# 10. OPERATIONAL RISK

As at 31 December 2017 and 2016, the Group calculated the own funds requirements for operational risk in accordance with the standard approach, pursuant to the authorisation granted by Banco de Portugal, as previously mentioned.

The computation of the own funds requirements results from the application of a set of weights to the gross income that are set apart based on the activity segments into which the gross income breaks down, according to the regulatory definitions.

The framework for this calculation is provided by Title III of the CRR, in addition to additional clarifications received from Banco de Portugal, namely with respect to the accounting items considered in the determination of the gross income.

## 10.1. GROSS INCOME

The gross income results from the sum of the net interest income, dividends received, with the exception of income from financial assets with an "almost capital" nature – shareholders' advances –, net commissions, profits and losses arising on financial transactions associated to trading operations and other operating income. From these last items, the following are excluded: those that result from the sale of shareholdings and other assets, those with reference to discontinued operations and those resulting from negative consolidation differences. The interest in arrears recovered and expenses, which, on a consolidated basis, is recorded in the reversions of impairment losses item, is also added to the gross income.

Yet, neither the compensations received as a result of insurance contracts nor the revenues from the insurance activity are added to the value of the gross income. Finally, the other operating expenses cannot contribute to the reduction of the gross income value, with exception of the costs resulting from outsourcing provided by external entities to the Group or by entities that are not subject to the provisions of Decree-Law no. 104/2007, of 3 April.

The values thus obtained for the previously identified items are adjusted by the non-current amounts of the activity that are eventually still included in the gross income.

## 10.2. OPERATIONAL RISK – STANDARD APPROACH

The own funds requirements calculated in accordance with the standard approach are determined by the average, over the last three years, of the sum of the risk weighted gross income, calculated each year, relative to the activity segments and the risk weights that are defined in the article no. 317 of CRR, whose scope corresponds in general terms to the following:

- Corporate Finance (subject to an 18% weight): underwriting activities and related services, investment analysis and other financial consulting activities;

- Trading and Sales (subject to an 18% weight): dealing on own account and intermediation activities in monetary and financial instrument markets;

- Retail Brokerage (subject to a 12% weight): placement of financial instruments without a firm underwriting and intermediation of orders relative to financial instruments, on behalf of private Customers and small businesses;

- Commercial Banking (subject to a 15% weight): taking deposits and credit and guarantee concession and undertaking other commitments to companies;

- Retail Banking (subject to a 12% weight): taking deposits and credit and guarantee concession and undertaking other commitments to private Customers and small businesses;

- Payment and Settlement (subject to an 18% weight): payment operations and issue and management of means of payment activities;

- Agency Services (subject to a 15% weight): services associated to the safekeeping and administration of financial instruments;

- Asset Management (subject to a 12% weight): investment fund and individual portfolio management activities.

The risk weighted gross income for a given segment may, in a specific year, be negative (counterbalancing positive weighted indicators associated with other segments). However, if in that year, the sum of the relevant risk weighted indicators of all activity segments is negative, the value to consider in the numerator will be zero.

The gross income by activity segments, on a consolidated basis, resulted from the aggregation of the values obtained for the perimeters of Portugal and of each one of the Group's foreign operations, determined based on homogeneous criteria and common to all geographies.

The gross income by activity segments for Portugal and Poland was calculated based on their financial statements, complemented with information collected from their management information systems, whereas for the other foreign operations, accounting information was used. With respect to the subsidiary in Poland, the entire calculation process was conducted locally, taking into consideration that it is an operation with a diversified activity, which requires the contribution of own management information systems. On the other hand, the remaining foreign subsidiaries, which have a standardised activity concentrated in the Retail segment, were treated centrally.

The gross income segmentation of the activity in Portugal and Poland was based on information by business segments, produced for the purposes of internal management and market disclosure. In a first phase, the business segments and operational risk segments that present the greatest perimeter similarities were identified. Subsequently, the necessary transfers between the various segments, of zero sum, were carried out, to achieve a perimeter in line with what is required for the purposes of operational risk, in each segment.

In addition, the calculation of the gross income by activity segments for the Group's foreign operations, excluding Poland, was based on the financial statements of each subsidiary, as previously mentioned. Bearing in mind that these subsidiaries develop a retail activity, they were allocated, in a first phase, to the Retail Banking segment, with exception of the values recorded in the profits and losses arising on financial transactions item, which, by its nature, are immediately placed in the Trading and Sales segment, and subsequently the transfers for achieving a segmentation in line with the defined perimeter for the gross income are carried out. On 31 December 2017, this calculation was carried out for the operations of Switzerland, Mozambique and of Millennium bcp Bank & Trust, with registered office in the Cayman Islands, in addition to ActivoBank, which, although it develops its activity in Portugal, verifies the same assumptions and, thus, follows the same methodology.

Having concluded these procedures and the consolidation of the Group's activities, the segmented gross income was obtained in conformity with the requirements defined for the purposes of operational risk, to which the calculation methodology and the previously mentioned weights were applied, and the respective capital requirements were obtained.

As at 31 December 2017, the Group reported 286 million euros of own funds requirements for operational risk, having reported 261 million euros as at 31 December 2016, computed based on the information presented in Table 63.

## TABLE 63 - GROSS INCOME FOR OPERATIONAL RISK

(Thousand euros)

| Segments | Gross Income 2017 | | |
|---|---|---|---|
| | 2015 | 2016 | 2017 |
| **1. BASIC INDICATOR APPROACH** | | | |
| **2. STANDARD APPROACH** | 2,012,239 | 2,067,059 | 2,287,535 |
| - Corporate finance | 25,732 | 26,571 | 20,267 |
| - Trading and sales | 59,008 | 110,694 | 201,032 |
| - Retail brokerage | 15,605 | 22,259 | 22,599 |
| - Commercial banking | 595,195 | 528,726 | 532,714 |
| - Retail banking | 1,171,260 | 1,242,620 | 1,375,941 |
| - Payment and settlement | 82,552 | 81,657 | 82,104 |
| - Agency services | 37,370 | 28,827 | 23,373 |
| - Asset management | 25,517 | 25,705 | 29,506 |
| **ADVANCED MEASUREMENT APPROACH** | | | |

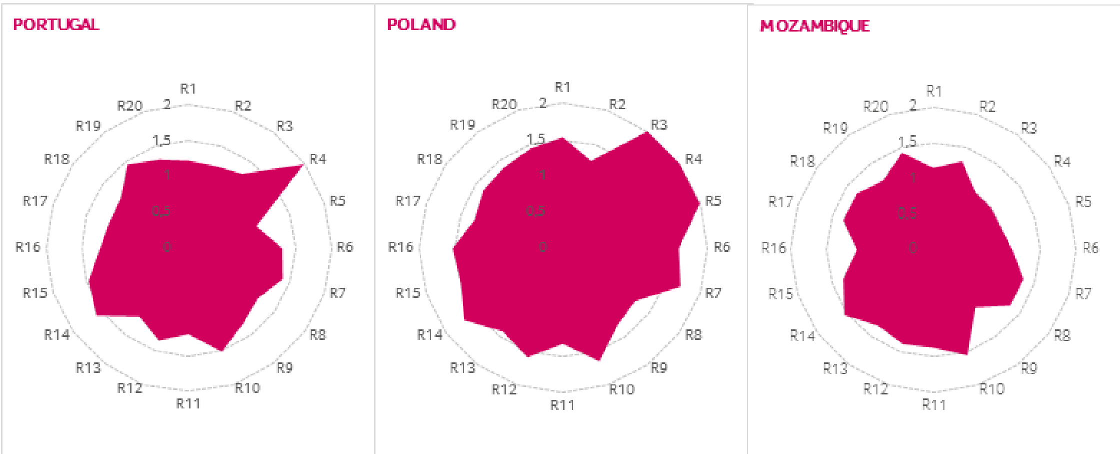
| Segments | Gross Income 2016 | | |
|---|---|---|---|
| | **2014** | **2015** | **2016** |
| **1. BASIC INDICATOR APPROACH** | | | |
| **2. STANDARD APPROACH** | 1,803,587 | 2,012,239 | 2,067,059 |
| - Corporate finance | 21,396 | 25,732 | 26,571 |
| - Trading and sales | -158,204 | 59,008 | 110,694 |
| - Retail brokerage | 23,485 | 15,605 | 22,259 |
| - Commercial banking | 659,978 | 595,195 | 528,726 |
| - Retail banking | 1,115,567 | 1,171,260 | 1,242,620 |
| - Payment and settlement | 85,994 | 82,552 | 81,657 |
| - Agency services | 32,850 | 37,370 | 28,827 |
| - Asset management | 22,521 | 25,517 | 25,705 |
| **ADVANCED MEASUREMENT APPROACH** | | | |

## 10.3. OPERATIONAL RISK MANAGEMENT

Operational risk management is based on an end-to-end process structure, defined for each of the Group's subsidiaries, and the responsibility for their management was given to process owners, who must: characterise operational losses captured within their processes; carry out the Risk Self-Assessment (RSA); identify and implement the appropriate measures to mitigate exposures, contributing to reinforce internal control; and monitor key risk indicators (KRI).

The following graphs show the results of the latest RSA made in Portugal, Poland and Mozambique in terms of the average score of each of the 20 risk sub-types defined for operational risk within the set of processes assessed. The outside border represents a 2.5 score on a scale of 1 (less serious) to 5 (most serious).

GRAPH 3 - RISK SELF-ASSESSMENT RESULTS



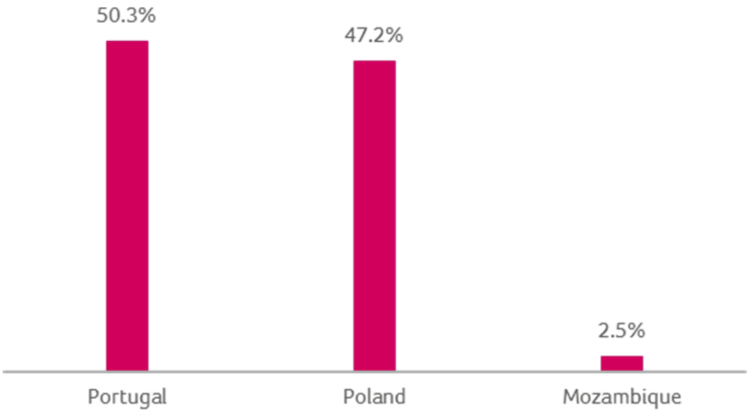

R1 Internal fraud and theft
R2 Execution of unauthorised transactions
R3 Employee relations
R4 Breach of work health & safety regulations
R5 Discrimination over employees
R6 Loss of key staff
R7 Hardware and Software problems
R8 Problems related to telecom services & lines
R9 Systems security
R10 Transaction, capture, execution & maintenance
R11 Monitoring and reporting errors
R12 Customer related errors
R13 Product flaws/errors
R14 External fraud and theft
R15 Property and disasters risks
R16 Regulatory and tax risks
R17 Inappropriate market and business risks
R18 Project Risks
R19 Outsourcing related problems
R20 Other third parties' related problems

The operational losses identified are registered in the Group's operational risk application and connected with the respective process, being assessed and characterised in accordance to their nature. When applicable, a mitigation action is associated with each loss event.

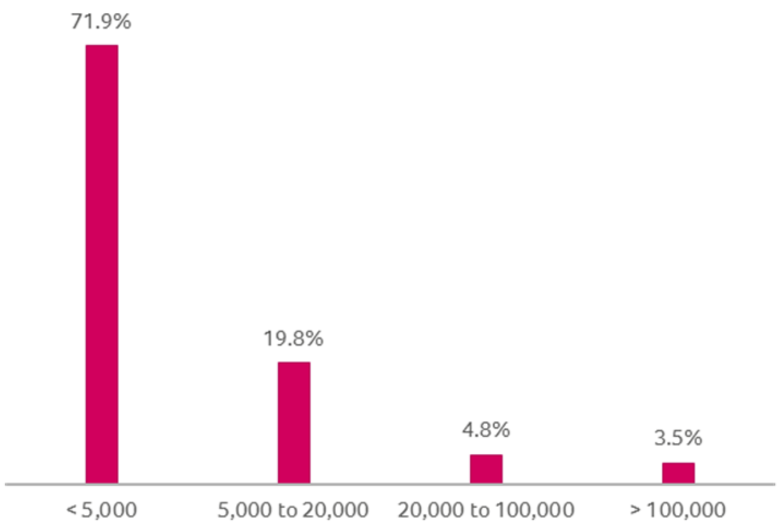
The following graphs feature the profile of accumulated operational losses for 2017, until 31 December.

GRAPH 4 – LOSS AMOUNT DISTRIBUTION, BY CAUSE

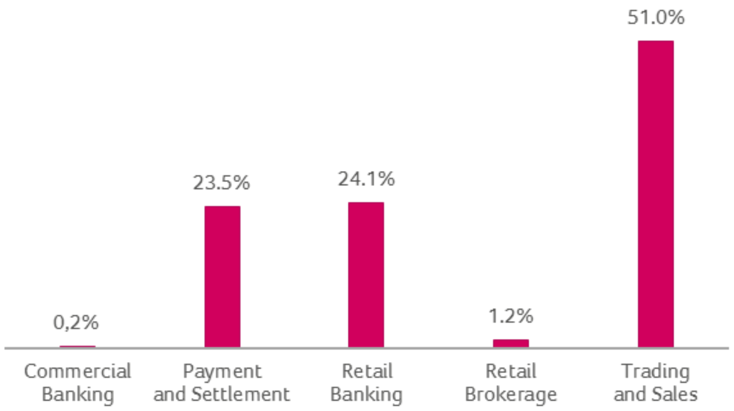

GRAPH 5 – LOSS AMOUNT DISTRIBUTION, BY GEOGRAPHY



GRAPH 6 – LOSS AMOUNT DISTRIBUTION, BY AMOUNT RANGE (IN EUROS)




GRAPH 7 – LOSS ANOUNT DISTRIBUTION, BY BUSINESS LINE




A set of KRI is used by the Group's various operations to monitor the processes risks. These KRI are management instruments represented by metrics that aim at the identification of changes in risk profiles and in controls effectiveness, so as to act preventively and avoid turning potential risk situations into actual losses. Within the processes management, a set of performance and control indicators is also used (Key Performance Indicators and Key Control Indicators) contributing to the detection of risks, even though it is more oriented towards the assessment of operating efficiency.

The Scenario Analysis is an exercise in which all of the macro process owners participate, as well as the top managers of selected Divisions, aiming at the impact assessment of extreme and relevant events - potential risks of high severity (low frequency/high impact) – even if this type of events has never occurred at the Bank. The results of this exercise are integrated in the model that was developed for the ICAAP and this data is also used for risk management and mitigation, thus contributing to the reinforcement of the internal control environment.

At the same time, the Group continued to strengthen and perfect its business continuity management along 2017, with a focus on the update of strategies, procedures and existing documentation, as well as on the regular exercises of business recovery, technological recovery and crisis management, in order to improve its response capability to incidents, articulating all teams involved at different stages of the exercises.

Within the Group, this matter is aimed at ensuring the continuity of the main business (or business support) activities, in the face of a catastrophic event or of a serious contingency, and is handled through two distinct – but complementary - plans:

• The Disaster Recovery Plan, for communication systems and infrastructures; and

• The Business Continuity Plan, for people, premises and equipment required for the minimum support of selected processes, deemed critical.

It should be noted that the management of this specific operational risk area is designed, promoted and coordinated across the Group by a specific structure unit.

In addition, the Group maintains an insurance contracting policy as an instrument to mitigate potential financial impacts associated with the occurrence of operational risks, by transferring, partially or in full, the risks pertaining to assets, people or liabilities before third parties.

The proposals for new insurances are submitted by the process owners, within the scope of the operational risk management powers regarding their processes, or presented by the heads of areas or structure units, being analysed by the Internal Control and Operational Risk Monitoring Commission and subjected to a decision by the EC. Within the scope of insurance contracts in Portugal, the specialised technical and commercial functions involved are attributed to the Insurances Management Unit (IMU), a unit that encompasses all the Group's entities operating in Portugal. The IMU shares information with the Risk Office, aiming to strengthen insurance coverage and the quality of the operational losses database.