	-	8 579	469
Derivative financial instruments held for hedging	**154 393**	**-**	**154 393**	**-**
- derivatives designated as fair value hedges	102 226	-	102 226	-
- derivatives designated as cash flow hedges	52 167	-	52 167	-
INVESTMENT SECURITIES	**27 678 614**	**22 858 617**	**4 479 540**	**340 457**
Debt securities	**27 416 998**	**22 627 697**	**4 479 540**	**309 761**
- government bonds	22 586 122	22 586 122	-	-
- money bills	4 479 540	-	4 479 540	-
- banks bonds	24 907	-	-	24 907
- corporate bonds	284 854	-	-	284 854
- communal bonds	41 575	41 575	-	-
Equity securities	**261 616**	**230 920**	**-**	**30 696**
- listed	229 961	229 961	-	-
- unlisted	31 655	959	-	30 696
TOTAL FINANCIAL ASSETS	**33 708 075**	**23 487 978**	**9 352 082**	**868 015**

31.12.2014	Including:	Level 1 Quoted prices in active markets	Level 2 Valuation techniques based on observable market data	Level 3 Other valuation techniques
FINANCIAL LIABILITIES				
Derivative financial instruments	**4 719 056**	**-**	**4 718 186**	**870**
Derivative financial instruments held for trading	**4 714 774**	**-**	**4 713 904**	**870**
- interest rate derivatives	4 390 412	-	4 390 412	-
- foreign exchange derivatives	305 857	-	305 443	414
- market risks derivatives	18 505	-	18 049	456
Derivative financial instruments held for trading	**4 282**	**-**	**4 282**	**-**
- derivatives designated as fair value hedges	3 592	-	3 592	-
- derivatives designated as cash flow hedges	690	-	690	-
Total financial liabilities	**4 719 056**	**-**	**4 718 186**	**870**
TOTAL RECURRING FAIR VALUE MEASUREMENTS				
FINANCIAL ASSETS	**33 708 075**	**23 487 978**	**9 352 082**	**868 015**
FINANCIAL LIABILITIES	**4 719 056**	**-**	**4 718 186**	**870**

Assets Measured at Fair Value Based on Level 3 - changes in 2014	Debt trading securities	Equity trading securities	Derivative financial instruments	Debt investment securities	Equity investment securities
As at the beginning of the period	**346 263**	**6**	**450**	**133 042**	**40 206**
Gains and losses for the period:	**12 053**	**16**	**19**	**6 736**	**(696)**
Recognised in profit or loss:	12 053	16	19	-	(710)
- Net trading income	*12 053*	*16*	*19*	-	-
- Gains less losses from investment securities, investments in subsidiaries and associates	-	-	-	-	*(710)*
Recognised in other comprehensive income:	-	-	-	*6 736*	*14*
- Available for sale financial assets	-	-	-	*6 736*	*14*
Purchases	3 121 268	-	-	61 902	8 610
Redemptions	(344 563)	-	-	-	-
Sales	(11 866 323)	-	-	(198 072)	(15 947)
Issues	9 260 092	-	-	304 918	-
Settlements	(1 723)	-	-	1 235	(2 390)
Transfers into Level 3	-	-	-	-	*913*
As at the end of the period	**527 067**	**22**	**469**	**309 761**	**30 696**

Transfers between levels in 2014	Transfer into level 1	Transfer out of level 1	Transfer into level 2	Transfer out of level 2
Investment securities	**898**	**-**	**-**	**(1 811)**
Equity securities	898	-	-	(1 811)

In 2014 there have been observed three movements from level 2 to level 3 in the total amount of PLN 913 thousand and one movement from level 2 to level 1 in the amount of PLN 898 thousand. These transfers resulted from the effect of valuation techniques revision applied to minority stakes of low value held by the Group.

According to the fair value methodology applied by the Group, financial assets and liabilities are classified as follows:

- Level 1: prices quoted on active markets for the same instrument (without modification);
- Level 2: valuation techniques based on observable market data or other valuation methods for which all significant input data are based on observable market data;
- Level 3: valuation methods for which at least one significant input data is not based on observable market data.

Level 1

As at 31 December 2015, at level 1 of the fair value hierarchy, the Group has presented the fair value of held for trading government bonds in the amount of PLN 178 492 thousand (see Note 19) and the fair value of investment government bonds in the amount of PLN 22 238 625 thousand (see Note 23) (31 December 2014 respectively: PLN 617 906 thousand and PLN 22 586 122 thousand). Level 1 also includes the fair value of local government bonds in the amount of PLN 39 947 thousand (31 December 2014: PLN 41 575 thousand), and the fair value of bonds issued by banks in the amount of PLN 974 thousand (31 December 2014: PLN 1 024 thousand).

In addition, as at 31 December 2015 level 1 includes the value of the shares of listed companies in the amount of PLN 4 192 thousand (31 December 2014: PLN 241 351 thousand, including value of PZU S.A. shares in the amount of PLN 229 961 thousand).

These instruments are classified as level 1 because their valuation is directly derived by applying current market prices quoted on active and liquid financial markets.

Level 2

Level 2 of the fair vale hierarchy includes the fair values of bills issued by NBP in the amount of PLN 7 442 384 thousand (31 December 2014: PLN 4 479 540 thousand;), whose valuation is based on a NPV model (discounted future cash flows) fed with interest rate curves generated by transformation of quotations taken directly from active and liquid financial markets.

In addition, the level 2 category includes the valuation of derivative financial instruments borne on models consistent with market standards and practices, using parameters taken directly from the markets (e.g., foreign exchange rates, implied volatilities of fx options, stock prices and indices) or parameters which transform quotations taken directly from active and liquid financial markets (e.g., interest rate curves).

As at 31 December 2015 and 31 December 2014, level 2 also includes the value of options referencing on the WIG 20 index. For options on WIG 20 index an internal model (based on implied volatility model) using market parameters is applied.

Level 3

Level 3 of the hierarchy presents the fair values of commercial debt securities issued by local banks and companies (bonds and deposit certificates) in the amount of PLN 1 187 843 thousand (31 December 2014: PLN 836 828 thousand).

The above mentioned debt instruments are classified as level 3 because in addition to parameters which transform quotations taken directly from active and liquid financial markets (interest rate curves), their valuation uses credit spread estimated by the Bank by means of an internal credit risk model and reflecting credit risk of securities issuer. The model uses parameters (e.g., rate of recovery from collateral, rating migrations, default ratio volatilities) which are not observed on active markets and hence were generated by statistical analysis.

Impact of change in credit spreads on the fair value of debt securities classified as level 3 is presented in the table below. The amount reflects change in credit risk in relation to purchase date by the Group.

Issuer	Change of fair value resulting from change in credit risk	
	31.12.2015	31.12.2014
Credit institutions	1 549	544
Non-financial customers	2 537	2 163
Total	**4 086**	**2 707**

Moreover, level 3 covers mainly the fair value of equity securities amounting to PLN 198 624 thousand (31 December 2014: PLN 30 718 thousand). As at 31 December 2015 this amount includes the value of Visa Europe Ltd shares in the amount of PLN 167 243 thousand which was valuated at fair value on the basis on information held by the Bank in connection with the takeover transaction of Visa Europe Ltd by Visa Inc. which was described under Note 23. The other equity securities presented at level 3 have been valuated using the market multiples method. The market multiples method, consists of valuating the equity capital of a company by using a relation between the market values of the own equity capital or market values of the total capital invested in comparable companies (goodwill) and selected economic and financial figures.

3.17.Other activities

The Group provides custody, trustee, corporate administration, investment management and advisory services to third parties. In connection with these, the Group makes decisions concerning the allocation, purchase and sale of a wide variety of financial instruments. Assets held in a fiduciary capacity are not included in these financial statements.