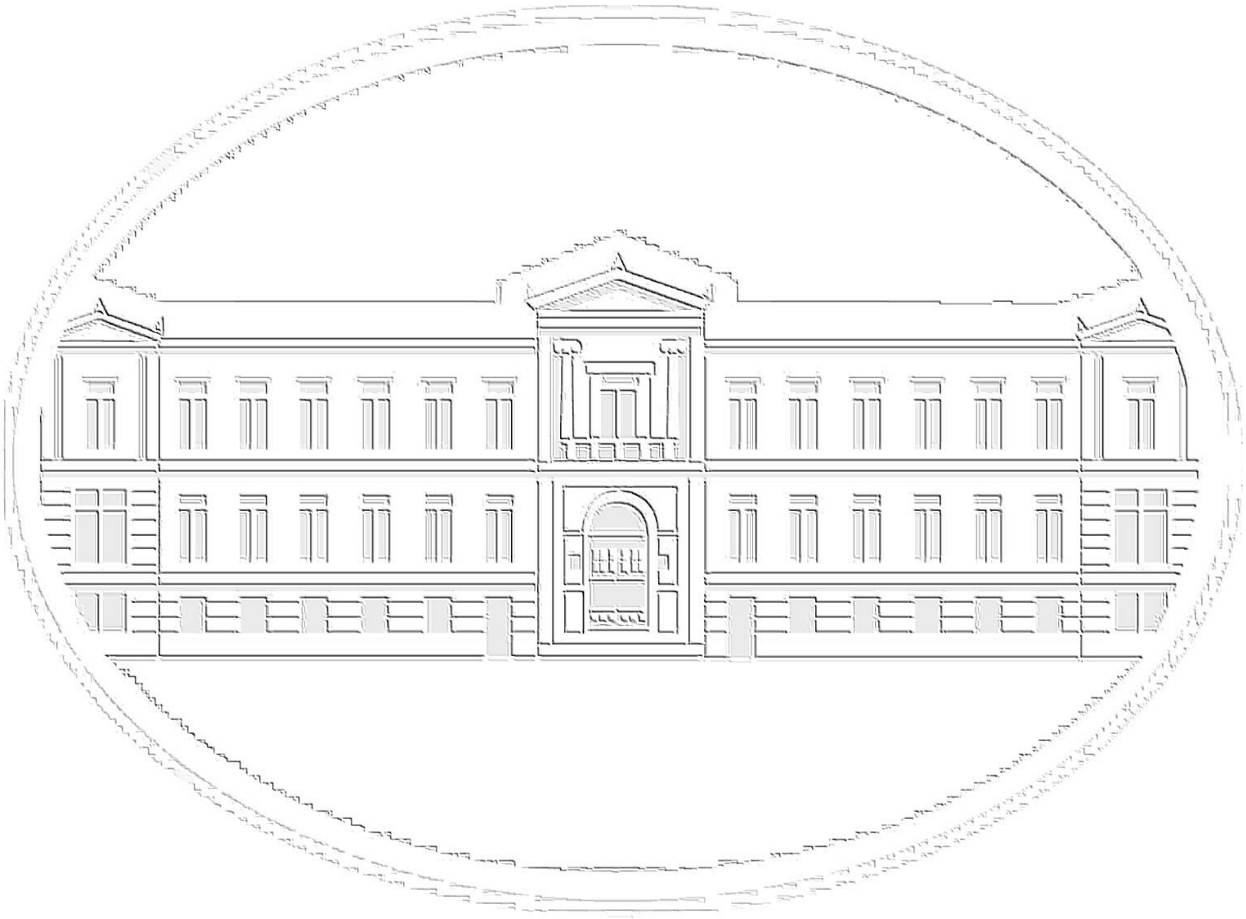
NATIONAL BANK OF GREECE S.A.



Pillar III Disclosures
on a Consolidated Basis

31 December 2017

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List of abbreviations

Abbreviation	Definition	Abbreviation	Definition
ABS	Asset-Backed Securities	**IFRS**	International Financial Reporting Standards
AFS	Available for Sale	**IMA**	Internal Model Approach
A-IRB	Advanced Internal Ratings Based (Approach)	**IRB**	Internal Ratings Based (approach)
ALCO	Asset Liability Committee	**IRRBB**	Interest Rate Risk in the Banking Book
AMC	Asset Management Companies	**ISDA**	International Swaps and Derivatives Association
ATHEX	Athens Exchange	**IT**	Information Technology
BC	Bankruptcy Code	**ITS**	Implementing Technical Standards
BCBS	Basel Committee on Banking Supervision	**IVS**	International Valuation Standards
BoG	Bank of Greece	**JST**	Joint Supervisory Team
bps	Basis Point	**KPI**	Key Performance Indicator
BRC	Board Risk Committee	**LCR**	Liquidity Coverage Ratio
BRRD	Bank Recovery and Resolution Directive	**LGD**	Loss Given Default
BU	Business Unit	**LR**	Leverage Ratio
CCF	Credit Conversion Factor	**M&A**	Mergers and Acquisitions
CCP	Code of Civil Procedure	**MDA**	Maximum Distributable Amount
CCR	Counterparty Credit Risk	**MoB**	Months on Book
CCyB	Countercyclical Capital Buffer	**MRA**	Moody's Risk Advisor
CEBS	Committee of European Banking Supervisors	**MRO**	Main Refinancing Operations
CEF	Credit Equivalent Factor	**MVS**	Model Validation Sector
CEO	Chief Executive Officer	**MVU**	Model Validation Unit
CET1	Common Equity Tier 1	**NBG**	National Bank Of Greece, S.A
CFO	Chief Financial Officer	**NCA**	National Competent Authority
CMS	Collateral Management System	**NII**	Net Interest Income
COO	Chief Operations Officer	**NPE**	Non Performing Exposure
CRD	Capital Requirements Directive	**NPL**	Non Performing Loan
CRM	Corporate Rating Model	**NPV**	Net Present Value
CRO	Chief Risk Officer	**NRA**	National Resolution Authorities
CRR	Capital Requirements Regulation	**NSFR**	Net Stable Funding Ratio
CSA	Credit Support Annex	**O/N**	Overnight
CVA	Credit Valuation Adjustment	**OCP**	Open Currency Position
DGSD	Deposit Guarantee Schemes Directive	**OCR**	Overall Capital Requirement
dpd	days past due	**OCW**	Out-of-Court Workout
DTA	Deferred Tax Asset	**OR**	Operational Risk
DTC	Deferred Tax Credit	**ORMF**	Operational Risk Management Framework
EAD	Exposure at Default	**ORR**	Obligors' Risk Rating
EBA	European Banking Authority	**O-SII**	Other Systemically Important Institution
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortization	**OTC**	Over-the-counter
EC	European Commission	**P&L**	Profit and Loss
ECAI	External Credit Assessment Institutions	**P2G**	Pillar 2 Guidance
ECB	European Central Bank	**P2R**	Pillar 2 Requirement
ECL	Expected Credit Losses	**PD**	Probability of Default
EDIS	European Deposit Insurance Scheme	**PE**	Performing Exposures
EFSF	European Financial Stability Facility	**PMO**	Project Management Office
EL	Expected Loss	**ppts**	Percentage points
ELA	Emergency Liquidity Assistance	**PSE**	Public Sector Entity
ESM	European Stability Mechanism	**PSI**	Private Sector Involvement

Abbreviation	Definition	Abbreviation	Definition
ETEAN	Hellenic Fund for Entrepreneurship and Development	**RAF**	Risk Appetite Framework
EU	European Union	**RCSA**	Risk and Control Self-Assessment
EVE	Economic Value of Equity	**RTS**	Regulatory Technical Standards
EVS	European Valuation Standards	**RWA**	Risk Weighted Assets
EW	Early Warning	**SA**	Standardized Approach
FBE	Forborne Exposures	**SAU**	Special Assets Unit
FI	Financial Institution	**SB(L)**	Small Business (Lending)
F-IRB	Foundation internal ratings-based (approach)	**SEC**	Securities and Exchange Commission
FRTB	Fundamental Review of the Trading Book	**SL**	Specialised Lending
FVTOCI	Fair Value Through Other Comprehensive Income	**SME**	Small & Medium Enterprises
FVTPL	Fair Value Through Profit or Loss	**SPPI**	Solely Payments of Principal and Interest
FX	Foreign Exchange	**SPV**	Special Purpose Vehicle
GAAP	Generally Accepted Accounting Principles	**SRB**	Single Resolution Board
GGB	Greek Government Bond	**SREP**	Supervisory Review and Evaluation Process
GHOS	Governors and Heads of Supervision	**SRM**	Single Resolution Mechanism
GL	Guidelines	**SSM**	Single Supervisory Mechanism
GMORM(D)	Group Market & Operational Risk Management (Division)	**ST**	Stress Test
GMRA	Global Master Repurchase Agreement	**sVaR**	Stressed Value at Risk
GRCA(D)	Group Risk Control & Architecture (Division)	**TLAC**	Total Loss Absorbing Capacity
G-SII	Global Systemically Important Institution	**TLTRO**	Targeted Long-Term Refinancing Operations
HFSF	Hellenic Financial Stability Fund	**TRIM**	Targeted Review of Internal Models
HRRC	Human Resources and Remuneration Committee	**TSCR**	Total SREP Capital Requirement
IAS	International Accounting Standards	**UBB**	United Bulgarian Bank
ICAAP / ILAAP	Internal Capital / Liquidity Adequacy Assessment Process	**VaR**	Value at Risk
ICT	Information and Communication Technology	**VCV**	Variance-Covariance

1. INTRODUCTION – GENERAL INFORMATION

National Bank of Greece (the "Bank" or "NBG") is a financial institution subject to Greek and EU banking legislation. It was founded in 1841 and operated both as a commercial bank and as the official state currency issuer until 1928, when Bank of Greece was established. NBG has been listed on the Athens Stock Exchange since 1880.

The Bank focuses on complying fully with the regulatory requirements and ensures that these requirements are strictly and consistently met in all countries where NBG Group (the "Group") operates. Moreover, due to the fact that NBG is registered with the US Securities and Exchange Commission ("SEC"), the Bank is also subject to US legal and regulatory framework (Sarbanes Oxley Act and SEC rules).

NBG Group offers a wide range of financial services, including retail and corporate banking, asset management, real estate management, financial, investment and insurance services. The Group operates in Greece, the United Kingdom, South-eastern Europe, Cyprus, Malta, Egypt and South Africa.

The Bank, as an international organisation operating in a rapidly growing and changing environment, acknowledges its Group's exposure to banking risks and the need for these risks to be managed effectively. Risk management forms an integral part of the Group's commitment to pursue sound returns for its shareholders, maintaining the right balance between risks and performance in the Group's day-to-day operations, in its balance sheet and in the Group's capital structure management.

1.1. Recent Regulatory Developments

1.1.1. Banking Union

The Main Pillars

Several steps have been made towards the European Banking Union (mandatory for all euro area states). The following are the Banking Union's constituent elements:

A. The ***Single Supervisory Mechanism (SSM)*** that places the European Central Bank (ECB) as the central prudential supervisor of financial institutions in the euro area. In November 2014, NBG Group's supervision was assigned directly to the ECB, since NBG is classified as one of the significant banking groups of the Eurozone.

B. The ***Single Resolution Mechanism (SRM)*** that implements the EU-wide Bank Recovery and Resolution Directive (BRRD – *see next paragraph*) in the euro area. The centralised decision-making is built around the Single Resolution Board (SRB) and the relevant National Resolution Authorities.

C. The ***Single Rulebook***, a single set of harmonised prudential rules for institutions throughout the EU. Its three basic legal documents are:

- ***CRD IV***: Directive 2013/36/EU of the European Parliament and Council "*on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms*", transposed into Greek legislation by virtue of Law 4261/2014
- ***CRR*** (Capital Requirements Regulation): Regulation (EU) No. 575/2013 of the European Parliament and Council "*on prudential requirements for credit institutions and investment firms*", which is legally binding and directly applicable in all Member States and
- ***BRRD***: Directive 2014/59/EU of the European Parliament and Council "*establishing a framework for the recovery and resolution of credit institutions and investment firms*", transposed into Greek legislation by virtue of article 2 of Law 4335/2015.

These three documents are complemented by numerous Implementing Technical Standards (ITS), Regulatory Technical Standards (RTS), Guidelines (GL) and Recommendations issued by the European Banking Authority (EBA), which specify particular aspects of the CRD IV, the CRR and the BRRD and aim at ensuring harmonisation in specific areas. EBA's Technical Standards have to be endorsed by the European Commission (EC) and become EU Regulations in order to be legally binding and directly applicable in all Member States.

The CRD IV and the CRR constitute the "Basel III" regulatory framework in the EU.

D. ***Deposit Guarantee Schemes (DGSD)***: Directive 2014/49/EU of the European Parliament and Council "*on deposit guarantee schemes*", transposed into Greek legislation by virtue of Law 4370/2016. A common European Deposit Insurance Scheme (EDIS) is intended to be a pillar of the Banking Union (the European Commission put forward a relevant proposal in November 2015). The legislative process is in progress. However, a common system for deposit protection has not yet been established.

The European Commission Banking Reform Package: CRR2/CRD5/BRRD2

On November 23rd, 2016, the European Commission presented a comprehensive package of reforms aimed at amending CRR, CRD IV, as well as the BRRD and the SRM. The package, known as "CRR2/CRD5", was submitted to the European Parliament and the Council for their consideration and adoption.

The proposed legislation implements components of the Basel III framework in the EU, including giving effect to TLAC, the NSFR, the leverage ratio and potentially the FRTB. But it excludes the package of Basel reforms that was agreed on 7 December 2017 by the Basel Committee on Banking Supervision (BCBS) often referred to as "Basel 4" (see relevant section below).

Negotiations between the Council, the Parliament and the Commission are in progress during 2017 and 2018. However, it is estimated that the package will not be aggreed and entered into EU law before mid-2019.

Minimum Requirement for own funds and Eligible Liabilities (MREL)

MREL represents one of the key tools to improve banks' resolvability, allowing resolution authorities to maintain critical functions and restore a bank's capital position after resolution.

The Single Resolution Board (SRB) along with the Banking Union national resolution authorities (NRAs) published the 2017 policy statement (December 2017) on the MREL. The policy statement highlights that for the 2017 resolution planning cycle SRB is moving from informative targets—communicated in the 2016 MREL policy—to bank-specific binding consolidated MREL targets for the majority of the largest and most complex banks under the SRB remit. The MREL computation will remain calibrated for bail-in strategies, until transfer strategy policies are further fine-tuned and operationalized. The SRB MREL policy contains an objective set of criteria in this regard and represents a step toward bank-specific MREL targets.

Other key changes with respect to the 2016 default approach include broadening the policy to include a number of bank-specific adjustments, enhancing requirements for eligible liabilities and expecting a minimum level of subordination. The SRB also adopted a proportionate approach for banks to build their binding MREL targets by setting bank-specific transition periods with a maximum horizon of four years, with interim targets for transition periods exceeding two years. The 2017 MREL policy will be further developed in line with the SRB roadmap to MREL.

1.1.2. Basel Committee on Banking Supervision

Finalisation of Basel 3 (''Basel 4'')

The Basel Committee's oversight body, the Group of Central Bank Governors and Heads of Supervision (GHOS), incorporated on December 7th, 2017 a set of revisions into the Basel 3 framework to restore credibility in the calculation of risk-weighted assets (RWAs) and improve the comparability of banks' capital ratios.

The Committee's Basel III finalisation reforms ("Basel 4") complement the initial phase of Basel 3 reforms by:

• enhancing the robustness and risk sensitivity of the standardised approaches for credit risk, credit valuation adjustment (CVA) risk and operational risk

• constraining the use of the internal model approaches, by placing limits on certain inputs used to calculate capital requirements under the internal ratings-based (IRB) approach for credit risk and by removing the use of the internal model approaches for CVA risk and for operational risk

• introducing a leverage ratio buffer to further limit the leverage of global systemically important banks and

• replacing the existing Basel I output floor with a more robust risk-sensitive floor based on the Committee's revised Basel III standardised approaches. The final agreement reached is to calibrate the standardised approach outpout floor at 72.5 percent and phase its implementation over five years between 2022 and 2027.

The Basel Committee's standards are global minimum standards. Once the Committee agrees on a standard, its member jurisdictions are responsible for adopting this standard into their law or regulation. The implementation of these reforms in the EU will require amendments to current banking regulations, predominantly the CRR (Regulation (EU) No 575/2013).

Revisions of Market Risk minimum capital requirements

In 2016, the Basel Committee on Banking Supervision published the standard Minimum capital requirements for market risk (BCBS: "Minimum capital requirements for market risk", January 2016). This new market risk standard was developed to address a number of structural shortcomings in the Basel II market risk framework (and its subsequent revisions), and served as a key component of the Basel Committee's reform of global regulatory standards in response to the global financial crisis.

Since then, the implementation date of the standard (also known as "the Fundamental Review of the Trading Book" – FRTB) has been extended for January 1st, 2022, to allow banks additional time to develop the systems infrastructure needed to apply the standard and for the Committee to address certain specific outstanding issues. In addition, in order to address the issues with the standard that the Committee has identified, a number of revisions to the standard have been proposed via a consultation paper (BCBS: "Consultative Document – Revisions to the minimum capital requirements for market risk", March 2018).

The consultative document includes proposed changes to the following aspects of the standard:

- Changes to the measurement of the standardised approach to enhance its risk sensitivity
- Recalibration of standardised approach risk weights for general interest risk, equity risk and FX risk
- Revisions to the assessment process to determine whether a bank's internal risk management models appropriately reflect the risks of individual trading desks
- Clarifications to the requirements for identification of risk factors that are eligible for internal modelling and
- Clarifications to the scope of exposures that are subject to market risk capital requirements.

Furthermore, a recalibration of the Basel II standardised approach is proposed for use by banks with less material market risk exposures to determine their capital requirements.

Sovereign Risk

In January 2015, the Basel Committee on Banking Supervision set up a high-level Task Force on Sovereign Exposures to review the regulatory treatment of sovereign exposures and to recommend potential policy options. In December 2017 the Committee published a discussion paper (BCBS: "Discussion Paper – The regulatory treatment of sovereign exposures") based on the Task Force's report. The Committee's view is that the issues raised and the potential ideas outlined in the discussion paper issued for comment by 9 March 2018 are important, and could benefit from a broader discussion. However, at this stage the Committee has not reached a consensus to make any changes to the treatment of sovereign exposures.

The discussion paper sets out the Committee's analysis on the sources and channels of sovereign risk in the banking system, and includes ideas related to the regulatory treatment of sovereign exposures, seeking to balance prudential risk with other holistic considerations in the context of enhancing financial stability.

The proposal for regulatory treatment of sovereign exposures is summarised as follows:

- A broader definition of sovereigns divided into exposures to the central government, central banks, and other sovereign exposures (PSEs). Under certain conditions, exposures to other sovereign entities can be treated as an exposure to the central government.
- Positive standardised risk weights for most sovereign exposures in the banking and trading book.
- Removal of national discretion to apply a lower risk weight for sovereign exposures denominated and funded in the domestic currency of the sovereign entity.
- Domestic-currency central government exposures could be subject to lower risk weights than foreign-currency central government exposures.
- Removal of IRB approach for sovereign exposures, due to inability for banks to robustly model risk parameters (e.g. PD and LGD) for sovereign exposures, or alternatively removal only of the A-IRB approach and retain the F-IRB approach.
- Removal of national discretion to apply zero haircut for sovereign repo-style transactions.
- Consideration of different risk-weighted treatment for sovereign exposures that are both denominated and funded in the currency of the issuer.
- Introduction of marginal risk weight add-ons to mitigate concentration risk for most sovereign exposures.
- Guidance and supervisory responses on monitoring and stress testing of sovereign exposures in a manner that appropriately captures risks associated with such exposures.
- Disclosures of sovereign exposures and risk weighted assets by jurisdiction, currency denomination and accounting classification.

1.1.3. NPE's Management Framework

ECB Final Guidance on NPLs

On March 20th, 2017, the ECB published the final *Guidance to banks on non-performing loans* (NPLs). The guidance marks an important step in addressing NPLs across the euro area.

The ECB calls on banks to implement realistic and ambitious strategies to work towards a holistic approach regarding the problem of NPLs. This includes areas such as governance and risk management. The ECB does not stipulate quantitative targets to reduce NPLs. Instead, it asks banks to devise a strategy that could include a range of policy options such as NPL work-out, servicing, and portfolio sales. The ECB will apply the principle of proportionality and adjust its level of intrusiveness depending on the scale and severity of the NPLs in the banks' portfolios.

The guidance provides short-term and long-term options on viable forbearance solutions with the aim of returning the exposure to a situation of sustainable repayment. It guides banks on how to measure impairment and write-offs in line with international recommendations. It also outlines the policies, procedures and disclosures banks should adopt when valuing immovable property held as collateral for NPLs.

In addition to the aforementioned Guidance, the ECB published an addendum in March 18th, 2018, specifying its supervisory expectations for prudent levels of provisions for new NPLs. More specifically, the addendum addresses loans classified as NPLs in line with the European Banking Authority's definition after 1 April 2018 and specifies supervisory expectations for provisioning of new NPLs. This Addendum does not bind banks, but serves as a basis for a supervisory dialogue. Banks will be asked to inform the ECB of any differences between their practices and the prudential provisioning expectations, as part of the SREP supervisory dialogue, from early 2021 onwards.

EBA consultation on NPE management

On March 8th, 2018, the EBA launched a consultation paper on its Guidelines for credit institutions on how to effectively manage non-performing exposures (NPEs) and forborne exposures (FBEs). The Guidelines specify sound risk management practices for credit institutions for managing NPE and FBE, looking at the governance and operations of a NPE workout framework, the internal control framework and NPE monitoring, as well as early warning processes.

The Consultation paper asks for views on the threshold for assessing high NPE banks noting that credit institutions with elevated levels of NPEs, measured as a NPL ratio of 5% or above, should establish a NPE strategy and related governance and operational arrangements. Effective governance covers all responsibilities that banks have, including treating customers fairly.

The Consultation Paper also sets out requirements on processes to recognise NPEs and FBEs, as well as a forbearance granting process with a focus on the viability of forbearance measures. On the latter, the Consultation paper suggests that forbearance measures should be granted only when they aim to restore sustainable repayment by the borrower and are thus in the borrower's interest. Credit institutions are expected to monitor efficiency and effectiveness of forbearance measures and have in place policies and processes to assess borrowers' financial difficulties and identification of NPEs.

Finally, the Consultation Paper sets out requirements for competent authorities' assessment of credit institutions' NPE management activity as part of the Supervisory Review and Evaluation Process (SREP).

European Commission proposals for NPLs

On March 14th, 2018, the Commission proposed an ambitious and comprehensive package of measures to tackle non-performing loans (NPLs) in Europe, capitalising on the significant progress already made in reducing risks in the banking sector.

This package sets out a comprehensive approach with a mix of complementary policy actions that target four key areas:

- Ensuring that banks set aside funds to cover the risks associated with loans issued in the future that may become non-performing.
- Encouraging the development of secondary markets where banks can sell their NPLs to credit servicers and investors.
- Facilitating debt recovery, as a complement to the insolvency and business-restructuring proposal put forward in November 2016.
- Assisting Member States that so wish by providing non-binding guidance – a blueprint – for establishing Asset Management Companies (AMCs) or other measures dealing with NPLs.

With this package, the Commission is delivering on the European Council's Action Plan to address the high stock of NPLs and prevent their possible future accumulation. Even though the European Parliament and the Council welcomed the proposed measures, the process of negotiations between the Council, the Parliament and the Commission has not been started yet.

Greece's NPL Supervisory and Legislative Update

- *OCW - Law 4469/2017*

Under the provisions of Law 4469/2017, an out-of-court (OCW) mechanism has been established for the settlement of business or other debt towards various creditors including Financial Institutions. Specific criteria for eligibility apply, which refer to the ageing of outstanding debts, a minimum threshold of total debt of 20,000 euros and positive EBITDA or equity during at least one of the last three financial periods. The process uses an electronic platform for the submission and management of petitions, under the supervision of the Ministry of Finance.

By means of Joint Ministerial Decision No 130060/29.11.2017, a simplified procedure was introduced for businesses eligible to apply for Law 4469/2017, with total debt up to 50,000 euros.

- *Electronic Auctions – Laws 4472/2017 and 4475/2017*

The real estate collateral liquidation process has been significantly improved as per the above-mentioned Laws, which amended the Code of Civil Procedure by introducing the option of electronic auction. Notarial Associations were supposed to develop their own web platforms through which auctions could be conducted. By the end of the year, the largest Notarial Association had completed the development of its platform, namely the site www.eauction.gr, which hosted the first electronic auctions in late November. Notaries from other Associations were also possible to register and conduct e-auctions through this platform, in case their Associations had not yet developed their own. Additionally, a ministerial decree provided for a special deposit account, protected from confiscation, to be used by Notaries for the purposes of receiving amounts under the electronic auctions' process. The successful implementation of the electronic auction platform enhanced efficiency and effectiveness of the process, which has already led, in early 2018, to a new legislative amendment, by means of Law 4512/2018, fully abolishing the physical auctions held in Courts. The functionality of the platform was developed in close collaboration of the Hellenic Bank Association, the Notaries' Associations and the banks. Adequate training was organized for all involved parties and, despite some initial reservations, the number of notaries registered in the platform increased, covering, today, the entire country.

Following the provisions of Law 4472/2017, Ministerial Decision No 41756/26.05.2017 was issued, regarding the conduct of auctions with the use of electronic means, as in force upon issuance of Ministerial Decision No 46904 /2017.

- *Further amendments of Law 4472/2017*

a) Simplified procedure on small business bankruptcies

b) Art. 162 and 163 of the Bankruptcy were revised, to introduce an expedited procedure on bankruptcies of small businesses. The said procedure provides for shorter time periods as to verification of claims, objections by creditors and resolving of disputes, liquidation of movable and immovable bankruptcy assets and bankruptcy conclusion. Amendment of provisions of Law 4354/2015 on assignment and transfer of Non-Performing Loan/claims (NPLs).

The said law was amended accordingly, to the end of assigning or transferring performing debts.

c) Liability of State and Credit Institution Representatives deriving from loan or other debt restructuring.

Article 65 of the said Law provides for liability issues on debt restructuring, setting out specific terms and conditions for the exclusion of such liability and potential breach of duty on behalf of Bank officers and State officials. The main conditions for such exclusion are the partial collection of claims via the restructuring deeds, abiding by so called "no worse-off" principle and, solely as to bank officers, the compliance to the relevant legal and supervisory rules and regulations, as well as acting within the bank committees' decisions.

The aforementioned exemption from liability applies to restructuring and management in the context of the Bankruptcy Code and Laws 3869/2010 (household bankruptcy), 4261/2014, 4354/2015, as well as bilateral agreements with debtors.

- *Law 4491/2017 – Minor amendments on Bankruptcy Code provisions*

By means of Art 14 of the said Law, specific provisions of the Bankruptcy Code are amended, as to technical and procedural issues (announcements to public registries, creditors' consent to preventive/injunctions measures in the context of rehabilitation process, ambit of provisions amended and added by Law 4446/2016 etc.)

- *Law 4512/2018 Exceptional ranking provisions on Code of Civil Procedure (CCP) and Bankruptcy Code (BC)*

Pursuant to art. 176 of the said Law, two "mirror" provisions, art. 977A and 156A are established in CCP and BC, respectively.

According to the said provisions, a different and separate ranking of creditors takes place upon fulfilment of the following cumulative conditions:

- Secured claims arising (granted) from 18.01.2018 onwards
- Security established on asset to be liquidated from 18.01.2018 onwards, securing the aforementioned claims
- Security established on asset free of burden on 18.01.2018

In this case, a quantitatively limited (up to 9,670 euros per employee) super seniority labor claim is acknowledged, which supersedes any other claim. Upon satisfaction of the said claim, secured creditors are satisfied in full, followed by preferential and unsecured creditors, consecutively. The former class excludes the latter until exhaustion of auction/liquidation proceeds.

- *Bank of Greece Acts*

  - CREDIT AND SECURITY ISSUES COMMITTEE: Meeting 221/17.3.2017 "Application of Code of Conduct to debtors of credit institutions under special liquidation". By means of the Committee's Decision, amendments and add-ons were made as to the application of Code of Conduct to debtors of credit and financial institutions under special liquidation.
  - EXECUTIVE COMMITTEE ACT 118/19.5.2017 titled "Framework for the establishment and operation of Administration Entities as to claims from loans and credits of Law 4354/2015 – Replacement of EEA 95/ 27.5.2016". The Committee's Act provides for the licensing process of entities administrating claims from loans and credits, the structuring prerequisites for such entities and their ongoing obligations, as well as the ways and means of supervision by the BoG.

1.1.4. Pillar 2 (SREP, ICAAP / ILAAP)

EBA Pillar 2 Update

The supervisory review and evaluation process (SREP) is the key mechanism by which supervisors review the risks not covered, or not fully covered, under Pillar 1 and decide whether capital and liquidity resources are adequate. Its main constituents are: (i) the business model assessment, (ii) the governance and risk management assessment, (iii) the assessment of risks to capital (including ICAAP) and (iv) the assessment of risks to liquidity and funding (including ILAAP). Supervisors can use the SREP to decide that additional Pillar 2 required capital is needed, as a new minimum, where Pillar 1 does not capture the risks adequately. In addition, supervisors review whether banks are able to meet relevant capital requirements in adverse economic circumstances. Stress tests are a key component of this latter assessment.

On April 11th, 2017, the EBA issued a roadmap outlining its plans to update the common European framework for the SREP. The roadmap explains the multi-stage approach the EBA intends to follow in updating the EU SREP framework in 2017-2018 and beyond, and summarises the ongoing policy initiatives affecting Pillar 2/SREP that will need to be reflected in the revised EBA guidelines on Pillar 2 topics. In this context the EBA, launched in October 31st, 2017 consultation papers to review three guidelines aimed at further enhancing institutions' risk management and supervisory convergence in the supervisory review and examination process (SREP). The revisions focus on stress testing, particularly its use in setting Pillar 2 capital guidance (P2G), as well as interest rate risk in the banking book (IRRBB).

In particular, the publications include:

1. An update of the EBA guidelines on common procedures and methodology for Supervisory Review and Evaluation Process (SREP Guidelines)
2. An update of the EBA guidelines on institutions' stress testing. These guidelines aim at achieving convergence of practices followed by institutions for stress testing across the EU. They provide detailed guidance to be complied with by institutions when designing and conducting a stress testing programme/framework. The EBA issues these guidelines to cover and update the CEBS guidelines on institutions' stress testing (GL 32), to reflect industry practices and the incorporation of recovery planning. The revised guidelines also feature a common taxonomy on stress testing.
3. An update of the EBA guidelines on the management of interest rate risk arising from non-trading activities (IRRBB Guidelines). The aim of these guidelines is to set out supervisory expectations regarding the management of interest rate risk arising from non-trading book activities (IRRBB). These guidelines build upon the EBA Guidelines published on 22 May 2015 and take account of existing supervisory expectations and practices including the Standards on Interest rate risk in the banking book published by the Basel Committee on Banking Supervision (BCBS Standards) in April 2016.The BCBS Standards will be implemented within the EU in two phases. Firstly, through this update of the EBA Guidelines, and, secondly, through the ongoing revision of the CRD and the CRR and the enactment of a number of technical standards that are expected to be mandated to the EBA in the revised CRD and CRR. The revisions, which will be incorporated in the CRD 5/ CRR2 framework, highlight that institutions should develop and use their own internal arrangements to identify, measure, monitor and control IRRBB, while respecting supervisory expectations set out in these guidelines.

The overall existing SREP framework and Guidelines remain intact and the consultation is only focused on the elements being updated. In accordance with the Pillar 2 Roadmap, these three guidelines are being consulted in parallel and are expected to be implemented by 1 January 2019 for the 2019 cycle of SREP and joint decisions on institution-specific prudential requirements.

ECB Guidance on ICAAP/ILAAP

Banks submit ICAAP and ILAAP information packages to their Joint Supervisory Teams (JSTs) on a yearly basis. The JSTs take those packages into account in the annual assessments as part of the Supervisory Review and Evaluation Process (SREP).

In February 20th, 2017, the ECB initiated a multi-year project to develop comprehensive SSM Guides on ICAAP and ILAAP for significant institutions. In March 2nd, 2018 the ECB launched a public consultation on draft Guides on ICAAP and ILAAP. According to this consultation, banks are expected to assess the risks they face, and in a forward-looking manner ensure that all material risks are identified, effectively managed and covered by adequate capital and liquidity levels at all times. The ICAAP and ILAAP are, above all, internal processes and remain the responsibility of individual institutions to implement in a proportionate manner (i.e. the ICAAP and ILAAP have to be commensurate with the institution's business model, size, complexity, riskiness, market expectations, etc).

Below are the seven relevant ECB principles:

- ✓ Principle 1: The management body is responsible for the sound governance of the ICAAP/ILAAP.
- ✓ Principle 2: The ICAAP/ILAAP is an integral part of the management framework of an institution.
- ✓ Principle 3: The ICAAP/ILAAP contribute fundamentally to the continuity of the institution by ensuring its capital/liquidity adequacy from different perspectives.
- ✓ Principle 4: All material risks are identified and taken into account in the ICAAP/ILAAP.
- ✓ Principle 5: For ICAAP the internal capital is of high quality and clearly defined. For ILAAP the internal liquidity buffers are of high quality and clearly defined/ the internal stable sources of funding are clearly defined.
- ✓ Principle 6: ICAAP/ILAAP risk quantification methodologies are adequate, consistent and independently validated.
- ✓ Principle 7: Regular stress testing is aimed at ensuring capital/liquidity adequacy in adverse circumstances.

Institutions are encouraged to address any gaps or weaknesses in their ICAAPs and ILAAPs in close dialogue with their Joint Supervisory Team at the ECB, which will start using the guides as from 2019 when assessing ICAAPs and ILAAPs.

1.1.5. Internal Models

Targeted Review of Internal Models (TRIM)

Banks can use internal models to determine their Pillar 1 own funds requirements, i.e. the minimum amount of capital they must hold by law.The targeted review of internal models, or TRIM, is an ECB project to assess whether the internal models currently used by banks comply with regulatory requirements, and whether their results are reliable and comparable.

The ECB has decided to perform a TRIM for credit risk, market risk and counterparty credit risk. The objective is twofold: (a) to reduce the unwarranted variability in RWAs by harmonising practices and (b) to check compliance with the regulatory requirements related to Pillar 1 internal models. The review covers a number of qualitative and quantitative criteria. TRIM was launched in late 2015 and is expected to be finalised in 2019. All significant institutions of the Eurozone with approved Pillar 1 internal models are in scope.

Between the second half of 2016 and the 2nd quarter of 2018 the Bank has entered TRIM's execution phase and more specific:

- The General Topic review
- The investigation of its internal model for Market Risk
- The investigation of its internal model for Credit Risk of the exposure class "Retail - Secured by real estate non-SME" (mortgage portfolio).

During the second half of 2018 the NBG model to be investigated is the credit risk (IRB) model for Corporate exposures.

Draft ECB guide to internal models - General topics chapter

In March 28th, 2018 the ECB in order to ensure that banks apply rules on internal models in a consistent manner, published the first chapter of its guide to internal models for consultation. This chapter of the guide is devoted to general topics and contains principles for non-model-specific topics, in particular for the internal ratings-based (IRB) approach: overarching principles, implementation of the IRB approach, internal model governance, internal validation, internal audit, model use, model change management and third-party involvement.

Upon finalisation, the complete guide will also include model-specific chapters for credit, market and counterparty credit risks. The ECB will consult on these chapters at a later date. The guide was drafted in close cooperation with the national competent authorities (NCAs) and draws on the experience gained in the context of the TRIM project.

The EBA regulatory review of the IRB Approach

The EBA is conducting a regulatory review of the internal ratings-based (IRB) approach for credit risk. The proposed changes to the regulatory framework aim at addressing the concern about the lack of comparability of capital requirements determined under the IRB approach across EU institutions, and take the form of RTS and GL that are introduced sequentially. According to the EBA, the effective implementation of the changes in all areas should be finalised by the end of 2020.

Within this context, a number of Guidelines, Regulations and Reports have been published during the last months:

- ✓ EBA final Guidelines on the estimation of risk parameters under the IRB Approach (Guidelines on PD and LGD estimation EBA/GL/2017/16)
- ✓ Regulation EU 2018/171 supplementing Regulation (EU) No 575/2013 (CRR) on the materiality threshold for credit obligations past due
- ✓ EBA assessment of the current credit risk mitigation framework.

In the same context, the ECB sent to all institutions under SSM supervision using the IRB Approach updated information on the process for the implementation of the new definition of default under Article 178 of Regulation (EU) No 575/2013. The ECB has set up a process aimed to address the implementation of the new definition of default as required by two regulatory products resulting from the European Banking Authority's (EBA) work on identifying the main drivers of variability in the implementation of IRB models, namely: The RTS on materiality threshold for credit obligations past due under Article 178 of Regulation (EU) No 575/20131 and the EBA Guidelines on the application of the definition of default under Article 178 of Regulation (EU) No 575/20132 (EBA/GL/2016/07).

The EBA Guidelines on definition of default will apply from 1 January 2021, but the EBA encourages institutions to implement the changes prior to this date, as they will have to adapt their default identification processes and possibly IT systems. This is particularly the case for institutions that use the IRB Approach, as they should start building reliable time series before their rating systems can be adjusted accordingly.

1.1.6. EBA Stress Test (ST) 2018

On 31 January 2018, the European Banking Authority (EBA) launched its 2018 EU-wide stress test and released the relevant macroeconomic scenarios. The exercise assesses the resilience of EU banks under a common macroeconomic baseline scenario and a common adverse scenario. The scenarios cover the period 2018-2020.

Similar to the 2016 exercise, the 2018 EU-wide stress test is primarily focused on the assessment of the impact of risk drivers on the solvency of banks. Banks are required to stress a common set of risks (credit risk – including securitisations – market risk and counterparty credit risk, operational risk – including conduct risk). In addition, banks are requested to project the effect of the scenarios on net interest income and to stress P&L and capital items not covered by other risk types. The methodology is based on constraints including a static balance sheet assumption, but with adjustments to incorporate IFRS 9 implementation.

The stress test of the four systemic Greek banks was conducted on an accelerated timeline compared to the other in-scope banks in order to allow the results to be published before the end of the current European Stability Mechanism Program for Greece (August 2018), but following the same EBA approach and methodologies as that applied to the other EU banks. The results for the four systemic Greek banks were announced by the ECB Supervisory Board on May 5, 2018. The results for the other EU banks are expected to be published by November 2, 2018.

The Bank conducted the stress test exercise using the EBA methodology, the benchmark parameters, macroeconomic scenarios and shocks provided by the EBA and the ECB, as well as any additional guidance and notes published and/or relayed though formal communication channels. Under the EBA adverse scenario, the CET1 ratio declined by 9.6ppts, reaching a CET1 level of 6.9% in 2020, including an IFRS 9 impact of 70bps post January 1, 2018 and a CRD IV impact of 20bps. Under the EBA baseline scenario, the CET1 ratio declined by 50bps reaching 16.0% in 2020, again including an impact of 70bps from IFRS 9 phased in adoption and 20bps from CRD IV. Following the supervisory dialogue, the Bank was informed that the stress test outcome, along with other factors, have been assessed by SSM's Supervisory Board pointing to no capital shortfall and that no capital plan was deemed necessary as a result of the exercise.

The stress test results will inform the 2018 Supervisory Review and Evaluation Process ("SREP"), challenging banks' capital plans and leading to relevant supervisory outcomes. The exercise will also provide enhanced transparency so that market participants can compare and assess the resilience of EU banks on a consistent basis.

1.1.7. EBA Guidelines on internal Governance

In September 17th, 2017 the EBA published its revised Guidelines on banks internal governance. These Guidelines aim at further harmonising institutions' internal governance arrangements, processes and mechanisms across the EU, in line with the new requirements in this area introduced in the Capital Requirements Directive (CRD IV), also taking into account the proportionality principle.

The Guidelines put more emphasis on the duties and responsibilities of the management body in its supervisory function in risk oversight, including the role of their committees. They aim at improving the status of the risk management function, enhancing the information flow between the risk management function and the management body and ensuring effective monitoring of risk governance by supervisors.

The Guidelines are applicable from 30 June 2018.

1.1.8. International Financial Reporting Standards 9 (IFRS 9)

On 1 January 2018, the Group adopted IFRS 9, *Financial Instruments*, which replaces IAS 39 *Financial Instruments: Recognition and Measurement* and changes the requirements for classification and measurement of financial assets and financial liabilities, impairment of financial assets and hedge accounting.

The key requirements of IFRS 9 are the following:

1. All recognised financial assets that are within the scope of IAS 39 are required to be subsequently measured at amortised cost or fair value.
2. Specifically, debt instruments that are held within a business model whose objective is to collect the contractual cash flows (rather than to sell the instrument prior to its contractual maturity to realise its fair value changes) and that have contractual cash flows that are solely payments of principal and interest on the principal outstanding (SPPI) are generally measured at amortised cost at the end of subsequent accounting periods.
3. Debt instruments that are held within a business model whose objective is achieved both by collecting contractual cash flows and selling financial assets, and that have contractual terms that give rise on specified dates to cash flows that are SPPI, are measured at FVTOCI, unless the asset is designated at "fair value through profit or loss" (FVTPL) under the fair value option.
4. All other debt instruments and equity investments are measured at their fair value at the end of subsequent accounting periods. In addition, under IFRS 9, entities may make an irrevocable election to present subsequent changes in the fair value of an equity investment (that is not held for trading) in other comprehensive income, with only dividend income generally recognised in profit or loss.

With regard to the measurement of financial liabilities designated as FVTPL, IFRS 9 requires that the amount of change in the fair value of the financial liability, that is attributable to changes in the credit risk of that liability, is presented in other comprehensive income, unless the recognition of the effects of changes in the liability's credit risk in other comprehensive income would create or enlarge an accounting mismatch in profit or loss. Changes in fair value attributable to a financial liability's credit risk are not subsequently reclassified to profit or loss. Under IAS 39, the entire amount of the change in the fair value of the financial liability designated as FVTPL is presented in profit or loss.

In relation to the impairment of financial assets, IFRS 9 requires an expected credit loss model, as opposed to an incurred credit loss model under IAS 39. The expected credit loss model requires an entity to account for expected credit losses (ECL) and changes in ECL at each reporting date to reflect changes in credit risk since initial recognition. In other words, it is no longer necessary for a credit event to have occurred before credit losses are recognised. With the exception of purchased or originated credit-impaired financial assets, ECL are required to be measured through a loss allowance at an amount equal to:

- the 12-month ECL (ECL that result from those default events on the financial instrument that are possible within 12 months after the reporting date); or
- full lifetime ECL (ECL that result from all possible default events over the life of the financial instrument).

A loss allowance for full lifetime ECL is required for a financial instrument if the credit risk of that financial instrument has increased significantly since initial recognition. Purchased or originated credit-impaired financial assets are treated differently because the asset is credit-impaired at initial recognition. For these assets, the reporting entity recognizes changes in lifetime ECL since initial recognition as a loss allowance with any changes recognised in profit or loss. Under the requirements, any favorable changes for such assets are an impairment gain even if the resulting expected cash flows of a financial asset exceed the estimated cash flows on initial recognition.

The new general hedge accounting requirements retain the three types of hedge accounting mechanisms currently available in IAS 39. Under IFRS 9, greater flexibility has been introduced to the types of transactions eligible for hedge accounting, specifically broadening the types of instruments that qualify for hedging instruments and the types of risk components of non-financial items that are eligible for hedge accounting. In addition, the effectiveness test has been overhauled and replaced with the principle of an "economic relationship". Retrospective assessment of hedge effectiveness is also no longer required. Enhanced disclosure requirements about an entity's risk management activities have also been introduced. IFRS 9 includes an accounting policy choice to continue IAS 39 hedge accounting, which the Group has exercised.

Regulatory transitional arrangements

On 12 December 2017 the European Parliament and the Council of the European Union adopted Regulation (EU) 2017/2395, which amended Regulation 575/2013 with Article 473a, allowing credit institutions to gradually apply the impact of the application of IFRS 9 to own funds. In particular, upon adoption of IFRS 9, credit institutions are allowed to include in the Common Equity Tier 1 capital (CET1), a portion of the increased ECL provisions over a 5-year transitional period starting in 2018. The portion of ECL provisions that can be included in CET1 should decrease over time down to zero to ensure the full implementation of IFRS 9, after the end of the transitional period. In addition, in accordance with paragraph (4) of the Regulation, if the ECL provisions for Stages 1 and 2 incurred after the first adoption of IFRS 9 are increased, credit institutions are allowed to include the increase in the transitional arrangements.

Implementation status

In order to comply with the requirements of the new Standard, the Group established an IFRS 9 implementation program ("the Program") to ensure a timely and high quality implementation, in accordance with the standard and additional regulatory guidance. The Program involves Finance, Group Risk Control and Architecture Division ("GRCAD"), Management Information and IT Divisions across the Group and is overseen by a Project Steering Committee. The Committee comprises of the Deputy CEO (Chair), Group CFO, Group CRO, Group COO, Group Treasurer and the General Managers of Retail, Corporate Banking, Corporate Special Assets and International Activities Divisions of the Bank. A full-time Project Management Office (PMO) was setup and a Project Manager assigned. The Program is divided into workstreams, for each of which leading Divisions and workgroup teams have been assigned. Subject matter experts were also appointed to assist in model development of IFRS 9 compliant credit risk parameters. The Board Risk Committee, Audit Committee and Board of Directors are regularly updated by the Executive Management on the status of the Program.

Transition to IFRS 9 on 1 January 2018

IFRS 9 was applied retrospectively, but the Group elected not to restate prior periods, in accordance with the transitional provisions of IFRS 9. Further, the Group has elected to defer the provisions of IFRS 9 for its insurance subsidiary, Ethniki Hellenic General Insurance SA, as allowed by Commission Regulation (EU) 2017/1988 from 1 January 2018 to 1 January 2021, the adoption date of IFRS 17 Insurance Contracts. As of 1 January 2018, Ethniki Hellenic General Insurance SA was classified as a discontinued operation and shall continue applying the requirements of IAS 39 after 1 January 2018.

For more details and information regarding the estimated impact on regulatory capital please refer to Note 47 of the 2017 Annual Financial Report.

2. STRATEGY AND NPL MANAGEMENT

2.1. Completed disposals of subsidiaries

Sale of NBG's Bulgarian subsidiaries United Bulgarian Bank A.D. ("UBB") and Interlease E.A.D.

On 30 December 2016 NBG entered into a definitive agreement with KBC for the divestment to KBC of its 99.91% stake in its Bulgarian subsidiary UBB and its 100% stake in Interlease E.A.D. The sale of the Bulgarian subsidiaries, which was completed on 13 June 2017, had a positive impact on Group liquidity of about €900 million, including the repayment of intra-group debt and dividend distributions by UBB to the Bank since 30 September 2016, of which €50 million related to 2017 and €133 million to 2016.

Sale of Vojvodjanska Banka a.d. Novi Sad ("Vojvodjanska"), NBG Leasing d.o.o. Belgrade and NBG Services d.o.o. Belgrade to OTP Banka Srbija a.d. Novi Sad

On 4 August 2017, NBG entered into a definitive agreement with OTP Banka Srbija a.d. Novi Sad ("OTP Serbia") for the divestment to OTP Serbia of its 100% stake in its Serbian subsidiaries Vojvodjanska Banka AD and NBG Leasing d.o.o. for an agreed consideration of €125 million and of a portfolio of Serbian-risk corporate loans (together the "Vojvodjanska Transaction"). The disposal of the Serbian subsidiaries was completed on 12 December 2017. The positive impact on NBG's Group Liquidity, including repayment of intra-group debt, is c. €280 million.

2.2. Strategy

Being the oldest financial institution in the country, NBG enjoys a very strong brand recognition and has deeply rooted customer relationships. NBG had limited participation in the M&A activity during the Greek banking sector consolidation. This has safeguarded its identity and its client relationships and has enhanced its service experience. Culture was preserved. Service consistently focuses on innovation and is further improved through strong digital channels (in 2017, i-bank Internet / mobile Banking users reached 1.6 million, performing 38 million money transactions with a total value of approximately EUR 50 billion) and selected premium and digital initiatives (e.g. i-bank stores, first full banking relationship loyalty program).

Strategically positioned with a high customer penetration, NBG aims to capitalize on its superior liquidity position (i.e. loans to deposits ratio of 79% and 80%, on a domestic and on a Group level, respectively), not only retaining its ELA independence, but also constantly enhancing its liquidity. Based on this, NBG aims to expand in new business during the period 2018 to 2019, improving its net interest margin and profitability and combine efficiency targets with transformation initiatives, addressing both income growth and cost reduction goals.

It also plans to utilize its high coverage ratio and capital levels to efficiently decrease NPEs across portfolios through dedicated and independent internal units for retail collections and corporate NPL management (SPECIAL ASSETS UNITS).

In 2018 the Bank intends to enhance its support for the development of Greek entrepreneurship, providing liquidity to viable enterprises through partnerships with international and European development organizations, with a view to making available the broadest potential source of funding for the financial support of Greek enterprises.

2.2.1. Business Strategy

NBG's vision is to become the leading domestic Bank, both in terms of assets as well as in terms of sustainable profitability.

To achieve its strategic goal, NBG is working along a number of distinct yet complementary pillars, as follows:

A. **Loan portfolio strategy**: NBG is focused on extending credit selectively, with a focus on corporate segments (i.e. large corporates, SMEs, project finance). In doing so, NBG will leverage on its superior liquidity position, as well as on its low funding cost so as to outperform its rivals in acquiring low-risk clients. The Business Plan 2018-2020 provides for a positive net expansion in Corporate segments, expected to partially balance the deleveraging trend of Retail portfolios.

B. **Significant reduction of NPL/NPE stock:** NBG has developed and submitted to the SSM a medium-term strategy and specific actions for the significant reduction of its NPL/NPE stock. This Strategy is being implemented consistently and has resulted in outperformance as at end-2017 over the (revised) NPE-reduction targets.

C. **Maintaining low funding cost and avoiding ELA dependence**: NBG has reached a minimum cost of funding level by eliminating its reliance on the Emergency Liquidity Assistance (ELA) mechanism and repricing its deposits. Leveraging on its effectiveness in harnessing deposits and capitalizing its superior brand name as a 'safe harbor' during financial and economic crises, NBG has been able to retain its strong deposit base. In addition, a favorable deposit mix in terms of cost (c. 50% is kept in savings, while term deposit products bear short tenors and have low weight/mobility) has contributed to this achievement of an overall low funding cost. Although compliance with liquidity requirements, as well as intensified competition with peers to attract repatriated funds are expected to increase cost of funding, NBG has taken the necessary initiatives to avoid recourse to ELA funding and ensure a sustainable and viable funding cost.

D. **Promoting bank-wide efficiency:** in order to return to strong and sustainable profitability, NBG will focus upon evolving its operating model, streamlining its cost base while making its processes leaner and more agile. Cost containment initiatives include procurement optimization, 3rd party spending rationalization, as well as simplification (and digitization) of administrative processes. These initiatives will be accompanied with the implementation of a Voluntary Exit Scheme that will lead to a relative reduction in employee headcount.

E. **Boosting fee Income**: fee income is expected to increase both from Retail and Corporate as a result of increased volume of lending activities (which lead to the increase of auxiliary, fee-based businesses), as well as from a number of key initiatives focusing on the rationalization of the Bank's fee structure and the avoidance of "fee leakage".

2.3. NPL Management

The Bank continues to operate in a challenging economic environment as a result of the Greek financial crisis. Against this backdrop, the Bank is executing a well-developed strategy that aims to reduce its NPE ratio and maximise collections from the Bank's troubled assets portfolio. This strategy includes a set of detailed operational targets and a time-bound action plan for their implementation with a view to significantly reducing NPE stocks.

The strategy establishes realistic but sufficiently ambitious targets, and NBG assesses its effectiveness and adequacy on a regular basis. The strategy is both consistent with, and linked to, the Bank's business plan and the current ICAAP.

The key overarching tools for the management of the Bank's non-performing portfolio are:

- ✓ Provide forbearance measures focusing on long-term solutions, taking into consideration debtor's viability and maximization of recoveries
- ✓ Closure procedures and collateral liquidations
- ✓ Sale of portfolios.

To this end, a comprehensive set of Operational Targets and KPIs was identified and calculated. Additionally, in line with SSM requirements, the Bank ran sensitivity analyses on a series of key parameters to demonstrate the effect of different scenarios regarding macroeconomic, judicial and legal conditions (e.g. delays in legal procedures / auctions and investor appetite related to portfolio sales and customer response to forbearance measures offered by the Bank) on its NPE targets.

During 2017, NBG, being a bank with elevated levels of NPLs, received a letter from the ECB, as part of normal supervisory activities, containing qualitative elements, focused on ensuring it is managing and addressing NPLs in line with supervisory expectations.

3. RISK MANAGEMENT FRAMEWORK

3.1. Basic Principles and governance structure of the Group risk management

Risk control and management plays a fundamental role in the overall strategy of the Group, aiming to both effectively monitor the recognised and potential risks for the organisation and to align with the legal and regulatory requirements.

Board Risk Committee

The Group has clearly defined its risk profile and risk appetite and has designed a risk strategy and risk management policies. Ultimately responsible for the development and application of this general framework of risk management at a Group level is the Board of Directors (the Board) and more specifically the Board Risk Committee (the "BRC"), directly supported by the Audit Committee.

The BRC forms and submits for approval to the Board of Directors the risk appetite and risk strategy of the Group on an annual basis, and monitors their appropriate communication throughout the Bank. It also sets the principles, approves the policies that govern risk management and monitors the appropriate management of risk. The BRC has the responsibility to review reports and evaluate the overall risk exposure of the Bank and the Group on a regular basis, taking into account the approved risk strategy and the business plan of the Group, to develop proposals and recommend corrective actions for consideration by the Board regarding any matter within its purview. The proposals to the BRC are submitted by the Group Chief Risk Officer (CRO).

The BRC is composed exclusively of non-executive Board members, at least three in number, the majority of which (including the Chairman) are independent members of the Board, in accordance with the definition of independence specified in the Bank's Corporate Governance Code and one member is the HFSF representative at the Board of Directors. The members and the Chairman of the Committee are elected by the Board of the Bank, following recommendation by the Board's Corporate Governance and Nominations Committee. All members should have adequate knowledge and prior experience in banking and financial services, while at least one member as an expert should have significant experience in risk and capital management, as well as knowledge of the local and international regulatory framework.

During 2017 the Board Risk Committee convened 12 times. In January 2017 the Committee Charter was amended, introducing the new dual role of the BRC, namely its operation a) as the Board Risk Management Committee and b) as the Board Committee Responsible for Non-Performing Loans/Exposures (NPLs/NPEs) prescribed by Art. 10 par. 8 of Law 3864/2010 as in force. Detailed information on the responsibilities, composition and modus operandi of the Committee is included in the Charter of the Committee which is available on the Bank's website www.nbg.gr (section: The Group / Corporate Governance / Board of Directors / Committees).

"Three Lines of defense" model in the Group's risk management

The Group's risk management is spread on three different levels, in order to create three lines of defense, traced as follows:

- **First line**: the risk taking units (e.g. credit underwriting departments, Treasury) are responsible for assessing and minimizing risks for a given level of expected return by establishing and implementing internal rules to the on-going business.
- **Second line**: the Credit Units (under the CRO), which are independent of the credit granting departments, are involved in the approving procedure. They perform unbiased control of the undertaken risk by applying the "four eyes principle" and have the right of veto.

  The two Group Risk Management Units and the MVU identify, monitor, control and quantify risks (including model risk) at portfolio or entity level. Moreover they assist other units undertaking risks (credit departments and other) and they assert the adoption of appropriate pricing and risk management tools.

  Additionally, at this level, the Group Compliance Division contributes to ensure compliance to existing rules and regulations.
- **Third line**: the Group Internal Audit Division adopts the role of the independent audit function to ensure compliance with internal and external rules.

The duties and responsibilities of all lines of defense are clearly identified and separated, and the relevant Units are sufficiently independent.

Group Risk Management Units

A central role in the risk management framework, that is to recognize, evaluate, monitor and control risks undertaken by the Group, has been assigned to the two Group Risk Management Divisions, NBG Group Risk Control and Architecture Division (GRCA) and NBG Group Market and Operational Risk Management Division (GMORM) as well as the independent Model Validation Unit (MVU). The Units identify the risks of different portfolios and activities (including model risk), and supervise all subsidiaries operating in the financial sector.

The Credit Units, also under the CRO supervise the credit departments of the financial institutions across the Group and participate in their approval granting bodies. Credit Units' independence ensures an unbiased level control for credit risk undertaken. These Units are also responsible for developing and updating specific Credit Policies (see Section 3.4).

The two Group Risk Management Units and the independent MVU (that reports directly to the Group CRO) are supportive to the following:

- the Asset Liability Committee of the Bank (ALCO), which defines the strategy and policy concerning the structure and management of assets and liabilities, taking into account current market conditions and risk limits that the Bank has set.
- the Group Compliance Division, which is responsible for ensuring compliance to existing rules and regulators. Such rules and regulators are the current Greek legislation, the Basel Committee of Banking Supervision, the European Central Bank (ECB), the Single Supervisory Mechanism, the European Banking Authority (EBA), Bank of Greece (BoG), the Greek Securities Exchange Commission and the decisions of all competent authorities supervising the Group's subsidiaries. Group Compliance Department reports to the Board via the Audit Committee.
- the Group Internal Audit Division, which reports to the Board through the Audit Committee. This Unit is part of the risk management framework, acting as an independent supervisory function that focuses on its effective implementation.

Analytically, the responsibility of the GRCA Division is to:

- Specify and implement credit risk policies emphasizing on rating systems, risk assessment models and risk parameters according to the guidelines set by the Board;
- Plan, specify, introduce and implement risk management policies under the guidelines of the Board;
- Assess the adequacy of methods and systems that aim to identify, measure, monitor, control and report credit risk undertaken by the Bank and other financial institutions of the Group and periodically validate them;
- Calculate Regulatory and Internal Capital required in respect to all banking risks and prepare relevant regulatory and MIS reports.
- Establish guidelines for the development of assessment methodologies for Expected Loss (EL) and its components, i.e. Probability of Default (PD), Loss Given Default (LGD) and Exposure at Default (EAD) for each category of corporate and retail portfolio;
- Introduce best practices and standards for the development, validation and calibration of all credit risk models at Group level.

Similarly, the responsibility of the GMORM Division is to:

- Plan, specify, implement and introduce market, counterparty, liquidity and operational risk policies, under the guidelines of the Board;
- Assess the adequacy of methods and systems that aim to analyse, measure, monitor, control and report the aforementioned risks undertaken by the Bank and other financial institutions of the Group and periodically validate them;
- Independently evaluate financial products, assets and liabilities of the Bank and the Group;
- Regularly handle issues relevant to market, counterparty, liquidity and operational risks, under the guidelines and specific decisions of the Board Risk Committee and the Asset Liability Committee (ALCO).

The responsibility of the independent Model Validation Unit, that reports directly to the Group CRO is to:

- Establish, manage, and enforce Credit Risk Validation Policy and Market Risk Valuation Policy;
- Develop Model Risk Management standards for Credit and Market Risk;
- Update the Credit and Market Risk Validation Policies based on applicable regulatory guidance and requirements;
- Communicate and escalate model risk metrics to the Board, the Board Risk Committee, the Chief Risk Officer and the Senior Management;
- Independently validate and approve new and existing models for credit and for market risk;
- Document material changes in model review reports;
- Annually recertify models and review results of ongoing monitoring.

Risk Appetite Framework

The Risk Appetite Framework ("RAF") is articulated through the Risk and Capital Strategy document. NBG's RAF enables the Group to combine corporate and business strategy with financial and capital planning, along with the risk management framework. The RAF incorporates qualitative as well as quantitative elements integrated into a series of quantitative metrics. It is considerably more than a sophisticated Key Performance Indicator ("KPI") system for risk management. Apart from setting the boundaries in which the Bank will evolve in the near to medium-term, the RAF also acts as a risk management tool by proposing, for every metric, an "Early Warning" (EW) threshold: this is done to facilitate mitigation actions before the corresponding limit is reached.

Risk Profile Assessment

The ongoing assessment of the Group's risk profile is a key component of the risk management process and is comprised of a series of specific steps. Every type of risk is analysed and assessed on the basis of its specific characteristics, the methodological approach used to measure it, and the qualitative features (policies, procedures, control mechanisms) applied in its management. A common component of all these characteristics is the "internal capital" approach, which enables different types of risks to be captured under the same (and, therefore, comparable) terms, and also enables the risk profile of the Group to be expressed in a single measure ("total internal capital").

Risk Taxonomy

The Internal Capital Adequacy Assessment Process ("ICAAP") framework provides a list of the main risk categories and sub-categories covered and provides information regarding their definitions, risk management framework and the methodologies and models used for their assessment. Under ICAAP, the Group plans and monitors its capital adequacy by utilizing two quantification/ estimation approaches for capital requirements:

- Regulatory capital, whereby regulatory rules are used to calculate the capital requirement.
- Internal capital, whereby internal methodologies are used to calculate the capital requirement.

Apart from the ICAAP Framework, NBG has also developed an ICAAP methodological manual to describe in detail the methodologies used by NBG Group for each material risk, aiming to measure internal capital requirements where quantification in the near-to-medium term is deemed possible.

Table 1: Material Risk Types and their treatment in ICAAP

Risk Types	Capital requirements approaches		
	Regulatory Capital	Internal Capital	Judgment
Credit Risk	√	√	√
Concentration Risk	-	√	√
Settlement Risk	-	√	√
Residual Risk	-	√	√
Securitization Risk	√	√	√
Market Risk	√	√	√
General Interest Rate Risk	√	√	√
Issuer Risk	√	√	√
Country Risk	-	-	√
Equity Risk	√	√	√
Underwriting Risk	-	-	√
Foreign Exchange Risk	√	√	√
Commodity Risk	√	√	√
Counterparty Risk	√	√	√
Gamma Risk & Vega Risk	√	√	√
IRRBB	-	√	√
Operational Risk	√	√	√
Conduct Risk	-	√	√
Cyber Risk	-	-	√
Model Risk	-	-	√
Legal Risk	-	√	√
Reputational Risk	-	-	√
Strategic Risk	-	-	√
Business Risk	-	√	√
Capital Access Risk	-	-	√
Liquidity Risk	-	-	√
Real Estate Risk	-	√	√
Pension Risk	-	-	√

3.2. Internal Capital Adequacy Assessment Process (ICAAP)

NBG Group has devoted substantial resources to the assessment of its capital adequacy, relating to both risk and capital management. The process is continously developed and formalized so as to enhance business benefits and support the strategic aspirations of NBG Group.

ICAAP objectives are:

- the proper identification, measurement, control and overall assessment of all material risks
- the development of appropriate systems to measure and manage those risks
- the evaluation of capital required to cover those risks (the "internal capital").

The term "internal capital" refers to the amount of own funds adequate to cover losses at a specified confidence level within a certain time horizon (both set in accordance with the risk-appetite framework).

The NBG Group has created an analytical framework for the implementation of the ICAAP. The framework is formally documented and describes the components of ICAAP at both Group and Bank level in detail. The framework comprises the following:

- Group risk profile assessment
- Risk measurement and internal capital adequacy assessment
- Stress testing development, analysis and evaluation
- ICAAP reporting framework
- ICAAP documentation

Both the Board and the Executive Committee are actively involved and support the ICAAP. The main roles and responsibilities are described in detail in the ICAAP Framework document.

A. <u>Board Risk Committee (BRC)</u>

The Board's Risk Committee approves the confidence interval for "internal capital", reviews the proper use of risk parameters and/or scenarios where appropriate, and ensures that all forms of risk are effectively covered, by means of integrated controls, specialized treatment, and proper coordination at Group level. The BRC bears ultimate responsibility for the adequacy and proper execution of the ICAAP.

B. <u>Audit Committee</u>

The Board's Audit Committee is ultimately responsible for assessing the adequacy of the control mechanisms of this process.

C. <u>Internal Units</u>

ICAAP is mainly the product of cooperation between Group Risk, Group Finance and Group Strategy. Additional input is provided also by other internal units.

ICAAP's design and implementation Framework concerns the entire Group's material risks. The parameters taken into account for the implementation of ICAAP are the:

- Size of the relevant Business Unit/Group's Subsidiary,
- Exposure per risk type, and
- Risk methodology and measurement approach for each type of risk.

The identification, evaluation and mapping of risks to each relevant Business Unit/Group subsidiary is a core ICAAP procedure. Risks' materiality assessment is performed on the basis of certain quantitative (e.g. exposure as percentage of the Group RWAs) and qualitative criteria (e.g. established framework of risk management policies, procedures and systems, governance framework and specific roles and responsibilities of relevant units, limits setting and evaluation).

NBG Group has recognised the following risk types as the most significant within the ICAAP framework:

- Credit
- Market
- Operational
- Interest Rate Risk in the Banking Book (IRRBB)
- Concentration (Credit)
- Conduct
- Cyber
- Model
- Liquidity
- Business
- Strategic
- Reputational
- Real estate
- Legal
- Capital Access
- Pension

The calculation of NBG Group "Total Internal Capital" consists of two stages.

In the first stage, internal capital per risk type is calculated on a Group basis. NBG Group has developed methodologies allowing the calculation of the required internal capital for quantifiable risks. These are reassessed on a regular basis and upgraded in accordance with the global best practices.

In the second stage, internal capital per risk type is summed up to yield the Group's "Total Internal Capital".

Capital allocation aims at distributing the "Internal Capital" to the Business Units and Subsidiaries so that ICAAP connects business decisions and performance measurement.

For 2017 the Bank implemented the ICAAP by estimating the relevant internal capital for all major risk types at Group level. Calculations were based on methodologies already developed in the ICAAP Framework. Moreover, NBG Group conducted a bank-wide macro Stress Test exercise, relating to the evolution of its CET I Funds under adverse scenarios (so as to ensure relevance and adequacy of the outcome with a realistic and non-catastrophic forward-looking view of downside tail risks).

In addition, a reverse stress test process has been conducted, where a threshold capital adequacy ratio has been set and then factors that could lead to a breach of this threshold have been identified. Reverse stress tests followed the methodology used to estimate internal capital required to cover against credit risk and scenarios that could push the ratio down to this threshold were analysed.

It should be stressed that the Bank implements, monitors and uses the ICAAP framework aiming at achieving full compliance with the guidelines and standards of the European Banking Authority and the ECB guides concerning ICAAP/ILAAP, as well as the Supervisory Review and Evaluation Process (SREP) and Stress Testing.

3.3. Internal Liquidity Adequacy Assessment Process (ILAAP)

The scope of ILAAP is to assess that the Group has adequate liquidity sources to ensure that its business operations are not disrupted, both in a going concern status, as well as under stressed conditions. Within this, the Group evaluates its liquidity risk management framework in the context of policies, systems and procedures established for the identification, management, measurement and monitoring of liquidity and funding risk.

The ILAAP is an integrated process, therefore it is aligned with the Group’s risk management framework and takes into account its current operating environment. Moreover, besides describing the Group’s current liquidity state, it further serves as a forward-looking assessment, by depicting the prospective liquidity position, upon the execution of the Bank’s Funding Plan. Finally, the ILAAP examines the potential impact of the realization of extreme stress scenarios, on the Bank’s liquidity position, ensuring that the Group can withstand such severe shocks and continue operating.

3.4. Credit Risk

3.4.1. Credit Policy for Corporate Portfolios

The Credit Policies for the Corporate portfolios of the Bank and its Subsidiaries (“the Subsidiaries”) provide the fundamental guiding principles for the management (i.e. identification, measurement, approval, monitoring and reporting) of the credit risk related to the Corporate Portfolios. The Credit Policies have been designed to meet the organizational requirements and the regulatory framework of each country in the best possible way, as well as to allow the Group to maintain and enhance its position in the market.

Credit risk control should always be performed according to the rules described in the Credit Policies, taking into consideration the Credit Regulations and all respective Acts and Circulars of the Bank and its Subsidiaries.

Procedures to be followed ensuring that credit risk control is conducted according to the Credit Policies are set out in the “Credit Regulations Documents” of the Bank and its Subsidiaries. These procedures are subject to amendments due to changes in the business, legal and institutional environment, in order to facilitate adjustment to these changes.

The Credit Policy of the Bank is approved and can be amended or revised (if deemed appropriate) in the course of its annual review, by the Board of Directors upon a recommendation by the Board Risk Committee following a proposal by the Group CRO.

Any deviation to the Credit Policy of the Bank is reported by the Group CRO to the Board Risk Committee. Any exception to the Credit Policy of the Bank is approved by the Executive Committee following a proposal by the Group CRO.

The Credit Policy of each Subsidiary is approved and can be amended or revised by the competent local Boards / Committees, following a recommendation by the responsible Officers or Subsidiaries’ Bodies, according to the Decisions of the Bank and the provisions of the Credit Policies. Each proposal must bear the prior approval of the Group CRO, or the Head of NBG’s Group International Credit Division in cooperation with the Head of NBG’s Group Risk Control and Architecture Division for issues falling under their responsibility. The Credit Policies are subject to periodical revision.

Any exception to the Credit Policies of the Subsidiaries is ultimately approved by the Group CRO, or the Head of NBG’s Group International Credit Division in cooperation with the Head of NBG’s Group Risk Control and Architecture Division, for issues falling under their responsibility.

All exceptions and their justification are duly recorded and have either an expiry date or a review date.

3.4.2. Credit Policy for Retail Banking

The Credit Policy for the Retail Banking Portfolio sets the minimum credit criteria, policies, procedures and guidelines for managing and controlling credit risk undertaken in Retail Portfolios, both at Bank and Group level. Its main scope is to enhance, guide and regulate the effective and adequate management of credit risk, thus achieving a viable balance between risk and return.

The Credit Policy is communicated through the use of respective Credit Policy Manuals. The subject manuals are made to serve three basic objectives:

- to set the framework for basic credit criteria, policies and procedures,
- to consolidate Retail Credit policies of the Group, and,
- to establish a common approach for managing Retail Banking risks.

The Credit Policy is approved and can be amended or revised by the Board of Directors of the Bank following an opinion of the Board Risk Committee and after a proposal by the Group CRO and it is subject to periodical revision.

The Credit Policy of each Subsidiary is approved and can be amended or revised by the competent local Boards/Committees, following a recommendation by the responsible Officers or Subsidiaries' Bodies, according to the Decisions of the Bank and the provisions of the Credit Policies. Each proposal must bear the prior approval of the Group CRO. The Credit Policies are subject to periodical revision.

NBG Group Retail Credit Division reports directly to the Group CRO and its main task is to evaluate, design and approve the credit policy that governs the retail banking products, both locally and abroad. Furthermore, the Division closely monitores the consistent implementation of both credit policy provisions and credit granting procedures.

Through the application of Retail Banking Credit Policy, the evaluation and estimation of credit risk, for new as well as for existing products, are effectively facilitated. NBG's top management is regularly informed on all aspects regarding the Credit Policy. Remedial action plans, are put together to resolve the issues, whenever necessary, within the risk appetite and strategic orientation of the Bank. Retail Banking Credit Policy is subject to regular reviews during which all approved policy changes are incorporated in the Policy Manual.

3.5. Counterparty Credit Risk

Counterparty Credit Risk (CCR) stems from OTC derivatives and other interbank secured and unsecured funding transactions and is due to the potential failure of a counterparty to meet its contractual obligations.

More specifically, the framework for managing CCR that pertains to Financial Institutions (FIs) is established and implemented by the GMORM Division. It consists of:

- Measuring the exposure per counterparty, on a daily basis
- Establishing the respective limits per counterparty
- Monitoring the exposure against the defined limits, on a daily basis

The methodology for measuring exposure to a FI depends on the characteristics of the transaction. Specifically, unsecured interbank placements produce an exposure that is equal to the face amount of the transaction, whereas secured interbank transactions and OTC Derivatives have Pre-Settlement Risk, which is measured through each product's Credit Equivalent Factors (CEFs), as described in the Counterparty Credit Risk Framework.

For the efficient management of CCR, the Bank has established a framework of counterparty limits. These limits are based on the credit rating of the financial institutions as well as the product type. Credit ratings are provided by internationally recognized rating agencies, in particular Moody's and Standard & Poor's. According to the Bank's policy, if the agencies' evaluations diverge, the lower (worse) credit rating will be considered. The limit-framework is revised periodically, according to business needs and the prevailing conditions in the international and domestic financial markets.

Counterparty limits apply to all financial Instruments in which the Treasury Division is active in the interbank market. Subsequently, all limits are monitored by GMORM on a daily basis.

The Bank seeks to further mitigate CCR by standardizing the terms of the agreements with counterparties through ISDA and GMRA contracts, that encompass all necessary netting and margining clauses. Credit Support Annexes ("CSAs") have also been signed with almost all active FIs, so that net current exposures are managed through margin accounts, on a daily basis, by exchanging mainly cash or debt securities as collateral.

Moreover, the policy of the Bank is to avoid taking positions on derivative contracts where the values of the underlying assets are highly correlated with the credit quality of the counterparty (i.e. wrong-way risk). The latter is defined as the risk deriving from the presence of a positive correlation between the probability of default of a counterparty and the relative exposure.

There are 2 categories of wrong way risk:

- **General Wrong Way Risk** – arises when the likelihood of default by counterparties is positively correlated with general market risk factor.
- **Specific Wrong Way risk** – arises when the exposure to a particular counterparty is positively correlated with the PD of the counterparty due to the nature of the transactions with the counterparty.

Finally, the current Bank's rating has already activated the contract clauses against downgrading. Therefore a further expansion of the existing margins triggered by the Bank's rating downgrade is not expected.

3.6. Market Risk

Market risk is the current or prospective risk to earnings and capital arising from adverse movements in interest rates, equity and commodity prices and exchange rates, and their levels of volatility. The Group engages in moderate trading activities in order to enhance profitability and service its clientele. These trading activities create market risk, which the Group seeks to identify, estimate, monitor and manage effectively through a framework of principles, measurement processes and a valid set of limits that apply to all of the Group's transactions. The most significant types of market risk for the Group are interest rate, equity and foreign exchange risk.

- **Interest Rate Risk** is the risk arising from fluctuations of interest rates and/or their implied volatility and stems from the interest rate, over-the-counter (OTC) and exchange traded, derivative transactions, as well as from the trading and available-for-sale (AFS) bond portfolios.

  The most significant contributor to market risk in the Group is the Bank. More specifically, the Bank is active in the interest rate and cross currency swap market and engages in vanilla and more sophisticated transactions for hedging and proprietary trading purposes and it maintains positions in bond and interest rate futures, mainly as a means of hedging and to a lesser extent for speculative purposes. Additionally, the Bank retains a portfolio of Greek T-Bills and government bonds and other EU sovereign debt, EFSF bonds, as well as moderate positions in Greek and international corporate bonds.

- **Equity Risk** is the risk arising from fluctuations of equity prices or equity indices and/or their implied volatility. The Bank has a moderate exposure to equity risk, which arises from the positions it retains in stocks and equity derivatives. More specifically, the Bank holds a portfolio of stocks, the majority of which are traded on the ATHEX and retains positions in stock and equity index derivatives traded on the ATHEX as well as, on international exchanges. The portfolio of stocks and equity derivatives are mainly used for hedging of the equity risk that arises from the Bank's equity-linked products offered to its clientele and to a lesser extent for proprietary trading. The equity risk undertaken by the rest of the Group's subsidiaries is insignificant.

- **Foreign Exchange Risk** is the risk arising from fluctuations of foreign exchange rates and/or their implied volatility and stems from the Group's Open Currency Position (OCP). The OCP primarily arises from foreign exchange spot and forward transactions. The OCP is distinguished between Trading and Structural. The Structural OCP contains all of the Bank's assets and liabilities in foreign currency (for example loans, deposits, etc.), along with the foreign exchange transactions performed by the Treasury Division. The Bank trades in all major currencies, holding mainly short-term positions for trading purposes and for servicing its institutional/corporate, domestic and international clientele. The remaining subsidiaries of the Group bear minimal foreign exchange risk

All key principles that govern the Bank's activities in the financial markets, along with the framework for the estimation, monitoring and management of market risk are incorporated in the Bank's Market Risk Policy. The Policy has been approved by the Board Risk Committee and is reviewed and updated on a regular basis, or when deemed necessary.

The Bank has also established a framework of VaR limits in order to control and manage the risks to which it is exposed in a more efficient way. These limits are based on the Bank's Risk Appetite, as outlined in the Risk Appetite Framework (RAF), the anticipated profitability of the Treasury, as well as on the level of the Bank's own funds (capital budgeting), in the context of the Group strategy. The VaR limits refer not only to specific types of market risk, such as interest rate, foreign exchange and equity, but also to the overall market risk of the Bank's trading and available-for-sale portfolios taking into account the respective diversification between portfolios.

Moreover, NBG employs a three-line of defense framework, as per the NBG Risk Strategy, to monitor market risk and comply with market risk limits. The first line of defense is at the risk-taking level, where NBG's various market risk taking Business Lines are responsible to monitor and maintain compliance with the set market risk limits, on a continuous basis. The Market Risk Management Subdivision constitutes the second line of defense, and is responsible to monitor and report NBG's market risk exposures and market risk limits utilization. Finally, NBG's Internal Audit is responsible to validate that the Group, as a whole, as well as the various departments individually, are compliant with the set market risk policies and procedures.

Regarding NBG Group's subsidiaries, they have independent market risk management units and report their positions and other market risk metrics to NBG's Market Risk Management Subdivision on a daily basis. However, given the low materiality and limited market risk exposure of NBG's subsidiaries, as well as the current NBG Group divestment plan, these entities do not use internal models for market risk capital calculations. To this extent, NBG uses internal models for monitoring market risk and calculates capital requirements only at a Bank level and subsequently consolidates the subsidiaries, at a Group level.

The operation of the market risk management unit as a whole, including the VaR calculation framework, have been thoroughly reviewed and approved by the Bank of Greece, as well as by external advisors. Also, the Internal Audit assesses the effectiveness of the relevant internal controls on a regular basis. Moreover, the adequacy of the market risk management framework as well as the appropriateness of the VaR model used for the calculation of the Bank's capital requirements, were successfully reassessed during the on-site investigation that took place in the last quarter of 2017, in the context of the "Targeted Review of Internal Models" (TRIM) performed by the ECB. The final assessment report of the TRIM contained no major findings, while most of the findings reported were of the lowest severity.

3.7. Operational Risk

3.7.1. Definition and objectives

Following the Basel framework, the Bank defines operational risk (OR) as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Operational risk is inherent to all products, activities, processes and systems and is generated in all business and support areas. For this reason, all employees are responsible for managing and controlling OR generated in their sphere of action.

The Bank's objective in controlling and managing operational risk is to identify, measure, evaluate, monitor, control and mitigate this risk. In 2017 the Bank continued to drive the improvement of its OR management through a range of initiatives. Some of the most significant of these include the persistence on OR training, the decision to shift to a new more advanced software for the management of OR and the constant effort to improve OR loss collection process.

3.7.2. Operational risk management framework

The Bank has established a robust Operational Risk Management Framework (ORMF), in order to effectively address operational risks and meet the regulatory requirements (CRR / CRD IV / Basel III). This Framework is based on the industry's best practices and has been approved by the Board Risk Committee.

In 2017 the ORMF was implemented in the Bank and its subsidiaries for the eleventh consecutive year. The basic elements of the Bank's ORMF are the following:

- The Risks and Controls Self-Assessment (RCSA) process, alongside with the assessment of the relevant control environment;
- The Loss Collection process, as well as the maintenance of a sound and consistent loss database;
- The determination, update and monitoring of Action Plans;
- The definition and monitoring of Key Risk Indicators;
- The Structured Scenario Analysis, a systematic process of obtaining expert opinions, based on reasoned assessments of the likelihood and impact of plausible severe operational losses.

The GMORM Division is in charge of managing and coordinating the ORMF implementation, setting appropriate standards, methodologies and procedures for operational risk assessment, monitoring and control, as well as for loss data collection. Furthermore, it regularly reviews the Group Framework in order to ensure that all relevant regulatory requirements are met.

GMORM Division also reviews and monitors NBG's operational risk profile on an ongoing basis, focusing on the development, implementation and follow-up of the appropriate Action Plans, in order to ensure that all necessary risk mitigation steps and measures are in place. NBG's Action Plans can be either mitigation measures, including insurance policies, designed to reduce the impact and losses generated by the occurrence of risk events, or proactive measures designed to prevent or reduce the probability of occurrence of risk events, by improving the control environment or other aspects of the business environment.

ORMF has been extended to the major Group subsidiaries, whose gross income in addition to the Bank's income represents approximately 98% of the total gross income of the Group. All other remaining entities of the Group that are consolidated for regulatory reporting purposes, and comprise just 2% of the gross income of the Group, also manage their operational risks, following a framework that has been approved by the Bank's Executive Operational Risk Committee.

The Bank uses a corporate information system (Algorithmics OpVar) that supports the operational risk management tools and facilitates information and reporting functions and needs. This system includes modules for registering loss incidents, assessing risks, monitoring indicators and action plans, preparing reports and applies to all Group major entities. As part of enhancing the OR management approach the Bank has decided to upgrade to a new more sophisticated software (Open Pages).

The Bank fosters awareness and knowledge of operational risk at all levels of the organisation. In 2017 a range of training initiatives were carried out throughout the Group's entities. These included e-learning seminars in a number of foreign subsidiaries, as well as courses for operational risk correspondents.

3.7.3. Other aspects of control and monitoring of operational risk

Due to the specific nature and complexity of operational risk, the Bank considers it necessary to continuously improve operational control procedures and keep them in line with new regulations and best practices in the market. Thus, during 2017, it continued to improve the monitoring of OR, attaching particular importance to the following points:

- Follow up of the new emerging subcategories of OR (Conduct Risk, ICT Risk and Model Risk)
- Development of detection and prevention controls dealing with Cyber Security Risk
- Analysis and close monitoring of legal risk
- Strengthening of the loss reporting culture, escalating issues of non-conformity to the OR Committee.

3.7.4. Operational Risk Reporting

GMORM has also set up an operational risk reporting system in order to regularly inform all hierarchical levels about relevant issues. This reporting system aims to support the Group's decision-making process and ensure that all relevant regulatory requirements, as well as the Bank's objectives are fulfilled.

The key stakeholders of operational risk reporting are:

- **Bank Units/Subsidiary Entities:** They implement the ORMF elements and distribute the outcome to GMORM Division.
- **GMORM:** It collects all the reports, analyses and processes the data and presents the main findings to the Operational Risk Committee, as well as to the Board Risk Committee. The Board Risk Committee is presented with all of the Group's major operational losses, on a monthly basis.

Finally, **Senior Management and the Operational Risk Committee**, jointly with GMORM, determine priorities for corrective actions and decide on cases of increased exposure to risk.

3.8. Analysis and Reporting

The two Group Risk Management Divisions and the independent Model Valuation Unit have developed a comprehensive framework of analysis and reporting, in order to provide the Bank's Board Risk Committee, Senior Management, regulatory authorities, the market and investors with consistent quantitative and qualitative information. To produce this analysis specialised applications are used, collecting relevant data from the Bank's and Group's core systems (such as loans and credit limits systems, trading position-keeping systems, collateral management system etc.).NBG's software is fully configured to calculate Expected Loss and Risk Weighted Assets for the entire Group according to the regulatory approach chosen for each portfolio, in accordance with the current "CRR / CRD IV" framework.

GRCA Division submits regularly and consistently to BoG and to the SSM all required reports pursuant to the current regulatory framework. Among others, the following are analysed and reported:

- Capital requirements and capital adequacy for Credit Risk, on a solo and on a Group basis
- Large exposures / large debtors
- Leverage
- Cross border exposures
- Quality and vintage analysis of the Bank's and its subsidiaries portfolios
- Benchmarking of the Bank's Credit Risk internal models

In the same context, the GMORM Division submits to BoG and to the SSM all required reports pursuant to the current regulatory framework, on a regular basis. Among others, the following are produced and reported:

- Capital requirements for Market, Counterparty and Operational Risks, on a solo and a Group basis
- Daily Liquidity Reports pertaining to the Bank's liabilities, liquidity structure, counterbalancing capacity, as well as subsidiary-funding
- Quarterly report of the Bank's Value at Risk and P&L results for backtesting purposes
- Sensitivity analysis of the bond and derivative portfolios on a solo and a Group basis
- Exposures to Financial Institutions
- Benchmarking of the Bank's Market Risk internal model.

3.9. Pillar III Disclosure policy

Pillar III complements the minimum regulatory capital requirements (Pillar I) and the Internal Capital Adequacy Assessment Process (ICAAP/Pillar II). In compliance with the respective requirements, NBG is committed to publicly disclose information as set out in EU Regulation 575/2013 of the European Parliament and of the Council, and to have adequate internal processes and systems in place to meet these disclosure requirements.

The Bank has established a formal Pillar III Disclosure Policy that describes the scope, the principles and the content of public disclosures under Pillar III. Moreover, the Policy defines the relevant disclosures' governance, including the assessment of the appropriateness of the disclosures, their verification and frequency. Disclosures on a consolidated basis provide information on capital structure, capital adequacy, risk profile, and the processes in place for assessing and managing risks.

The Bank is firmly committed to best practices and recognises that Pillar III provides an additional layer of market information and transparency, hence contributing to financial stability. Additional information for investors and other stakeholders (regarding e.g. the members of the management body, the Corporate Governance Code etc) is to be found in the Bank's website www.nbg.gr.

The objectives of the Pillar III Disclosure Policy are:

- To provide investors and other stakeholders with the appropriate, complete, accurate and timely information that they reasonably need to make investment decisions and informed judgements of NBG Group
- To foster and facilitate compliance with all applicable legal and regulatory requirements.

The Policy:

- Formulates the disclosure framework, including frequency, location, monitoring and verification process for disclosures
- Establishes and delegating authorities and responsibilities for the management of the Pillar III process
- Articulates the principles for identifying information that is material, confidential and proprietary
- Raises awareness of the Bank's approach to disclosure among the Board of Directors, Senior Management and Employees.

4. REGULATORY OWN FUNDS AND PRUDENTIAL REQUIREMENTS

In June 2013, the European Parliament and the Council of Europe issued Directive 2013/36/EU and Regulation (EU) No 575/2013, (known as CRD IV and CRR respectively), which incorporate the key amendments that had been proposed by the Basel Committee for Banking Supervision (known as Basel III). Directive 2013/36/EU has been transported into Greek Law by virtue of Greek Law 4261/2014, while Regulation (EU) No 575/2013 has been directly applicable to all EU Member States since 1 January 2014.Some changes under CRR/CRD IV are being implemented gradually, mainly between 2014 and 2019.

4.1. Balance sheet reconciliation between financial and regulatory reporting

The table below presents the differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories. References in this table link to the corresponding references in table "Own Funds Structure", identifying balances relating to own funds calculation.

Table 2: EU LI1 - Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories

		a	b	c	d	e	f	g
€ mio	*Ref*	Accounting Balance Sheet	Regulatory Balance Sheet	Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitisation framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital
ASSETS								
Cash and balances with central banks		1,778	1,778	1,778				
Due from banks		1,736	1,736	1,736	(321)		(18)	50
Financial assets at fair value through profit or loss		1,793	1,793	-			1,793	
Derivative financial instruments		3,681	3,681	-	3,654		676	
Loans and advances to customers	*f*	37,941	37,991	37,991	6			474
Investment securities		3,780	3,753	3,753		10		
Investment property		874	874	874				
Investments in subsidiaries		-	-	-				
Equity method investments	*d*	8	28	28				2
Goodwill, software and other intangible assets	*c*	132	132	0				132
Property and equipment		1,086	1,074	1,074				
Deferred tax assets (DTAs)		4,916	4,910	4,910				1
of which: DTAs that rely on future profitability and arise from temporary differences		*201*	*195*	*195*				
of which: DTAs that rely on future profitability and do not arise from temporary differences	*e*	*1*	*1*	*1*				*1*
of which: DTAs that do not rely on future profitability		*4,714*	*4,714*	4,714				
Insurance related assets and receivables		0	0	0				
Current income tax advance		421	421	421				
Other assets		1,612	1,646	1,646				
Non-current assets held for sale*		5,010	2,637	2,637				176
of which: Deferred Tax Assets	*e*	*145*	*3*	3				*2*
of which: Equity Method Investments	*d*	-	*821*	*821*				*174*
Total assets		**64,768**	**62,454**	**56,848**	**3,339**	**10**	**2,451**	**835**

€ mio	Ref	a Accounting Balance Sheet	b Regulatory Balance Sheet	c Subject to the credit risk framework	d Subject to the CCR framework	e Subject to the securitisation framework	f Subject to the market risk framework	g Not subject to capital requirements or subject to deduction from capital
LIABILITIES								
Due to banks		7,341	7,341		3,369			3,972
Derivative financial instruments		3,798	3,798		3,798		2,576	-
Due to customers		40,265	40,296		46			40,250
Debt securities in issue		1,026	1,026					1,026
Other borrowed funds		171	171					171
Insurance related reserves and liabilities		-	-					-
Deferred tax liabilities		6	6					6
Retirement benefit obligations		254	254					254
Current income tax liabilities		10	10					10
Other liabilities		995	994					994
Liabilities associated with non-current assets held for sale		3,523	1,180					1,180
Total liabilities		**57,389**	**55,076**		**7,213**		**2,576**	**47,863**
SHAREHOLDERS' EQUITY								
Share capital		2,744	2,744					2,744
Share premium account		13,866	13,866					13,866
Reserves and retained earnings		(9,914)	(9,914)					(9,914)
Equity attributable to NBG shareholders	*a*	**6,696**	**6,696**					**6,696**
Non-controlling interests	*b*	683	682					682
Total equity		**7,379**	**7,378**					**7,378**
Total equity and liabilities		**64,768**	**62,454**					**55,241**

**Non-current assets held for sale at 31 December 2017 comprise, The South African Bank of Athens Ltd ("S.A.B.A."), Ethniki Hellenic General Insurance S.A., Banca Romaneasca S.A. and Banka NBG Albania Sh.A*

4.2. Regulatory vs. accounting consolidation

All Group subsidiaries (companies which the Bank controls either directly or indirectly, regardless of their line of business) are consolidated in accordance with International Financial Reporting Standards (IFRS). For further information please refer to Note 2.4 of the 2017 Annual Financial Report.

In accordance with the regulatory requirements for consolidation as defined by the CRR and CRD IV, Group subsidiaries that are classified as banks, financial institutions or supplementary service providers are consolidated under the regulatory scope of consolidation. Subsidiaries that are not fully consolidated for regulatory purposes (insurance entities and hotels) are accounted by applying the equity method.

The table below provides information regarding the consolidation method applied for each entity within the accounting and the regulatory scopes of consolidation.

Table 3: **EU LI3** - Outline of the differences in the scope of consolidation

Name of entity	Method of accounting consolidation	Method of regulatory consolidation	Description of the entity
Banca Romaneasca S.A.[(2)]	Full Consolidation	Full Consolidation	Financial Institution
Banka NBG Albania Sh.a.[(2)]	Full Consolidation	Full Consolidation	Financial institution
National Bank of Greece (Cyprus) Ltd	Full Consolidation	Full Consolidation	Financial Institution
NBG Bank Malta Ltd	Full Consolidation	Full Consolidation	Financial Institution
Stopanska Banka A.D.-Skopje	Full Consolidation	Full Consolidation	Financial Institution
The South African Bank of Athens Ltd (S.A.B.A.)[(2)]	Full Consolidation	Full Consolidation	Financial Institution
National Securities S.A.	Full Consolidation	Full Consolidation	Capital Markets & Investment Services
National Securities Co (Cyprus) Ltd[(1)]	Full Consolidation	Full Consolidation	Capital Markets Services
EKTENEPOL Construction Company S.A.	Full Consolidation	Full Consolidation	Construction Company
Ethniki Factors S.A.	Full Consolidation	Full Consolidation	Factoring Company
Ethniki Leasing S.A.	Full Consolidation	Full Consolidation	Financial Leasing
NBG Leasing IFN S.A.	Full Consolidation	Full Consolidation	Financial Leasing
Probank Leasing S.A.	Full Consolidation	Full Consolidation	Financial Leasing
NBG Finance (Dollar) Plc	Full Consolidation	Full Consolidation	Financial Services

Name of entity	Method of accounting consolidation	Method of regulatory consolidation	Description of the entity
NBG Finance (Sterling) Plc	Full Consolidation	Full Consolidation	Financial Services
NBG Finance Plc	Full Consolidation	Full Consolidation	Financial Services
NBG Funding Ltd	Full Consolidation	Full Consolidation	Financial Services
NBG International Ltd	Full Consolidation	Full Consolidation	Financial Services
Profinance S.A.(1)	Full Consolidation	Full Consolidation	Financial Services
NBG Greek Fund Ltd	Full Consolidation	Full Consolidation	Fund Management
NBG Asset Management Luxembourg S.A.	Full Consolidation	Full Consolidation	Holding Company
NBG International Holdings B.V.	Full Consolidation	Full Consolidation	Holding Company
NBG Malta Holdings Ltd	Full Consolidation	Full Consolidation	Holding Company
FB Insurance Agency Inc(1)	Full Consolidation	Full Consolidation	Insurance Brokerage
NBG Insurance Brokers S.A	Full Consolidation	Full Consolidation	Insurance Brokerage and Other Services
Egnatia Properties S.A.	Full Consolidation	Full Consolidation	Investment Company
Quadratix Ltd	Full Consolidation	Full Consolidation	Investment Company
Fondo Picasso	Full Consolidation	Full Consolidation	Investment Company
NBG Management Services Ltd	Full Consolidation	Full Consolidation	Management Services
Probank M.F.M.C(1)	Full Consolidation	Full Consolidation	Mutual Funds Management
NBG Asset Management Mutual Funds S.A.	Full Consolidation	Full Consolidation	Mutual Funds Management
NBGI Private Equity Ltd(1)	Full Consolidation	Full Consolidation	Private Equity
NBG Pangaea Reic	Full Consolidation	Full Consolidation	Real Estate Investment Company
DIONYSOS S.A.	Full Consolidation	Full Consolidation	Real Estate Services
Ethniki Ktimatikis Ekmetalefsis S.A.	Full Consolidation	Full Consolidation	Real Estate Services
Hellenic Touristic Constructions S.A.	Full Consolidation	Full Consolidation	Real Estate Services
KADMOS S.A.	Full Consolidation	Full Consolidation	Real Estate Services
Nash SRL	Full Consolidation	Full Consolidation	Real Estate Services
Mortgage Touristic PROTYPOS S.A.	Full Consolidation	Full Consolidation	Real Estate Services
NBG Property Services S.A.	Full Consolidation	Full Consolidation	Real Estate Services
Karolou Touristiki S.A.	Full Consolidation	Full Consolidation	Real Estate Services
PNG Properties EAD	Full Consolidation	Full Consolidation	Real Estate Services
ARC Management One SRL	Full Consolidation	Full Consolidation	Real Estate Services
ARC Management Two EAD	Full Consolidation	Full Consolidation	Real Estate Services
Titlos Plc (Special Purpose Entity)	Full Consolidation	Full Consolidation	Special Purpose Entity (Securitisation of public sector receivables)
Sinepia Designated Activity Company (Special Purpose Entity)	Full Consolidation	Full Consolidation	Special Puprose Entity (Securitisation of commercial loans)
Innovative Ventures S.A. (I-Ven)(1)	Full Consolidation	Full Consolidation	Sundry services
Bankteco EOOD	Full Consolidation	Full Consolidation	Information Technology Services
Pronomiouchos S.A. Genikon Apothikon Hellados	Full Consolidation	Full Consolidation	Warehouse activities
Ethniki Hellenic General Insurance S.A.(2)	Full Consolidation	Equity Method Consolidation	Insurance Services
Ethniki General Insurance (Cyprus) Ltd(2)	Full Consolidation	Equity Method Consolidation	Insurance Services
Ethniki Insurance (Cyprus) Ltd(2)	Full Consolidation	Equity Method Consolidation	Insurance Services
S.C. Garanta Asigurari S.A.(2)	Full Consolidation	Equity Method Consolidation	Insurance – Reinsurance Services
National Insurance Agents & Consultants Ltd(2)	Full Consolidation	Equity Method Consolidation	Insurance Brokerage
Audatex Hellas S.A.(1) (2)	Full Consolidation	Equity Method Consolidation	Vehicle damages assessment
Grand Hotel Summer Palace S.A.	Full Consolidation	Equity Method Consolidation	Hotel Services
Social Securities Funds Management S.A.	Equity Method Consolidation	Equity Method Consolidation	Associate Company
Larco S.A.	Equity Method Consolidation	Equity Method Consolidation	Associate Company

Name of entity	Method of accounting consolidation	Method of regulatory consolidation	Description of the entity
Eviop Tempo S.A.	Equity Method Consolidation	Equity Method Consolidation	Associate Company
Teiresias S.A.	Equity Method Consolidation	Equity Method Consolidation	Associate Company
Planet S.A.	Equity Method Consolidation	Equity Method Consolidation	Associate Company
Pyrrichos Real Estate S.A.	Equity Method Consolidation	Equity Method Consolidation	Associate Company
Sato S.A.	Equity Method Consolidation	Equity Method Consolidation	Associate Company
Olganos S.A.	Equity Method Consolidation	Equity Method Consolidation	Associate Company

(1)Under Liquidation
(2) Companies have been reclassified to Non-current assets held for sale

In addition, participations exceeding 10% in the share capital or voting rights in financial sector entities (including insurance companies) are deducted from Common Equity Tier I capital (CET1) if exceeding threshold rules set in Regulation (EU) 575/2013.

The remaining companies that are not consolidated for regulatory purposes (hotels), are not deducted from equity. There is no NBG Group subsidiary or associate, which is proportionately consolidated for regulatory or accounting purposes.

Based on the current regulatory framework there is no substantial, practical or legal incapacity in capital transfers or payment of obligations between parent Bank and its subsidiaries. The time of full repayment of the subordinated loans, which have already been granted by the parent Bank to its subsidiaries, has been notified to the appropriate Supervisory Authorities and abides by the relative regulations of each country. Potential early prepayment of the above mentioned loans requires prior permission from appropriate Regulatory Authorities.

Table 4: Group – FINREP / COREP reconciliation

FINREP - Total assets as per published financial statements {Net of Provisions}	64,768
Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation (i.e. Insurance & Other entities)	**(2,314)**
Total assets for regulatory consolidation {Net of Provisions}	**62,454**
Provisions for Loans & advances to Customers and to Credit institutions	**10,326**
Total assets for regulatory consolidation {Before Provisions}	**72,780**
Assets deducted from TIER I	**(305)**
Goodwill and Intangibles	*(132)*
Significant Investments	*(158)*
Negative amounts resulting from the calculation of expected loss amounts	(12)
Deferred tax assets that rely on future profitability (excl. those arising from temporary differences)	*(3)*
Assets deducted from TIER II	**(69)**
Deductions for Financial and Insurance Entities outside the scope of regulatory consolidation	*(50)*
Significant Investments	*(18)*
Negative amounts resulting from the calculation of expected loss amounts	*(1)*
Adjustments for derivative financial instruments	**(3,394)**
Other adjustments related to credit risk mitigation techniques	**(444)**
Total assets included for Capital Adequacy Purposes	**68,568**
COREP - Total On Balance sheet exposures including CCR reported for Capital Adequacy {Before Provisions}	**68,568**
of which:	
Credit Risk - SA	**35,000**
Credit Risk - IRB	**31,470**
Counterparty Credit Risk	**295**
SFTs {Reverse Repos only	*6*
Derivatives	**289**
Securitisation	**10**
Market Risk	**1,793**

Amounts in the table correspond to FINREP & COREP submitted figures

4.3. Structure of own funds

Regulatory capital, according to CRR rules falls into two categories: Tier I and Tier II capital. Tier I capital is further divided into Common Equity Tier I (CET1) capital and Additional Tier I capital.

CET1 capital includes the Bank's ordinary shareholders' equity, share premium, retained earnings and minority interest allowed in consolidated CET1. The main features of capital instruments issued by the Group categorised as CET1 are disclosed in note 35 of the 2017 Annual Financial Report.

The following items are deducted from the above:

- fair value gains and losses arising from the institution's own credit risk related to derivative liabilities
- prudent valuation adjustment calculated according to article 105 of Regulation (EU) No 575/2013
- 80% of IRB shortfall of credit risk adjustments to expected losses (2017 Transitional Rules)
- 80% of goodwill and intangibles (2017 Transitional Rules)
- 80% of deferred tax assets not arising from temporary differences (2017 Transitional Rules)
- Deferred tax assets arising from temporary differences and significant investments that exceed 10% of CET1 filter (2017 Transitional Rules)

Tier II capital includes the excess of the accounting impairment losses on financial assets compared to the expected losses as calculated by the Internal Ratings Based approach for credit risk, up to 0.6% of the total IRB risk exposure amount. NBG Group's regulatory capital structure as of 31.12.2017 is presented below.

Table 5: Own Funds Structure

Group's Own Funds Structure	*Ref**	*€ mio*
Shareholders' Equity per balance sheet	*a*	**6,696**
Non-controlling interests		**145**
Non-controlling interests per balance sheet	*b*	*683*
Non-controlling interests in deconsolidated subsidiaries		*(1)*
Non-controlling interests not recognised in CET1		*(537)*
Regulatory Adjustments		**(203)**
Own credit risk		*(191)*
Prudent valuation adjustment		*(11)*
Other		*(1)*
Deductions		**(305)**
Goodwill and intangibles	*c*	*(132)*
Significant Investments	*d*	*(158)*
Negative amounts resulting from the calculation of expected loss amounts		*(12)*
Deferred tax assets that rely on future profitability (excl. those arising from temporary differences)	*e*	*(3)*
Common Equity Tier 1 Capital (CET1)		**6,333**
Additional Tier 1 Capital (AT1)		**-**
Total Tier 1 Capital		**6,333**
Credit risk adjustments		**83**
Deductions		**(69)**
Significant Investments	*d*	*(18)*
Subordinated loans of financial sector entities where the institution has a sign. Inv. in those entities	*f*	*(50)*
Negative amounts resulting from the calculation of expected loss amounts		*(1)*
Tier2 Capital		14
Total Regulatory Capital		**6,347**

**The references (a) to (f) refer to those in the reconciliation of balance sheets table.*

4.4. DTC Law

Article 27A of Law 4172/2013, ("DTC Law"), as currently in force, allows credit institutions, under certain conditions, and from 2017 onwards to convert deferred tax assets ("DTAs") arising from (a) private sector initiative ("PSI") losses, (b) accumulated provisions for credit losses recognized as at 30 June 2015, (c) losses from final write off or the disposal of loans and (d) accounting write offs, which will ultimately lead to final write offs and losses from disposals, to a receivable ("Tax Credit") from the Greek State. Items (c) and (d) above were added with Law 4465/2017 enacted on 29 March 2017. The same Law 4465/2017 provided that Tax Credit cannot exceed the tax corresponding to accumulated provisions recorded up to 30 June 2015 less (a) any definitive and cleared tax credit, which arose in the case of accounting loss for a year according to the provisions of par.2 of article 27A, which relate to the above accumulated provisions, (b) the amount of tax corresponding to any subsequent specific tax provisions, which relate to the above accumulated provisions and (c) the amount of the tax corresponding to the annual amortization of the debit difference that corresponds to the above provisions and other losses in general arising due to credit risk.

The main condition for the conversion of DTAs to a Tax Credit is the existence of an accounting loss on a solo basis of a respective year, starting from accounting year 2016 and onwards. The Tax Credits will be calculated as a ratio of IFRS accounting losses to net equity (excluding the year's losses) on a solo basis and such ratio will be applied to the remaining Eligible DTAs in a given year to calculate the Tax Credit that will be converted in that year, in respect of the prior tax year. The Tax Credit may be offset against income taxes payable. The non-offset part of the Tax Credit is immediately recognized as a receivable from the Greek State. The Bank will issue to the Greek State conversion rights for an amount of 100% of the Tax Credit and will create a specific reserve for an equal amount. Common shareholders have pre-emption rights on these conversion rights. The reserve will be capitalized with the issuance of common shares in favour of the Greek State. This legislation allows credit institutions to treat such DTAs as not "relying on future profitability" according to CRD IV, and as a result such DTAs are not deducted from CET1, hence improving a credit institution's capital position.

Furthermore, Law 4465/2017 amended article 27 "Carry forward losses" by introducing an amortization period of 20 years for losses due to loan write offs as part of a settlement or restructuring and losses that crystallize as a result of a disposal of loans.

On 7 November 2014 the Bank convened an extraordinary General Shareholders Meeting which resolved to include the Bank in the DTC Law. In order for the Bank to exit the provisions of the DTC Law it requires regulatory approval and a General Shareholders meeting resolution.

As of 31 December 2017, the amount of DTAs that were eligible for conversion to a receivable from the Greek State subject to the DTC Law was EUR 4.7 billion (2016: EUR 4.8 billion). The conditions for conversion rights were not met in the year ended 31 December 2016 and 31 December 2017 and no conversion rights are deliverable for 2017 and 2018.

4.5. Transitional own funds disclosure template

The table below provides information regarding the amounts and nature of specific items on own funds during the transitional period, in accordance with Annex VI of the Commission Implementing Regulation (EU) No 1423/2013.

Table 6: Transitional Own Funds

	Transitional own funds disclosure template as of 31.12.2017	*€ mio*
Common Equity Tier 1 capital: Instruments and Reserves		
1	Capital instruments and the related share premium accounts	16,609
2	Retained earnings	(15,582)
3	Accumulated other comprehensive income and other reserves	5,653
3a	Funds for general banking risk	15
5	Minority Interests (amount allowed in consolidated CET1)	145
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**6,840**
Common Equity Tier 1 capital: Regulatory Adjustments		
7	Additional Value Adjustments	(11)
8	Intangible assets (net of related tax liability)	(106)
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences	(3)
12	Negative amounts resulting from the calculation of expected loss amounts	(11)
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	(191)
19	CET1 instruments of financial sector entities where the institution has a significant investment	(140)
27	Qualifying AT1 deductions that exceed the AT1 capital of the institution	(45)
28	**Total regulatory adjustments to Common equity Tier 1 (CET1)**	**(507)**
29	**Common Equity Tier 1 (CET1) capital**	**6,333**
Additional Tier 1 (AT1) capital		
36	Additional Tier 1 (AT1) capital before regulatory adjustments	-
Additional Tier 1 (AT1) capital: regulatory adjustments		
41a	Residual amounts deducted from Additional Tier 1 capital with regard to deduction from Common Equity Tier 1 capital during the transitional period pursuant to article 472 of Regulation (EU) No 575/2013	(45)
	Of which: Goodwill and intangibles assets	*(26)*
	Of which: Significant Investments	*(18)*
	Of which: Negative amounts resulting from the calculation of expected loss amounts	*(1)*
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**(45)**
44	Additional Tier 1 (AT1) capital	-
45	**Tier 1 capital (T1 = CET1 + AT1)**	**6,333**
Tier 2 (T2) capital		
50	Credit risk adjustments	83
51	**Tier 2 capital (T2) capital before regulatory adjustments**	**83**
Tier 2 (T2) capital: Regulatory adjustments		
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities	(50)
56a	Residual amounts deducted from Tier 2 capital with regard to deduction from Common Equity Tier 1 capital during the transitional period pursuant to article 472 of Regulation (EU) No 575/2013	(19)
	Of which: Significant Investments	*(18)*
	Of which: Negative amounts resulting from the calculation of expected loss amounts	*(1)*
57	**Total regulatory adjustments to Tier 2 (T2) capital**	**(69)**
58	**Tier 2 (T2) capital**	**14**
59	**Total capital (TC = T1 + T2)**	**6,347**
60	**Total Risk Weighted Assets (RWAs)**	**37,334**
Capital Adequacy Ratios		**%**
	Common Equity Tier 1	**17.0%**
	Tier 1	**17.0%**
	TOTAL	**17.0%**

4.6. Capital requirements under Pillar I

The table below presents the risk exposure amounts (or Risk Weithted Assets - RWAs) and capital requirements at Group level under Pillar I as of 31.12.2017, according to the CRR/CRD IV regulatory framework. Capital requirements under Pillar I are equal to 8% of risk exposure amounts.

Table 7: EU OV1 - Overview of RWAs

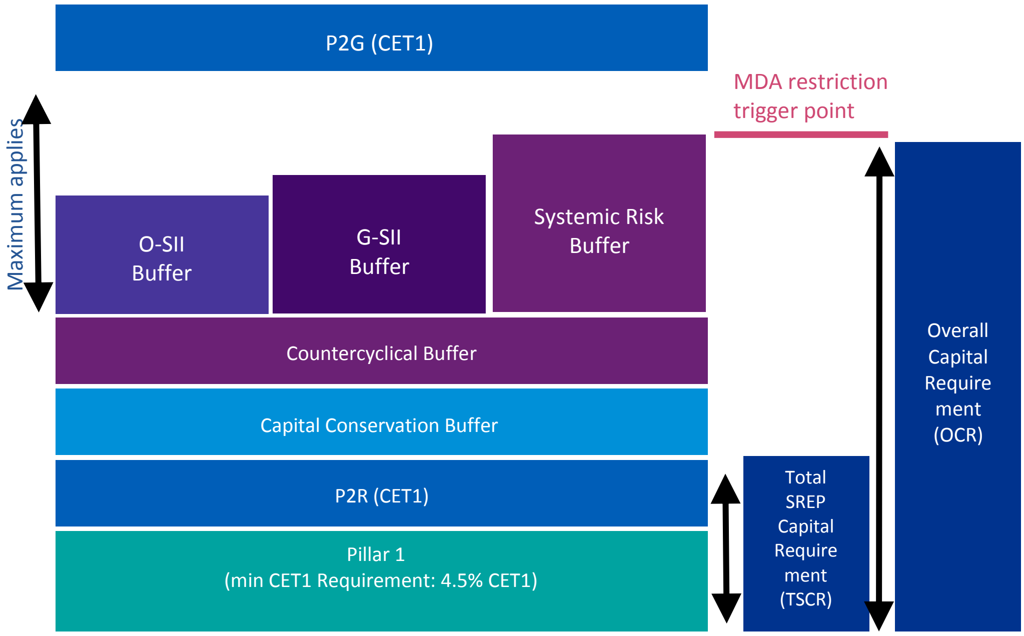
			RWAs		Minimum Capital Requirements
			T	T-1*	T
	1	Credit risk (excluding CCR)	**30,215**	**31,006**	**2,417**
Article 438(c)(d)	2	*Of which the standardised approach*	16,443	17,292	1,315
Article 438(c)(d)	3	*Of which the foundation IRB (FIRB) approach*	10,558	10,525	845
Article 438(c)(d)	4	*Of which the advanced IRB (AIRB) approach*	3.215	3.189	257
Article 438(d)	5	*Of which equity IRB under the simple risk-weighted approach or the IMA*	-	-	-
Article 107 Article 438(c)(d)	6	CCR	**584**	**489**	**47**
Article 438(c)(d)	7	*Of which mark to market*	94	86	7
Article 438(c)(d)	8	*Of which original exposure*			
	9	*Of which the standardised approach*	381	289	30
	10	*Of which internal model method (IMM)*	-	-	-
Article 438(c)(d)	11	*Of which risk exposure amount for contributions to the default fund of a CCP*	-	-	-
Article 438(c)(d)	12	*Of which CVA*	110	114	9
Article 438(e)	13	Settlement risk			
Article 449(o)(i)	14	Securitisation exposures in the banking book (after the cap)	-	-	-
	15	*Of which IRB approach*	-	-	-
	16	*Of which IRB supervisory formula approach (SFA)*	-	-	-
	17	*Of which internal assessment approach (IAA)*	-	-	-
	18	*Of which standardised approach*	-	-	-
Article 438 (e)	19	Market risk	**3,553**	**4,072**	**284**
	20	*Of which the standardised approach*	689	1,298	55
	21	*Of which IMA*	2,864	2,775	229
Article 438(e)	22	Large exposures	**-**	**-**	**-**
Article 438(f)	23	Operational risk	**2,981**	**2,955**	**239**
	24	*Of which basic indicator approach*	-	-	-
	25	*Of which standardised approach*	2,981	2,955	239
	26	*Of which advanced measurement approach*	-	-	-
Article 437(2), Article 48 and Article 60	27	Amounts below the thresholds for deduction (subject to 250% risk weight)	**2,118**	**2,082**	**169**
Article 500	28	Floor adjustment	-	-	-
	29	**Total**	**37,334**	**38,522**	**2,987**

**T-1 refers to 30.09.2017*

The disclosure regarding non deducted participations in insurance undertakings is not applicable since the Group does not apply the provisions set out in Article 49(1) of the CRR.

4.7. Overall Capital Requirement (OCR)

The stacking order of the various own funds requirements is shown in the figure below.



P2R: Pillar 2 Requirement, P2G: Pillar 2 Guidance, MDA: Maximum Distributable Amount, G-SII, O-SII: Global/Other Systemically Important Institutions

Figure 1: Stacking order of own funds requirements

Following the completion of the Supervisory Review and Evaluation Process (SREP) for year 2017, the ECB notified NBG Group of its new total SREP capital requirement (TSCR), which applies from 1 January 2018. According to this decision, the ECB requires National Bank of Greece to maintain, on an individual and consolidated basis, a total SREP capital requirement of 11%.

The TSCR of 11% includes:

- the minimum Pillar I own funds requirement of 8% to be maintained at all times in accordance with Article 92(1) of Regulation (EU) No 575/2013, and
- an additional Pillar II own funds requirement of 3% to be maintained at all times in accordance with Article 16(2)(a) of Regulation (EU) No 1024/2013, to be made up entirely of Common Equity Tier 1 capital.

In addition to the TSCR, the Group is also subject to the Overall Capital Requirement (OCR). The OCR consists of the TSCR and the combined buffer requirement as defined in point (6) of Article 128 of Directive 2013/36/EU.

The combined buffer requirement is defined as the sum of:

- the Capital Conservation Buffer
- the institution specific Countercyclical Capital Buffer (CcyB); and
- the systemic risk / systemically important institutions buffer, as applicable

The Capital Conservation Buffer stands at 1.875% for 2018 for all banks in the EU.

The systemic risk / systemically important institutions buffer is currently 0% for all four systemically important banks in Greece (BoG Acts 56/18.12.2015, 104/18.11.2016 and 126/15.11.2017).

The CCyB is implemented as an extension of the capital conservation buffer and has the primary objective of protecting the banking sector from periods of excess aggregate credit growth that have often been associated with the build-up of system-wide risk. It is calculated as the weighted average of the buffers in effect in the jurisdictions to which a bank has significant credit exposures. Bank of Greece defined its methodology for determining the CCyB in 2015 and consecutively set the CCyB at 0% for Greece throughout 2017 and for the first two quarters of 2018 (BoG Acts 107/2016, 115/2017, 119/2017, 122/2017, 127/2017 and 135/2018). CCyB is also currently 0% in all other countries in which NBG Group has significant exposures. **Thus, the institution specific Countercyclical Capital Buffer for NBG Group is currently 0%.**

The table below summarises all the capital requirements for NBG Group for 2017:

Table 8: NBG Group Capital Requirements

	CET1 Capital Requirements	Total Capital Requirements
Pillar 1	4.5%	8.0%
Pillar 2	3.0%	3.0%
Capital Conservation Buffer (2017)	1.875%	1.875%
Total	**9.375%**	**12.875%**

At December 31st 2017, both NBG Group's CET1 capital ratio and Total capital ratio stood at 17%, exceeding the regulatory requirements.

4.8. Leverage Ratio

Leverage ratio is calculated in accordance with the methodology set out in article 429 of the regulation (EU) No 575/2013 of the European Parliament and of the Council, as amended by European Commission delegated Regulation 62/2015 of 10 October 2014. It is defined as an institution's capital measure divided by that institution's total leverage exposure measure and is expressed as a percentage. The Group submits to the competent authority the leverage ratio on a quarterly basis.

As of 31 December 2017 Group leverage ratio, according to the transitional definition of Tier I and the EU Regulation 62/2015, amounts to 10.20%, exceeding the proposed minimum threshold of 3% (vs 8.99% as of 31 December 2016). Leverage ratio has been ticking up throughout 2017 (+1.2 ppts in Dec 2017 vs. Dec 2016), driven by balance sheet deleveraging by 16.6%, despite TIER I capital decrease by 5.3%.

The tables below include the summary and detailed disclosures on the Group's leverage ratio with reference date 31.12.2017 (amounts in € mio):

Table 9: Leverage ratio

Tier I	6,333
Total Exposure Measure	62,079
Leverage Ratio	**10.20%**

Table 10: Reconciliation of accounting assets and leverage ratio exposures

	Summary reconciliation of accounting assets and leverage ratio exposures	
		Exposures
1	Total assets as per published financial statements	64,768
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	(2,314)
3	Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure according to Article 429(13) of Regulation (EU) NO. 575/2013.	-
4	Adjustment for derivative financial instruments	(3,394)
5	Adjustments for securities financial transactions (SFTs)	1,403
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	3,067
7	Other adjustments	(1,450)
8	**Leverage ratio exposure**	**62,079**
	Leverage ratio common disclosure	
		CRR leverage ratio exposures
	On-balance sheet exposures (excluding derivatives and SFTs)	
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	57,620
2	Asset amounts deducted in determing Tier 1 capital	(305)
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)**	**57,315**
	Derivative exposures	
4	Replacement cost associated with all derivatives transactions (i.e net of eligible cash variation margin)	130
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	159
EU-5a	Exposure determined under Original Exposure Method	-
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	-
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-
8	(Exempted CCP leg of client-cleared trade exposures)	-
9	Adjusted effective notional amount of written credit derivatives	-
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-
11	**Total derivatives exposures**	**289**
	SFT exposures	
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	-
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-
14	Counterparty credit risk exposure for SFT assets	-
EU-14a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Articles 429b(4) and 222 of Regulation (EU) No 575/2013	-
15	Agent transaction exposures	-
EU-15a	(Exempted CCP leg of client-cleared SFT exposure)	-
	SFT exposures	
16	**Total securities financing transaction exposures**	**1,409.3**
	Other off-balance sheet exposures	
17	Off-balance sheet exposures at gross notional amount	10,525.3
18	Adjustments for conversion to credit equivalent amounts	(7,459)
19	**Other off-balance sheet exposures**	**3,067**
	Capital and total exposure measure	
20	**Tier 1 capital**	**6,333**
21	**Leverage ratio total exposure measure**	**62,079**
	Leverage Ratio	
22	**Leverage ratio**	**10.20%**
	Choice on transitional arrangements and amount of derecognised fiduciary items	
EU-23	Choice on transitional arrangements for the definition of the capital measure	Transitional
EU-24	Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) NO. 575/2013	-
	Split-up of on balance sheet exposures (excluding derivatives and SFTs)	
		CRR leverage ratio exposures
EU-1	Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	**57,620**
EU-2	Trading book exposures	**1,793**
EU-3	Banking book exposures, of which:	**55,827**
EU-4	*Covered bonds*	-
EU-5	*Exposures treated as sovereigns*	18,876
EU-6	*Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns*	102
EU-7	*Institutions*	1,188
EU-8	*Secured by mortgages of immovable properties*	12,046
EU-9	*Retail exposures*	4,116
EU-10	*Corporate*	8,830
EU-11	*Exposures in default*	6,459
EU-12	*Other exposures (eg equity, securitisations, and other non-credit obligation assets)*	4,211

5. CREDIT RISK

5.1. Definitions and general information

For accounting purposes, “past due” exposures are those exposures which are past due for at least 1 day. For accounting purposes, “impaired” exposures are defined as follows:

- loans that are individually impaired,
- loans that are collectively assessed for impairment with one of the following :
  - loans for which interest, principal, or other amount relating to the loans is past due for more than 90 days, and
  - loans for which management believes that there is objective evidence of impairment due to other factors

The past-due exposures (more than 90 days) that are not considered to be impaired amount to €104mn, the main reason being the individual assessment as described below in section 5.2 (individually assessed and not found to be impaired).

5.2. Impairment loss calculation methodology

The Group assesses at each reporting date whether there is objective evidence that a loan (or group of loans) is impaired.

A loan (or group of loans) is impaired and impairment losses are incurred if, and only if, there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the loan (“loss event”) and that loss event (or events) has an impact on the estimated future cash flows of the loan (or group of loans) that can be reliably estimated.

An allowance for impairment is established if there is objective evidence that the Group will be unable to collect all amounts due according to the original contractual terms.

Objective evidence that a loan is impaired includes observable data that comes to the attention of the Group about the following loss events:

a) significant financial difficulty of the issuer or obligor;

b) a breach of contract, such as a default or delinquency in interest or principal payments;

c) the Group, for economic or legal reasons relating to the borrower’s financial difficulty, granting to the borrower a concession that it would not otherwise consider;

d) it becoming probable that the borrower will enter bankruptcy or other financial reorganisation;

e) the disappearance of an active market for that financial asset because of financial difficulties; or

f) observable data indicating that there is a measurable decrease in the estimated future cash flows from a group of financial assets since the initial recognition of those assets, although the decrease cannot yet be identified with the individual financial assets in the group, including:

   i. adverse changes in the payment status of borrowers in the group (e.g. an increased number of delayed payments); or

   ii. national or local economic conditions that correlate with defaults on the assets in the group.

The impairment loss is reported through the use of an allowance account on the Statement of Financial Position. Additions to impairment losses are made through credit provisions and other impairment charges in the Income statement.

The Group assesses whether objective evidence of impairment exists individually for loans that are considered individually significant and individually or collectively for loans that are not considered individually significant. Individually significant exposures are those exposures that exceed the lower of 0.1% NBG’s group entity’s equity and €750 thousand.

If there is objective evidence that an impairment loss on loans and advances to customers carried at amortised cost has been incurred, the amount of the loss is measured as the difference between the loans’ carrying amount and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at a) the loan’s original effective interest rate, if the loan bears a fixed interest rate, or b) current effective interest rate, if the loan bears a variable interest rate.

The calculation of the present value of the estimated future cash flows of a collateralised loan reflects the cash flows that may result from obtaining and selling the collateral, whether or not foreclosure is probable.

For the purposes of a collective evaluation of impairment, loans are grouped on the basis of similar credit risk characteristics. Corporate loans are grouped based on days in arrears, product type, economic sector, size of business, collateral type and other relevant credit risk characteristics. Retail loans are also grouped based on days in arrears or product type. Those characteristics are relevant to the estimation of future cash flows for pools of loans by being indicative of the debtors’ ability to pay all amounts due and together with historical loss experience for loans with credit risk characteristics similar to those in the pool form the foundation of the loan loss allowance computation. Historical loss experience is adjusted on the basis of current observable data to reflect the effects of current conditions that did not affect the period on which the historical loss experience is based and to remove the effects and conditions in the historical period that do not currently exist.

The methodology and assumptions used in estimating future cash flows are reviewed regularly by the Group to reduce any differences between loss estimates and actual loss experience.

In the case of loans to borrowers in countries where there is an increased risk of difficulties in servicing external debt, an assessment of the political and economic situation is made, and additional country risk provisions are established if necessary.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognised (such as an improvement in the debtor's credit rating), the previously recognised impairment loss is reversed by adjusting the allowance account. The amount of the reversal is recognised in the Income statement as part of the impairment charge for credit losses on loans and advances to customers.

Subject to compliance with tax laws in each jurisdiction, a loan, which is deemed to be uncollectible or forgiven, is written off against the related provision for loans impairment. Subsequent recoveries are credited to impairment losses on loans and advances to customers in the Income statement.

IFRS 9 accounting standard will replace IAS 39 standard from January 1st, 2018 and is expected to have a substantial impact on banks, mainly because it requires the measurement of impairment loss provisions to be based on an expected credit loss (ECL) accounting model rather than on an incurred loss accounting model. As a consequence, the new standard will result in a new impairment loss calculation methodology.

5.3. General information on Credit Risk

Table 11: EU CRB-B - Total and average net amount of exposures

	a	b
Exposure Class	Net value of exposures at 31.12.2017	Average net exposures over 2017
Central Governments or Central Banks	-	-
Intitutions	-	-
Corporates	19,352	19,004
Of which: Specialised lending	3,036	2,966
Of which: SMEs	7,601	7,424
Retail	13,448	13,583
Secured by real estate property	12,111	12,219
SMEs	912	935
Non-SMEs	11,199	11,284
Qualifying revolving	-	-
Other Retail	1,337	1,364
SMEs	1,337	1,364
Non-SMEs	-	-
Equity	-	-
Total IRB approach	**32,800**	**32,587**
Central Governments or Central Banks	16,437	16,210
Regional governments or local authorities	20	24
Public sctor entities	177	184
Multirateral development banks	130	97
International organisations	1,208	3,855
Institutions	6,661	7,479
Corporates	1,357	1,817
Of which: SMEs	719	968
Retail	5,705	6,142
Of which: SMEs	281	355
Secured by mortgages on immovable property	1,246	1,490
Of which: SMEs	257	321
Exposures in default	1,695	2,118
Items associated with particularly high risk	146	94
Covered bonds	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-
Collective investments undertakings	6	39
Equity exposures	759	762
Other exposures	3,035	3,102
Total standardised approach	**38,581**	**43,414**
Total	**71,380**	**76,001**

Table 12: EU CRB-C - Geographical breakdown of exposures

Exposure Class	Greece	Cyprus	Marshall Islands	Romania	FYROM	Luxemburg	United Kingdom	Other Countries	Total
Central Governments or Central Banks	-	-	-	-	-	-	-	-	-
Intitutions	-	-	-	-	-	-	-	-	-
Corporates	17,651	24	864	75	-	80	60	599	**19,352**
Retail	13,448	-	-	-	-	-	-	-	**13,448**
Equity	-	-	-	-	-	-	-	-	**-**
Total IRB approach	***31,099***	***24***	***864***	***75***	***0***	***80***	***60***	***599***	***32,800***
Central Governments or Central Banks	14,717	170	-	275	307	-	-	968	**16,437**
Regional governments or local authorities	19	1	-	-	-	-	-	-	**20**
Public sctor entities	165	-	-	-	-	-	-	11	**177**
Multirateral development banks	-	-	-	-	-	130	-	-	**130**
International organisations	-	-	-	-	-	1,208	-	-	**1,208**
Institutions	620	2	-	60	1	8	4,416	1,555	**6,661**
Corporates	404	372	-	131	232	-	-	218	**1,357**
Retail	4,451	48	-	414	622	-	1	169	**5,705**
Secured by mortgages on immovable property	366	40	-	446	349	-	1	44	**1,246**
Exposures in default	1,345	143	-	98	43	-	9	55	**1,695**
Items associated with particularly high risk	-	141	-	-	-	-	2	3	**146**
Covered bonds	-	-	-	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-
Collective investments undertakings	6	-	-	-	-	-	-	-	**6**
Equity exposures	731	2	-	1	1	1	19	4	**759**
Other exposures	2,830	30	-	74	46	-	5	51	**3,035**
Total standardised approach	***25,654***	***949***	***-***	***1,500***	***1,603***	***1,347***	***4,452***	***3,077***	***38,581***
Total	**56,752**	**972**	**864**	**1,574**	**1,603**	**1,427**	**4,512**	**3,677**	**71,381**

Table 13: EU CRB-D - Concentration of corporate exposures by industry

	a	b	c	d	e	f	g	h	i	j
	Agriculture, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning supply	Water supply	Construction	Wholesale and retail trade	Transport and storage	Accommodation and food service activities	Information and communication
Central Governments or Central Banks	-	-	-	-	-	-	-	-	-	-
Intitutions	-	-	-	-	-	-	-	-	-	-
Corporates	253	65	5,367	1,895	106	2,237	3,581	1,964	1,121	753
Retail	-	-	-	-	-	-	-	-	-	-
Equity	-	-	-	-	-	-	-	-	-	-
Total IRB approach	**253**	**65**	**5,367**	**1,895**	**106**	**2,237**	**3,581**	**1,964**	**1,121**	**753**
Total standardised approach*	-	-	-	-	-	-	-	-	-	-
Total	**253**	**65**	**5,367**	**1,895**	**106**	**2,237**	**3,581**	**1,964**	**1,121**	**753**

Table 13: EU CRB-D - Concentration of corporate exposures by industry *(continued)*

	k	l	m	n	o	p	q	r	s	u	v
	Other Financial Services	Real estate activities	Professional, scientific and technical activities	Administrative and support service activities	Public administration and defence,	Education	Activities of extraterritorial organisations and	Human health services and social work activities	Arts, entertainment and recreation	Other services	**Total**
Central Governments or Central Banks	-	-	-	-	-	-	-	-	-	-	-
Intitutions	-	-	-	-	-	-	-	-	-	-	-
Corporates	187	881	292	172	-	18	7	276	175	3	**19,352**
Retail	-	-	-	-	-	-	-	-	-	-	-
Equity	-	-	-	-	-	-	-	-	-	-	-
Total IRB approach	**187**	**881**	**292**	**172**	**-**	**18**	**7**	**276**	**175**	**3**	**19,352**
Total standardised approach*	-	-	-	-	-	-	-	-	-	-	-
Total	**187**	**881**	**292**	**172**	**-**	**18**	**7**	**276**	**175**	**3**	**19,352**

**All corporate exposures are under IRB approach, therefore the breakdown of standardised exposures by industry is not applicable for the purposes of this table*

Table 14: EU CR1-A - Credit quality of exposures by exposure class and instrument

Exposure Class	a	b	C	d	e	G
	Gross carrying values of		Specific credit risk adjustments	General credit risk adjustments	Accumulated write-offs	Net values (a+b-c-d)
	Defaulted exposures	Non-defaulted exposures				
Central Governments or Central Banks	-	-	-	-	-	-
Intitutions	-	-	-	-	-	-
Corporates	6,504	16,983	4,135	-	262	19,352
Of which: Specialised lending	297	3,034	294	-	-	3,036
Of which: SMEs	4,886	5,745	3,030	-	70	7,601
Retail	6,120	10,463	3,136	-	55	13,448
Secured by real estate property	4,897	9,333	2,119	-	26	12,111
SMEs	833	647	568	-	-	912
Non-SMEs	4,064	8,686	1,550	-	26	11,199
Qualifying revolving	-	-	-	-	-	-
Other Retail	1,224	1,131	1,018	-	29	1,337
SMEs	1,224	1,131	1,018	-	29	1,337
Non-SMEs	-	-		-	-	-
Equity	-	-		-	-	-
Total IRB approach	**12,624**	**27,447**	**7,271**	**-**	**317**	**32,800**
Central Governments or Central Banks	-	16,440	4	-	-	16,437
Regional governments or local authorities	-	20	0	-	-	20
Public sctor entities	-	179	2	-	-	177
Multirateral development banks	-	130	-	-	-	130
International organisations	-	1,208	-	-	-	1,208
Institutions	-	6,663	2	-	-	6,661
Corporates	-	1,362	6	-	-	1,357
Of which: SMEs	-	724	5	-	-	719
Retail	-	5,796	91	-	-	5,705
Of which: SMEs	-	285	4	-	-	281
Secured by mortgages on immovable property	-	1,246	0	-	-	1,246
Of which: SMEs	-	257	0	-	-	257
Exposures in default	4,596	-	2,901	-	635	1,695
Items associated with particularly high risk	-	194	49	-	-	146
Covered bonds	-	-	-	-	-	-
Claims on institutions and corporates with a short-term credit assessment	-	-	-	-	-	-
Collective investments undertakings	-	6	-	-	-	6
Equity exposures	-	759	-	-	-	759
Other exposures	-	3,035	-	-	-	3,035
Total standardised approach	**4,596**	**37,039**	**3,054**	**-**	**635**	**38,581**
Total	**17,220**	**64,486**	**10,326**	**-**	**952**	**71,380**
Of which: Loans	16,515	34,650	10,248		952	40,917
Of which: Debt securities	-	3,685	-	-	-	3,685
Of which: Off-balance sheet exposures	705	9,820	78			10,447

Table 15: EU CR1-B - Credit quality of corporate exposures by industry

Sector	a	b	C	d	e	G
	Gross carrying values of		Specific credit risk adjustments	General credit risk adjustments	Accumulated write-offs	Net values
	Defaulted exposures	Non-defaulted exposures				(a+b-c-d)
Agriculture, forestry and fishing	140	163	50	-	-	253
Mining and quarrying	11	58	4	-	-	65
Manufacturing	1,693	4,700	1,026	-	18	5,367
Electricity, gas, steam and air conditioning supply	27	1,892	25	-	-	1,895
Water supply	3	105	2	-	-	106
Construction	436	2,094	293	-	-	2,237
Wholesale and retail trade	1,650	3,057	1,126	-	78	3,581
Transport and storage	671	1,846	553	-	12	1,964
Accommodation and food service activities	423	903	205	-	2	1,121
Other Financial Services	117	166	95	-	37	187
Information and communication	429	593	269	-	65	753
Real estate activities	458	713	290	-	4	881
Professional, scientific and technical activities	162	131	1	-	-	292
Administrative and support service activities	40	163	31	-	7	172
Public administration and defence, compulsory social security	-	-	-	-	-	-
Education	28	9	19	-	-	18
Activities of extraterritorial organisations and bodies	6	6	6	-	3	7
Human health services and social work activities	117	249	90	-	-	276
Arts, entertainment and recreation	92	134	50	-	-	175
Other services	1	2	0	-	38	3
Total	**6,504**	**16,983**	**4,135**	**-**	**262**	**19,352**

Table 16: EU CR1-C - Credit quality of exposures by geography

Country	a	b	C	d	e	G
	Gross carrying values of		Specific credit risk adjustments	General credit risk adjustments	Accumulated write-offs	Net values
	Defaulted exposures	Non-defaulted exposures				(a+b-c-d)
Greece	15,930	50,222	9,400	-	834	56,752
Cyprus	353	878	259	-	44	972
Marshall Islands	170	837	143	-	-	864
Romania	299	1,442	167	-	-	1,574
FYROM	122	1,564	84	-	-	1,603
Luxemburg	7	1,425	6	-	-	1,427
United Kingdom	15	4,503	6	-	-	4,512
Other countries	323	3,615	261	-	74	3,677
Total	**17,220**	**64,486**	**10,326**	**-**	**952**	**71,380**

5.4. Provision analysis

Table 17: EU CR1-D - Ageing of past due exposures

		a	b	C	d	e	f
		Gross carrying values					
		≤ 30 days	> 30 days ≤ 60 days	> 60 days ≤ 90 days	> 90 days ≤ 180 days	> 180 days ≤ 1 year	> 1 year
1	Loans	2,443	698	559	552	1,295	11,925
2	Debt securities	-	-	-	-	-	-
3	**Total exposures**	2,443	698	559	552	1,295	11,925

Table 18: EU CR1-E - Non-performing and forborne exposures

	a	b	C	d	e	f	g	h	i	j	k	l	m
	Gross carrying values of performing and non-performing exposures							Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
		of which performing but past due > 30 days ≤ 90 days	Of which performing forborne	Of which non-performing				On performing exposures		On non-performing exposures		On non-performing exposures	Of which forborne exposures
					Of which defaulted	Of which impaired	Of which forborne		Of which forborne		Of which forborne		
Debt securities	3,685	-	-	-	-	-	-	-	-	-	-	-	-
Loans and advances	51,165	430	2,788	18,598	16,507	17,423	7,304	(287)	(102)	(9,952)	(2,783)	7,305	5,643
Off-balance sheet exposures	9,604	-	-	239	230	-	-	-	-	-	-	-	-

Table 19 : EU CR2-A - Changes in the stock of general and specific credit risk adjustments

		a	b
		Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment
1	**Opening balance**	(11,464)	
2	Increases due to amounts set aside for estimated loan losses during the period	(826)	-
3	Decreases due to amounts reversed for estimated loan losses during the period	135	-
4	Decreases due to amounts taken against accumulated credit risks adjustments	1,505	-
5	Tranfers between credit risk adjustments	(5)	-
6	Other adjustments	417*	-
7	**Closing balance**	(10,239)	-
8	Recoveries on credit risk adjustments recorded directly to the statementt of profit or loss	-	-
9	Specific credit risk adjustments directly recorded to the statement of profit or loss	-	-

** Other adjustments also includes a) Impact of exchange rate differences and b) Business Combinations, incl. acquisition*

5.5. Credit Risk Mitigation techniques

Since 2007, NBG uses a specialised Collateral Management system, both for corporate and retail exposures. The system aims to:

- Record Bank's collaterals
- Establish a connection between loan contract and collateral
- Assess qualitatively all collaterals
- Monitor collaterals' market value and estimate coverage ratio
- Provide information regarding each and every obligor's collaterals
- Retrieve necessary data for the estimation of capital requirements per facility

- Automatically monitor the obligor's entire credit risk position.

The Collateral Management system provides a large number of control elements, reducing operational risk, also keeping track of all securities offered to the Bank, both those that are currently active and those that matured.

The system calculates and/or keeps the following values per collateral:

- Value as of input day
- Current market value (for traded securities, etc.)
- Security/Guarantee value: this is lower than the Current market value by a fixed proportion which, in turn, is based on the collateral's liquidation feasibility
- Market value, Tax value, Forced Sale value, Land and Buildings value and Construction Cost for all real estate collaterals.

In principle, NBG accepts the following credit risk mitigation types (funded and unfunded):

- Guarantees from:
    - Physical and Legal entities, both from the Private and Public Sector
    - Central governments, Regional governments, local authorities and PSEs
    - Financial institutions
    - The Greek Government and the Hellenic Fund for Entrepreneurship and Development (ETEAN SA)
- Pledges of
    - Securities (cheques and bills of exchange)
    - Deposits
    - Equity, Mutual funds and Non-tangible securities (bonds, etc.)
    - Claims against Central Government, Public and Private Sector Entities
    - Goods, Exported claims and Leases
    - Letters of Guarantee and Trademarks
    - Claims on Insurance Contracts
    - Claims from Credit Cards' sales
- Liens
    - On Real Estate and Ships
- Other
    - Discounting of Bills of Exchange
    - Cash
    - Receivables

Credit and Counterparty Risk exposures secured by CRR eligible credit risk mitigation instruments (collateral and guarantees) as of 31.12.2017 (in € mio) were as follows:

Table 20 : EU CR3 - CRM techniques – Overview

		a	b	c	d	e
		Exposures unsecured - Carrying amount	Exposures secured - Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
1	Total loans	7,932	32,993	28,773	4,220	
2	Total debt securities	3,685				
3	**Total exposures**	**11,617**	**32,993**	**28,773**	**4,220**	
4	*Of which defaulted*	*1,215*	*5,053*	*4,374*	*679*	

5.6. Portfolios under the Standardised Approach

External Credit Assessment Institutions (ECAI) used to risk weight exposures under the Standardised Approach are Standard & Poor's, Moody's Investors Service Ltd and Fitch Ratings Ltd. There is no process to transfer the issuer and issue credit assessments onto items not included in the trading book, as this is not applicable to NBG Group's portfolios.

The asset classes for which ECAI ratings are used are the following:

- Central Governments and Central Banks
- Regional Governments and Local Authorities
- Public Sector Entities
- Financial Institutions
- Corporate (Standardised approach)

The table below presents the Exposures (net of accounting provisions), before and after Credit Risk Mitigation (CRM), as of 31.12.2017, according to the supervisory exposure classes (amounts are in € mio):

Table 21: EU CR4 - Standardised approach - Credit Risk Exposure and CRM effects

	a	b	c	d	e	f
	Exposures before CCF and CRM		**Exposures post CCF and CRM**		**RWAs and RWA density**	
Exposure classes	On-balance-sheet amount	Off-balance-sheet amount	On-balance-sheet amount	Off-balance-sheet amount	RWAs*	RWA density
Central governments or central banks	16,365	-	17,536	-	5,662	0.32%
Regional governments or local authorities	18	2	17	-	4	0.20%
Public sector entities	113	64	81	6	87	1.00%
Multilateral development banks	130	-	130	-	-	0.00%
International organisations	1,208	-	1,208	-	-	0.00%
Institutions	1,877	188	1,898	96	335	0.17%
Corporates	958	357	939	145	1,051	0.97%
Retail	4,445	1,260	3,510	2	2,596	0.74%
Secured by mortgages on immovable property	1,235	11	1,235	5	477	0.38%
Exposures in default	1,693	2	1,688	1	1,975	1.17%
Exposures associated with particularly high risk	109	37	109	28	206	1.50%
Covered bonds	-	-	-	-	-	-
Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-
Collective investment undertakings	6	-	6	-	6	1.00%
Equity	759	-	759	-	1,736	2.29%
Other items	3,035	-	3,035	-	2,307	0.76%
Total	31,950	1,921	32,151	284	16,443	0.51%

**Counterparty Credit Risk RWAS are not included*

Table 22 : EU CR5 - Standardised approach

	Exposure classes	**Risk Weight**							
		0%	2%	4%	10%	20%	35%	50%	70%
1	Central governments or central banks	12,161	-	-	-	9	-	-	-
2	Regional governments or local authorities	-	-	-	-	18	-	-	-
3	Public sector entities	-	-	-	-	-	-	-	-
4	Multilateral development banks	130	-	-	-	-	-	-	-
5	International organisations	1,208	-	-	-	-	-	-	-
6	Institutions	841	-	-	-	984	-	77	-
7	Corporates	-	-	-	-	-	-	-	-
8	Retail	-	-	-	-	-	-	-	-
9	Secured by mortgages on immovable property	-	-	-	-	-	857	383	-
10	Exposures in default	-	-	-	-	-	-	-	-
11	Exposures associated with particularly high risk	-	-	-	-	-	-	-	-
12	Covered bonds	-	-	-	-	-	-	-	-
13	Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-
14	Collective investment undertakings	-	-	-	-	-	-	-	-
15	Equity	-	-	-	-	-	-	-	-
16	Other items	725	-	-	-	4	-	-	-
17	**Total**	**15,064**	-	-	-	**1,014**	**857**	**460**	-

Table 23 : EU CR5 - Standardised approach *(continued)*

	Exposure classes	Risk Weight 75%	100%	150%	250%	370%	1250%	Others	Deducted	Total*
1	Central governments or central banks	-	5,172	-	195	-	-	-	-	17,537
2	Regional governments or local authorities	-	-	-	-	-	-	-	-	18
3	Public sector entities	-	87	-	-	-	-	-	-	87
4	Multilateral development banks	-	-	-	-	-	-	-	-	130
5	International organisations	-	-	-	-	-	-	-	-	1,208
6	Institutions	-	80	13	-	-	-	-	-	1,995
7	Corporates	-	1,084	-	-	-	-	-	-	1,084
8	Retail	3,512	-	-	-	-	-	-	-	3,512
9	Secured by mortgages on immovable property	-	-	-	-	-	-	-	-	1,241
10	Exposures in default	-	1,116	573	-	-	-	-	-	1,689
11	Exposures associated with particularly high risk	-	-	137	-	-	-	-	-	137
12	Covered bonds	-	-	-	-	-	-	-	-	-
13	Institutions and corporates with a short-term credit assessment	-	-	-	-	-	-	-	-	-
14	Collective investment undertakings	-	6	-	-	-	-	-	-	6
15	Equity	-	107	-	652	-	-	-	-	759
16	Other items	-	2,307	-	-	-	-	-	-	3,035
17	**Total**	**3,512**	**9,958**	**723**	**847**	-	-	-	-	**32,436**

**Counterparty Credit Risk exposures are not included*

5.7. Portfolios under the Internal Ratings Based Approach

The Bank uses:

- the Foundation Internal Ratings Based (FIRB) Approach with respect to its exposures to corporate customers, including Specialised Lending exposures
- the Internal Ratings Based (IRB) Approach with respect to its Mortgage Portfolio and its SME Retail Portfolio.

A comprehensive and well-documented roll-out plan has been developed, that enables the Group to gradually implement the Internal Ratings Based Approach to all of its banking book loan exposures, providing permanent exception for specific classes as per the relevant Regulation (EU) 575/2013 (CRR) provisions. In the first year of the roll-out plan more than 50% of loan exposures were included in the IRB approach and their relative weight has been increasing since.

5.7.1. Structure and use of internal ratings systems

The Bank has developed Internal Rating Systems for Corporate Exposures (including Specialised Lending Exposures), as well as for Exposures to individuals fully collateralised by residential real estate (Housing Loans) and SME Retail exposures.

As far as Corporate Exposures are concerned, the Rating System distinguishes between the risk characteristics of the obligor and those of the facility, classifying the obligors to the Rating System's scale. Credit Assessments by External Credit Assessment Institutions (ECAIs) are not considered for the classification, as this is implemented by the models employed. The Obligor Rating Process is explicitly described in the Credit Policy of the Corporate Portfolio. Based on this Rating System, a Probability of Default (PD) is assigned to each obligor.

Project Finance and Object Finance facilities, falling under Specialised Lending Exposures, are rated using a Slotting Criteria model, with given specific risk-weighted factors as per EU Regulation 575/2013.

SME Retail clientele is rated through the combined application of two models, the SMEs Application Model and the SMEs Behavioural Model, both developed internally. The final evaluation is carried out at a borrower level, combining financial data (if available), quality indicators and the score which is produced by the behavioral model. The SMEs behavioral model takes into account the customer's transactional behavior, collateral provided, the cooperation with the Bank and the geographical area that business operates.

For Housing Loans, the Bank uses two rating systems reflecting both obligor and facility risk. These systems provide both a Probability of Default (PD) estimate and a Loss Given Default (LGD) estimate. Both rating systems group loans in pools with common risk characteristics, avoiding large concentration in each pool. For the assignment into pools, obligor and facility risk criteria as well as current delinquency and repayment history criteria are used. Both rating procedures are consistent with the Retail Credit Policy and take into consideration all available up to date information. Internal pools, PDs and LGDs are used in risk management as well as in loan approval and provision allocation.

5.7.2. Credit Risk Mitigation

All risk mitigation items (collaterals and guarantees) are recorded, monitored and assessed through the Bank's Collateral Management System. Exposures can either be secured via pledging of collateral or contractually guaranteed by a third party (e.g. individuals, corporate entities, financial institutions, Public Sector Entities, the Hellenic Government or the Hellenic Fund for Entrepreneurship and Development – ETEAN SA). Guarantees being accepted by the Bank and their risk mitigation impact on underlying credit risk are described in the Credit Policy documents of both Corporate and Retail Portfolios (see also Section 5.6).

For corporate and retail portfolios, collateral values and related trends in Greece are monitored and updated based on independent appraisals by RICS-certified appraisers, an independent published Greek real property index ("PropIndex"), and official reports prepared by the Bank of Greece.

The existence and value of collaterals is closely monitored, according to documented internal procedures of the Bank. The frequency and the objective of the appraisals are determined by the competent approval units and in any case comply with the relevant policies.

Property valuations are performed in line with the European Valuation Standards (EVS) and the International Valuation Standards (IVS). They include "Valuations", to determine the market value of assets, and if needed "Technical Opinions", to document in writing a clear and objective opinion on the fair value for the implementation of a building project, investment plan or equipment supply.

The main collateral type, is mortgage on real estate. Supplementary on mortgage it is possible to accept financial collaterals such as pledge on deposits or securities. More specifically, for housing loans the Bank preferably requires for each loan contract first lien in mortgage on the financed property or other property suitable for collateral. For the retail residential property loans, the first valuation is done by inspection (on-site visit) inside the real property, thereafter on an annual basis by "Propindex", a real estate index for the Greek market, and sampling (5%) utilizing desktop methodology.

Similarly, for the commercial property and for Plots/Lands, revaluation is done by an on-site visit every 3 and 5 years respectively, and in the interim on an annual basis utilizing desktop methodology.

Other property valuation types that include Commercial, Residential and Plots/Land for Business banking purposes or regarding customers that fall within the jurisdiction of the Special Assets Unit ("SAU"), are treated with a similar methodology to retail banking and in any case are revaluated annually, either by on-site assessment, via a real estate index or utilizing desktop methodology.

The Collateral Management System that NBG uses to assess current evaluations of commercial values is a web-based software platform providing a flexible and easily adjusted workflow according to NBG's business requirements, enabling online collaboration with all involved units and entities (external appraisers, internal reviewers, business units, branch network, central operations) to efficiently manage the delegation of business requests involving the re-estimation of pledged real estate property, securing either corporate or retail loans. Following this implementation, NBG derives the best possible results for appraising and obtaining the most up-to-date information on collateral coverage amounts and the optimum coordination of the competent external appraisers, under the direct supervision of the Group's Technical Services Division sharing its assistance whenever it is necessary.

Collaterals and guarantees eligible for regulatory Credit Risk Mitigation purposes, as per EU Regulation 575/2013, are explicitly marked within the Collateral Management System in order to correctly assess their effect on Expected Loss and Regulatory Capital requirements.

Table 23: EU CR7 - IRB approach - Effect on the RWAs of credit derivatives used as CRM techniques

	a	b
	Pre-credit derivatives RWAs	**Actual RWAs**
Exposures under FIRB		
Central Governments or Central Banks	-	-
Intitutions	-	-
Corporates - SMEs	3,339	3,339
Corporates - Specialised lending	2,301	2,301
Corporates - Other	4,918	4,918
Exposures under AIRB	**Pre-credit derivatives RWAs**	**Actual RWAs**
Central Governments or Central Banks	-	-
Intitutions	-	-
Corporates - SMEs	-	-
Corporates - Specialised lending	-	-
Corporates - Other	-	-
Retail - Secured by real estate SMEs	344	344
Retail - Secured by real estate non-SMEs	2,710	2,710
Retail - Qualifying revolving		
Retail - Other SMEs	161	161
Retail - Other non-SMEs		
Equity IRB	-	
Other non-credit obligation assets	-	
Total	**13,773**	**13,773**

5.7.3. Control mechanisms of Internal Rating Systems

NBG Group's Credit Risk Models' policies describe specific rules regarding the control and revision of all credit rating systems and relevant models. The purpose of the policies is to ensure transparency across the Group regarding model development, validation and calibration. All risk systems and models used by the Bank and its Subsidiaries to monitor and estimate credit risk fall under the GRCA Division's competence, which has access to all data and models across the Group.

The aforementioned rating systems have been approved by BoG for use in regulatory capital calculation. The systems are validated on an annual basis, but are also checked monthly through the corporate and retail portfolio quality reports. Rating systems are reviewed in case of either a significant discrepancy, between observed risk metrics (default frequency, actual losses) and predicted parameters or of a pronounced delinquency tendency.

An independent Model Validation Unit reporting directly to the CRO ensures monitoring, validation and calibration of all models, prepares and submits reports destined to inform Bank's Senior Management and Board Risk Committee and coordinates all respective actions taken by Bank's subsidiaries Risk Divisions.

5.7.4. Models and Internal Rating process of the Corporate Portfolio

The Obligor Risk Rating methodology is presented in full detail in the Corporate Credit Policy. The Obligors' Risk Rating (ORR) Scale being straightly connected to the assigned Probabilities of Default consists of 21 grades, 19 of which concern performing obligors whereas the remaining two relate to defaulted obligors, "default" being defined as per regulatory rules and the relevant Credit Policy. Every ORR grade is mapped to a single PD.

The rating of an Obligor reflecting the relative default risk is conducted by the relevant Business Division and approved either by the responsible Credit Approving Body, through the relevant credit approval process, or by the Head of the Credit Division and the Head of Corporate Division in cases that a Credit Facility Framework approval is not involved (categorisation procedure). Different credit exposures against the same obligor all receive the same ORR, irrespective of any difference between corresponding facilities (e.g. collateral pledged, type of credit line, etc.). ORRs are reviewed at least annually or more often upon any release of new information or publication of financial statements regarding the Obligor.

For rating corporate obligors the Bank uses four different models developed by GRCA. Specifically:

- All firms with full financial statements are rated using the Corporate Rating Model (CRM); any existing rating by an ECAI is not taken into consideration.
- Smaller-sized firms, which belong to the Corporate portfolio but do not disclose full financial statements (i.e. they keep Greek GAAP B' category General Ledger books) are rated using a Limited Financials Scorecard.
- Specialised Lending exposures i.e., project finance and object finance (oceangoing shipping) exposures are rated using two Slotting Criteria models, structured like expert judgement scorecards.
- Special case obligors (e.g. venture companies with no full year financial statements yet, newly established companies lacking financial statements, insurance companies, not-for-profit organisations, SMEs that have recently been embodied in corporate portfolio due to the increase of their annual turnover etc.), are rated by an Expert Judgment Model.

Further analysis of each rating model used in the Corporate Portfolio is provided below.

Selected features of IRB Corporate credit risk models:

Component modelled	Business Unit	Portfolio	Model description and methodology	Number of years used data	Exposure class
Probability of Default	Corporate Divisions	**Corporate customers with full financial statements**	Corporate Rating Model (CRM) - "Hybrid" rating model, combining statistical analysis to qualitative assessment	8 - 10 years	Large & SME Corporate
Probability of Default	Corporate Divisions	**Smaller-sized firms, which do not disclose full financial statements**	Corporate Limited Financials Model - Statistical model that uses regression techniques to derive relationship between dependent default variable and a set of mainly behavioral variables followed by a small number of quantitative criteria	8 - 10 years	Large & SME Corporate
Probability of Default	Corporate Divisions	**Obligors belonging to special categories, like venture companies lacking full year financial statements**	Expert Judgment Model - Scorecard where the rating focuses solely on qualitative criteria	8 - 10 years	Large & SME Corporate
Probability of Default	Corporate Divisions	**Project Finance and Object Finance (oceangoing shipping) exposures**	Specialised Lending Ranking Models (Slotting Criteria) - Scorecards evaluating the facilities based on certain criteria mainly qualitative	8 - 10 years	Specialised Lending

I. Corporate Rating Model (CRM)

CRM is a “hybrid” rating model, combining statistical analysis to the accumulated credit granting experience of the Bank. Its structure satisfies the requirements put forward by EU Regulation 575/2013. It combines objective quantitative data and subjective qualitative criteria, the latter aiming to further refine the counterparty’s rating assessment by taking advantage of the underwriter’s critical analysis.

CRM is implemented via the Risk Analyst platform (an upgraded version of Moody’s Risk Advisor™ software) used by the Bank since early 2004. It comprises two separate analytical tools: the Financial Component and the Expert Component. In the former, the company’s financial data (balance sheet, income statement, cash flow statements) are fed in as input and various levels of analysis follow, for example, short-term and long-term projections, comparison with peer companies, and financial ratio calculations. In the Expert Component, qualitative data, supported by sound, experienced underwriter opinion, are imported in the CRM.

The first component of financial investigation studies several financial variables as calculated by disclosed financial statements. The Financial Component of CRM (a) examines each ratio’s absolute value, (b) weighs its historical trend and volatility and finally, (c) compares the financial ratios of the company in question to that of its peers. In the second component of CRM, qualitative data related to the financial ratios participating in the first component of the model are included. Furthermore, the Relationship Manager replies to qualitative questions about the company and assesses its industry sector risk, its quality of management, its business environment etc. All these criteria are weighted to produce the final obligor assessment.

The model controls the consistency of answers given and flags any errors, such as outlier ratios or inconsistencies between disclosed data and qualitative assessment by the Relationship Manager. It also produces evaluation reports (for the obligor in general and of its profitability, capital structure and operations). The model also allows the analyst to examine thoroughly the company’s cash flow management and debt coverage. The latter factors are crucial in estimating the obligor’s creditworthiness.

The use of the evaluation system (Moody's Risk Advisor – MRA v.4) started at the beginning of 2004. A large number of balance sheet statements were imported and estimated rating grades were used to support the approval process. In late 2005, in collaboration with Moody's Risk Services and using all the information gathered in the meantime, the Risk Management Division optimised, validated and calibrated CRM in order to be efficient in producing reliable estimates of the probabilities of default regarding obligors belonging to the corporate portfolio of the Bank. Since October 2010, CRM functions on new web platform, offering flexibility in accessing and managing the functions of the model.

Although CRM is a “hybrid” model, comprising statistical analysis and accumulated business experience, its design was checked based on standard statistical techniques. These included univariate analysis to assess the predictive power of each variable, multivariate analysis for discovering possible multicollinearities between variables, etc. The final mix of qualitative and quantitative variables was decided empirically, in order to emphasize and hence accordingly weight, the more reliable quantitative criteria.

The model was quantitatively validated by measuring its discriminatory power between “good” and “bad” obligors, using standard statistical metrics (e.g. accuracy ratios, reliability controls), benchmarking, stress testing and back testing and the stability of the assessments derived.

CRM’s final calibration aimed to ensure that the average model-based PD (given the grade assigned to each obligor) is approximating closely a long term empirical default frequency for Greek corporate companies (based on the Bank’s historical experience). This means that, at first the Financial Index produced by the quantitative part of the model was mapped to a PD and then, with the addition of the qualitative assessment, the Financial Index was mapped to a Borrower Rating Grade. Its scale was then mapped to the 19-grade NBG ORR.

II. Expert Judgment Model

The Expert Judgment Model is used for special cases that cannot be rated by the CRM. These include not-for-profit organisations (e.g. cooperatives, amateur’s sport clubs, etc.), insurance companies, construction conglomerates formed for a specific infrastructure project, entities that do not (yet) possess financial statements, foreign companies (i.e. established outside Greece), which do not produce financial information on a recurring basis, etc.

Consequently, their rating focuses on qualitative criteria, supplied by Underwriters and Relationship Managers. Criteria examples include:

- Sector Risk
- Competition
- Years in Business
- Management stability
- Risk Alerts
- Customer base concentration
- Frequency of financing requests
- Credit history of the company, company owners and related persons
- Financial status of owners

The model classifies performing obligors in four risk classes (High, Significant, Medium and Low).

III. Specialised Lending Slotting Criteria Scorecards

Specialised lending covers Project and Object Finance facilities approval process. The Bank, following regulatory guidelines, evaluates the exposures based on the following criteria:

- Financial Analysis of Project
- Political and Legal environment
- Transaction characteristics
- Strength of sponsor
- Asset characteristics/quality
- Guarantees offered and Collaterals pledged
- Environmental issues

Both scorecards require the completion of a questionnaire by the authorised Credit Underwriter. Each of the seven groups of criteria receives a score, based on answers given to each criterion subclass. The weighted sum of all scores based on the partial weighting of each criterion, ranks performing exposures into four categories (Strong, Good, Satisfactory and Weak). Infrastructure financing is usually re-rated, in case a full State Guarantee or a Bank's Letter of Guarantee by an Export Credit Agency is provided. In case of new buildings in shipping industry especially during pre-delivery stage, the category is decided based on the rating of the shipyard's Bank that has issued the letter of guarantee of good performance. Both models are validated, based on the accumulated experience of the Bank in these sectors.

The Project Finance Scorecard used to asses significant self-financing projects operates within the Risk Analyst™ platform, in which the Bank will incorporate the Object Finance Scorecard as well within 2018.

IV. Limited Financials Scorecard

This scorecard was developed based on historical data from 2003 onwards and started operating in June 2008. During the last quarter of 2012 it was analytically validated with the process being annually repeated. It is used for newly founded companies and for companies that keep accounting books of categories A' and B' (according to Greek law and Greek GAAP) and cannot be analysed by the more sophisticated CRM.

The predictive power of the model was measured by using a number of metrics and common accuracy ratios, for both "in-sample" and "out of sample" subsamples. The accuracy of predicting default, was judged to be highly satisfactory.

The assessment criteria of the model are presented below:

- Sector Risk
- Competition
- Years in Business
- Management Stability
- Company and owners Credit History
- Risk Alerts (e.g. Credit Bureau "black list", bounced cheques, etc.) for the past 3 years / Sales
- Risk factors
- Financial status of owners
- Turnover growth
- Borrowed Funds / Turnover
- Net Profit / Debt
- Behavioural Scoring (if available)

The use, whenever possible, of a behavioural score as a supplementary independent variable in the scorecard, enhances significantly its efficiency on portfolio level and guarantees a more objective employment of all qualitative information stored in the customer databases of the Bank.

5.7.5. Models and internal rating process of Retail SMEs

The creditworthiness of Retail SME performing obligors with respect to the assessed probabilities of default is ranked on a thirteen (13) grade rating scale, while obligors in default share a common default indication. Additionally obligors are ranked with respect to the probability of being transferred to Collections Division where contracts are being denounced and liquidation process of pledged collaterals is initiated - in an eight level scale. This ranking is used in the process of estimating loss given default (LGD) risk parameter for SMEs obligors.

The above processes are supported by three (3) statistical models which are described below. The output of the models I and II are combined to determine the probability of default (PD) for each obligor, while LGD estimate is obtained by applying model III.

Selected features of IRB credit risk models for SMEs:

Component modelled	Business Unit	Portfolio	Model description and methodology	Number of years used data	Exposure class
Probability of Default	Retail SME Division	**SME obligors with annual turnover less than 2,5 mio Euros**	Two module SME Rating model used to assess the creditworthiness of Small and Medium Enterprises- Statistical model that uses regression techniques to derive relationship between dependent default variable and a set of mainly behavioral variables followed by a small number of quantitative criteria.	8 - 10 years	Retail SME
Loss Given Default	Retail SME Division	**SME obligors with annual turnover less than 2,5 mio Euros**	Model estimating and assigning a percentage of loss on the outstanding exposure given the fact that either default occurs or the credit contract could be unilaterally denounced by the Bank.	8 - 10 years	Retail SME

I. Application Model

The design and development of the model was performed by the GRCA Division. The model is supported by a software platform, which was implemented by the Bank's IT Division and supervised by Operations Division and its utilisation has been introduced in the workflow process of the competent Business Unit. The platform supports credit underwriting process by providing all necessary tools for, registering annual or interim financial statements, inserting qualitative parameters, conducting financial ratio analysis, producing projected financial statements, completing the estimation of the independent variables used by the model and enhancing credit approval process.

The underwriting process is triggered by the submission of a credit request application for a new or an existing credit framework based on a contractual agreement. The produced rating grade is associated with all credit risk taken by the Bank under this agreement (loans, credit lines, letters of guarantee etc.). Application Model is applied only to non-defaulted obligors and each obligor is assigned a rating from a 12-grade rating scale.

II. Behavioural Model

The design, development and implementation of the model was performed by the GRCA Division. The operating characteristics of the model are summarised below:

- The model's parameters values are drawn from a predefined data structure. This structure is automatically updated at the end of each month with the responsibility of Business Process and IT Divisions.
- It produces credit assessments with monthly frequency for all SMEs obligors with active funding for at least one semester at the date of assessment. This task is performed by the execution of a fully automated procedure of data processing.
- Credit assessments are stored in databases owned by IT Division, in order to be available to all relevant Bank Units.
- A credit assessment reflects all credit risk taken by the Bank on obligor level, for a specific obligor.

At the end of each month a new behavioural credit assessment is produced for each SME obligor through the implementation of the procedure described and each obligor is assigned a rating from a 13-grade rating scale.

III. Loss Given Default Model

The design, development and implementation of the model was performed by GRCA. The operating characteristics of the model are summarised below:

- The model's parameters values are drawn from a predefined data structure. This structure is automatically updated at the end of each month by the Business Process and IT Divisions.
- The model estimates and assigns a probability regarding the fact that the credit contract could be unilaterally denounced by the Bank, (a state that marks the beginning of pledged assets liquidation process) to an eight-grade rating scale. The aforementioned obligor's probability combined with the observed historicall average recovery rate of SME portfolio during the collection period, determines the loss given default (LGD) estimate.
- LGD estimates are stored in databases owned by IT Division, in order to be available to all relevant Bank Units.

At the end of each month, on a recurrent basis, a new LGD estimate is produced for each SME obligor through a fully automated procedure.

5.7.6. Corporate model validation

For all corporate models, the independent Bank's Model Validation Unit has been engaged in a formalized validation process, adhering to an annual frequency as required by the Bank's "Model Validation Policy" (August 2017), to ensure that the models keep satisfying all rules and technical constraints posed during their development phase. Key targets of this specific procedure are: a) the measurement of the predictive power of the models which should meet specific quantitative criteria regarding best industry practices employed being substantiated by needed statistical evidence and b) the estimation and the statistical correlation of observed default frequencies per each model's rating grade, versus respective expected probabilities of the latter. Relative results, comments and required actions are formally communicated to Group's CRO, who in turn introduces them to the Board Risk Committee (BRC) complemented by own recommendations, hence conforming to competently approved internal policies and practices.

5.7.7. Applications of internal ratings of corporate portfolio

Apart from the estimation of Expected Loss and Risk Weighted Assets for Capital Adequacy purposes, internal ratings and IRB risk parameters are building blocks of credit risk estimation and are used in a variety of applications and internal processes regarding credit risk across the entire portfolio. More specifically their usage is applied to:

- **Credit approvals:** Credit risk parameters are used in the approval process to appraise obligors' creditworthiness and to assess credit limits assigned at obligor level.
- **Credit grading:** Estimated by each corporate model rating grades are employed to map obligors to a common rating scale, providing an identical measure of credit risk.
- **Risk based pricing:** Risk parameters are used to allow for risk-adjusted pricing.
- **Risk appetite:** Obligor's risk rating is used in the Bank's risk appetite framework.
- **Impairment calculation:** Collectively assessed impairment provisions, incorporate the use of risk parameters, adjusted as necessary.
- **Internal capital calculation:** Internal Capital calculation / used for ICAAP purposes.
- **Risk management reports:** Model outputs are used as key indicators in reports to inform senior management, regarding the analysis and management of credit risk.

5.7.8. Models and Internal Rating process of the Mortgage Portfolio

All mortgages (except those fully and unconditionally guaranteed by the Hellenic Government) are rated on a monthly basis, and ranked in homogeneous groups (pools) for risk estimation purposes. The corresponding PD and LGD models are based on 20 years of historical data and their development reflects the Bank's long term experience in mortgage lending, taking into account the Greek legal framework as well as the Bank's policies regarding foreclosure of real estate collateral.

Selected features of IRB credit risk models for the mortgage portfolio:

Component modelled	Regulatory thresholds	Portfolio	Model description and methodology	Number of years used data
Probability of Default	PD floor of 0.03%	**Retail Secured by immovable property** **Non-SME**	Model based on logistic regression methodology and segmented along months on books. It is a through-the-cycle model and calibrated with 5-year default data.	> 6 years
Loss Given Default	LGD floor of 10%	**Retail Secured by immovable property** **Non-SME**	Classification model based on actual recoveries experience. It takes into account product type, default status and time in default.	> 15 years

I. PD Model

In order to rank performing mortgage loans into risk categories the following procedure is followed:

1. The existence (or not) of an explicit and unconditional Greek Government Guarantee for capital and interest is examined. Claims that satisfy this criterion (usually loans to victims of natural disasters, population minorities, etc.) are treated separately.
2. The origination date of the loan is recorded. For loans that have not yet reached 14 Months on book (MoB), step 3 is followed. Otherwise, step 4 is followed.
3. Loans with up to 13 MoB are scored with a separate model. It uses criteria that refer to the facility (loan maturity, product type), the obligor (application score) and repayment patterns (current delinquent amount, patterns of delinquency in the last 12 months, etc.). This score is stored and step 5 follows.

4. Loans with over 13 MoB are scored using a specifically developed behavioural model. The model uses criteria referring to the facility (loan amount, product type) and the repayment patterns (current delinquent amount, patterns of delinquency in the last 12 months, etc.) but not the original application score, since it is shown to be no longer relevant. This behavioural score is stored and step 5 follows.
5. Based on the score calculated from the applicable model, each loan is placed into one of 10 distinct Risk Pools and assigned with the relevant PD.

The PD estimate for each pool was estimated by tracking each active loan, within the years 2004-2016 (observation), and its corresponding default event one year later (performance tracked in years 2005-2017).

II. LGD Model

For Loss Given Default (LGD) estimation, the procedure followed in order to place all mortgage loans – including the defaulted ones - in a distinct pool with a common LGD is as follows:

1. All facilities are distinguished into "performing" and "in default", depending on the delinquency they present during the rating date and its materiality. Step 2 is followed for the former and step 3 for the latter.
2. Performing loans are further divided into two groups, depending on the existence (or not) of a Greek Government interest rate subsidy.
3. For defaulted loans, except for the existence (or not) of the interest rate subsidy, the time spent in default status is also considered.

LGD is calculated as the difference between 100% (full recovery, no loss) and the average recovery rate over the exposure at default. Recovery rates are calculated cumulatively for different time horizons, starting from the default date itself. More specifically, the Bank calculates the percentage that can be recovered in 1, 2 or more years after default until, according to the Bank's experience, potential recovery is diminished (practically nothing more can be recovered).

All loans that presented material delinquency since 1990 and had completed at least one year in default status were used in the development of the LGD model. This increased significantly the robustness and power of results. All relevant cash flows (both revenues and costs) arising after default and until final settlement, were taken into account in recovery estimates. Given the long time period that elapses between default and subsequent cash flows, the time value of money is definitely of importance. Hence, in order to calculate recovery rates, all cash flows were discounted back to the original default date, and their present value was compared to the outstanding debt at the time of default. These calculations were performed on an account basis and not on a customer basis.

5.7.9. Mortgages model validation

The models' validity and predictive power are attentively monitored by the GRCAD and validated by the independent Bank's Model Validation Unit. The MVU is engaged in a formalized validation process, which encompasses qualitative and quantitative controls, adhering to an annual frequency as required by the Bank's "Model Validation Policy" (August 2017), to ensure that the models keep satisfying all rules and technical constraints posed during their development phase. For validation purposes, the most recent available information is used based on all rated loans with outstanding balance during an "observation period". The duration of the observation period for the PD model validation is usually one year, while the respective period for the LGD model may be longer, depending on the model's structure. Upon process's finalization, the obtained results are communicated through a formalized report channel to the Group CRO. Following his approval, the results of the process are in turn presented to the Board Risk Committee (BRC), further ratified by own recommendations. The most recent Mortgage PD and LGD models' validation, illustrated the high discriminative power of both models.

5.7.10. Applications of internal ratings of mortgage portfolio

Apart from the estimation of Expected Loss and Risk Weighted Assets for Capital Adequacy purposes, the internal credit risk parameters (PD and LGD) are further used in:

- the provisioning procedure carried out by the Finance Division
- the ICAAP
- Stress-testing
- new loans' risk-based pricing
- the overall mortgage portfolio quality assessment and monitoring
- the regular internal reporting to the Board Risk Committee and the Executive Committee of the Bank with regard to the mortgage portfolios' quality as well as in the formulation and implementation of the Bank Strategy by its Senior Management.

5.7.11. Quantitative information for the portfolios under the IRB approach

The following tables present information regarding the IRB portfolios as per 31.12.2017 (in € mio):

Table 24: EU CR6 - IRB approach - Credit risk exposures by exposure class and PD range

	a	b	c	d	e	f	g	h	i	j	k	l
PD scale	Original on-balance-sheet exposures	Off-balance-sheet exposures pre CCF	Average CCF	EAD post CRM and post CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density	EL	Value adjustents and provisions
Corporate SME-FIRB												
0.00 to <0.15	129	140	**6%**	137	0.08%	112	40%	2.5	28	20%	-	-
0.15 to <0.25	89	124	**11%**	103	0.21%	110	41%	2.5	34	34%	-	-
0.25 to <0.50	83	74	**3%**	86	0.33%	81	41%	2.5	39	46%	-	-
0.50 to <0.75	184	180	**8%**	198	0.59%	258	40%	2.5	108	55%	-	-
0.75 to <2.50	1,205	1,167	**13%**	1,352	1.32%	807	40%	2.5	1,085	80%	7	(4)
2.50 to <10.00	909	701	**10%**	968	4.61%	1,131	40%	2.5	985	102%	19	(7)
10.00 to <100.00	536	224	**39%**	618	17.62%	542	40%	2.5	1,060	172%	43	(40)
100.00 (Default)	4,387	499	**37%**	4,428	100.00%	4,279	41%	2.5	-	0%	1,812	(2,979)
Subtotal	**7,522**	**3,109**	**17%**	**7,890**	**58.31%**	**7,320**	**41%**		**3,339**	**42%**	**1,881**	**(3,030)**
Corporate-FIRB												
0.00 to <0.15	980	992	**25%**	1.223	0.07%	40	45%	2.5	305	25%	-	-
0.15 to <0.25	47	101	**11%**	58	0.21%	13	44%	2.5	27	47%	-	-
0.25 to <0.50	273	96	**8%**	281	0.33%	18	42%	2.5	159	57%	-	-
0.50 to <0.75	334	233	**32%**	407	0.62%	34	43%	2.5	311	76%	1	(1)
0.75 to <2.50	1,141	2,040	**41%**	1,951	1.48%	347	43%	2.5	2,069	106%	13	(5)
2.50 to <10.00	884	763	**20%**	1,040	4.03%	86	42%	2.5	1,442	139%	18	(7)
10.00 to <100.00	266	55	**26%**	278	17.28%	44	40%	2.5	605	217%	19	(10)
100.00 (Default)	1,131	190	**26%**	1,151	100.00%	335	41%	2.5	0	0%	473	(787)
Subtotal	**5,056**	**4,470**	**31%**	**6,389**	**19.95%**	**917**	**43%**		**4,918**	**77%**	**524**	**(810)**
Retail SME Sec -AIRB												
0.00 to <0.75	-	-	-	-	-	-	-		-	-	-	-
0.75 to <2.50	9	2	**30%**	10	2.00%	173	13%		2	20%	0	0
2.50 to <10.00	161	7	**46%**	165	5.81%	1,809	13%		58	35%	1	(1)
10.00 to <100.00	459	9	**48%**	462	32.92%	5,046	14%		284	61%	23	(25)
100.00 (Default)	832	1	**41%**	832	100.00%	8,422	66%		0	0%	546	(542)
Subtotal	**1,461**	**19**	**45%**	**1,469**	**67.68%**	**15,450**	**43%**		**344**	**23%**	**570**	**(568)**
Retail non SME Sec - AIRB												
0.00 to <0.25	-	-	-	-	-	-	-		-	-	-	-
0.25 to <0.50	574	2	**75%**	576	0.39%	21.857	11%		44	8%	-	(1)
0.50 to <0.75	-	-	-	-	-	-	-		-	-	-	-
0.75 to <2.50	4,471	3	**75%**	4,473	0.87%	82,801	13%		720	16%	5	(11)
2.50 to <10.00	2,114	2	**75%**	2,115	4.00%	43,914	13%		839	40%	11	(21)
10.00 to <100.00	1,519	-	**75%**	1,519	29.47%	28,706	13%		1.107	73%	60	(86)
100.00 (Default)	4,064	-		4,063	100.00%	66,148	32%		-	-	1.317	(1,431)
Subtotal	**12,742**	**7**	**75%**	**12,746**	**36.37%**	**243,426**	**19%**		**2.710**	**21%**	**1.393**	**(1,550)**

PD scale	a Original on-balance-sheet exposures	b Off-balance-sheet exposures pre CCF	c Average CCF	d EAD post CRM and post CCF	e Average PD	f Number of obligors	g Average LGD	h Average maturity	i RWAs	j RWA density	k EL	l Value adjustents and provisions
Retail other - AIRB												
0.00 to <0.75	-	-	-	-	-	-	-		-	-	-	-
0.75 to <2.50	18	84	**2%**	19	2.00%	1,243	15%		3	16%	-	-
2.50 to <10.00	232	251	**2%**	237	5.65%	6,650	15%		44	18%	2	(2)
10.00 to <100.00	351	195	**8%**	365	30.66%	14,607	17%		114	31%	20	(30)
100.00 (Default)	1,214	10	**21%**	1,182	100.00%	31,888	77%		0	0%	906	(986)
Subtotal	**1,815**	**540**	**5%**	**1,803**	**72.51%**	**54,388**	**56%**		**161**	**9%**	**928**	**(1,018)**
Total	**28,596**	**8,145**		**30,297**		**321,501**			**11,472**		**5,296**	**(6,976)**

Table 25: EU CR10 - IRB (specialised lending and equities)

Specialized Lending Exposures (Slotting Criteria)							*(€ mio)*
Reg. Cat. Risk Rating	Remaining Maturity	On-balance-sheet amount	Off-balance-sheet amount	Risk Weight	Exposure amount	RWAs	Expected Losses
Strong	*< 2.5 years*	149	160	50%	156	78	0
	>= 2.5 years	1,143	14	70%	1,157	810	5
Good	*< 2.5 years*	230	250	70%	268	188	1
	>= 2.5 years	755	33	90%	783	705	6
Satisfactory	*< 2.5 years*	38	0	115%	38	43	1
	>= 2.5 years	133	0	115%	133	153	4
Weak	*< 2.5 years*	59	0	250%	59	148	5
	>= 2.5 years	70	0	250%	70	176	6
In Default**	*< 2.5 years*	142	0	0%	142	0	71
	>= 2.5 years	155	0	0%	155	0	77
Total	*< 2.5 years*	**618**	**410**		**663**	**458**	**78**
	>= 2.5 years	**2,256**	**47**		**2,298**	**1,844**	**98**
Equities under the simple risk weighted approach*							
Categories		**On-balance-sheet amount**	**Off-balance-sheet amount**	**Risk Weight**	**Exposure amount**	**RWAs**	**Capital Requirements**
Private equity exposures				190%			
Exchange-traded equity exposures				290%			
Other equity exposures				370%			
Total							

**Not applicable due to permanent partial use according to CRR/575, article 150 par. 1 (e) and 1 (c)*

6. COUNTERPARTY CREDIT RISK

For regulatory purposes, CCR derives from OTC derivative and secured interbank transactions, namely repurchase agreements, and is calculated in both the trading and the banking books. The main contributor to CCR within NBG Group is the Bank.

The approach for the calculation of the exposure values for CRR depends on the type of transaction. For OTC derivative transactions, the exposure at default (EAD) is calculated based on the mark-to-market method. In particular, the EAD is calculated as the current value plus the potential future credit exposure, based on regulatory add-ons, taking into account the netting clauses and collateral agreements that are in place. In the case of repurchase agreements, the EAD is calculated in accordance with the financial collateral comprehensive method.

In addition, the GMORM Division calculates the capital requirements against credit valuation adjustment (CVA) risk. CVA is an adjustment to the fair value of derivative instruments to account for CCR, due to possible changes in the creditworthiness of the counterparty. NBG employs the standardized approach for the calculation of the respective capital charges. The calculations only refer to transactions with financial insitutions.

The components of CCR on a Group level are shown in the tables below, as of December 29th, 2017.

Table 26: EU CCR1 - Analysis of CCR exposure by approach (€ mio)

		Notional	Replacement cost/ current market value	Potential Future Credit Exposure	EEPE	Multiplier	EAD post CRM	RWAs
1	Mark to market		(668)	700			289	94
2	Original exposure							
3	Standardised approach							
4	IMM (for derivatives and SFTs)							
5	Of which securities financing transactions							
6	Of which derivatives and long settlement transactions							
7	Of which from contractual cross-product netting							
8	Financial collateral simple method (for SFTs)							
9	Financial collateral comprehensive method (for SFTs)						1,403	381
10	VaR for SFTs							
11	Total							**474**

Table 27: EU CCR2 – CVA capital charge (€ mio)

		Exposure value	RWAs
1	Total portfolios subject to the advanced method		
2	(i) VaR component (including the 3x multiplier)		
3	(ii) SVaR component (including the 3x multiplier)		
4	All portfolios subject to the standardised method	110	110
EU4	Based on the original exposure method		
5	**Total subject to the CVA capital charge**	**110**	**110**

Table 28: EU CCR8 – Exposures to CCPs (€ mio)

		EAD psot CRM	RWAs
1	**Exposures to QCCPs (total)**		
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	**78**	9
3	(i) OTC derivatives	38	1
4	(ii) Exchange-traded derivatives	40	8
5	(iii) SFTs		
6	(iv) Netting sets where cross-product netting has been approved		
7	Segregated initial margin		
8	Non-segregated initial margin		
9	Prefunded default fund contributions	**6**	0
10	Alternative calculation of own funds requirements for exposures		
11	**Exposures to non-QCCPs (total)**		
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which		
113	(i) OTC derivatives		
14	(ii) Exchange-traded derivatives		
15	(iii) SFTs		
17	Segregated initial margin		
18	Non-segregated initial margin		
19	Prefunded default fund contributions		
20	Unfunded default fund contributions		

Table 29: EU CCR3 - Standardised approach - CCR exposures by regulatory portfolio and risk (€ mio)

	Exposure classes	**Risk Weight**											**Total**
		0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Others	
1	Central governments or central banks	71											71
2	Regional governments or local authorities												
3	Public sector entities												
4	Multilateral development banks												
5	International organisations												
6	Institutions	6	38			1,185	322			38	1		1,591
7	Corporates									36			36
8	Retail												
9	Institutions and corporates with a short-term credit assessment												
10	Other items												
11	**Total**	**78**	**38**			**1,185**	**322**			**74**	**1**		**1,697**

Table 30: EU CCR6 - Credit derivatives exposures (€ mio)

	Credit derivative hedges		Other credit derivatives
	Protection bought	Protection sold	
Notionals			
Single-name credit default swaps	**325**		
Index credit default swaps			
Total return swaps			
Credit options			
Other credit derivatives			
Total notionals	**325**		
Fair values			
Positive fair value (asset)			
Negative fair value (liability)	**8**		

7. MARKET RISK

The Bank uses market risk models and specific processes to assess and quantify the portfolio's market risk, based on best practice and industry-wide accepted risk metrics. More specifically, the Bank estimates the market risk of its trading and available-for-sale portfolios using the Value at Risk (VaR) methodology. In particular, it has adopted the Variance-Covariance (VCV) methodology, with a 99% confidence interval and 1-day holding period.

The variance-covariance methodology can be summarized as follows:

1. Collection of transactional data per type of product;
2. Identification of "risk factors" i.e., variables whose price changes could affect the value of the portfolio. The risk factors relevant to the financial products in the Bank's portfolio are interest rates, equity indices, foreign exchange rates and commodity prices;
3. Collection of market data for instruments/positions valuation;
4. Specification of the confidence interval and the holding period for the VaR calculations at 99% and 1-day, respectively;
5. Estimation of the model's parameters:
    - the variance of each risk factor, from which respective volatilities are derived;
    - the covariance of the risk factors, from which respective correlations are derived;
    - the beta of stocks;
    - the volatility for the estimation of equity specific risk.
6. Estimation of the VaR per type of risk (interest rate risk, equity risk, foreign exchange risk);
7. Estimation of Total VaR, taking into consideration the correlation matrix among all risk factors.

The calculation of the model's parameters relies on the following statistical assumptions:

- Returns on individual risk factors follow a normal distribution
- Portfolio's payout is considered to be linear

The VaR is calculated on a daily basis for the Bank's trading and available-for-sale portfolios, along with the VaR per risk type (interest rate, equity and foreign exchange risk). The VaR estimates are used internally as a risk management tool, as well as for regulatory purposes. The GMORM Division calculates the VaR of the Bank's trading and available-for-sale portfolios, for internal use, on a daily basis, using the latest 75 exponentially weighted daily observations to construct the VCV matrices. For regulatory purposes, the calculations apply only on the trading portfolio and the VCV matrices are based on 252, equally weighted, daily observations per risk factor. Currently the number of risk factors involved in the VaR calculations is 1,407.

Morover, since the Bank has approval to use an internal model approach only for general market risk purposes, the issuer risk and the equity specific risk of the portfolio are excluded from the regulatory VaR calculations. The respective capital requirements are based on the Stansardized Approach.

Additionally, the GMORM Division calculates the stressed VaR (sVaR) of the Bank's trading portfolio, which is defined as the VaR, where model inputs are calibrated to historical data from a continuous 1-year period of significant financial stress, relevant to the Bank's portfolio. To identify this 1-year time window of significant stress, NBG follows a conservative approach, which covers the entire period from the beginning of the financial crisis of 2008. More specifically, VCV matrices dating back to the 3rd of January 2008, are calculated on a daily basis and the VCV matrix that corresponds to the maximum VaR of NBG's trading portfolio, over the entire period, is selected. To ensure consistency, at each year-end, the process is repeated for certain days of the last calendar month of the year, and subsequently the identified "stressed VCV matrix" is applied over the next year. Similarly to VaR, NBG calculates sVaR on a daily basis, using a 1-day holding period and 99% confidence level.

For the calculation of the regulatory capital requirements, the VaR/sVaR is scaled up to 10-days via the square-root-of-time rule[1].

Based on the above, the capital charges for the Bank's general market risk are calculated as the sum of the following two amounts:

- the maximum of: a) the VaR of the previous day, calculated with a 10-days holding period, b) the average VaR of the last 60-days, using a 10-days holding period and multiplied by a factor(m_c), determined by the regulator and varying between three (3) and four (4),

  plus

[1] *10-day VaR is obtained by multiplying the 1-day VaR with the square root of 10 (i.e.* $VaR10{-}day = VaR1{-}day * \sqrt{10}$*)*

- the maximum of: a) the Stressed VaR of the previous day, calculated with a 10-days holding period, b) the average Stressed VaR of the last 60-days, using a 10-days holding period and multiplied by a factor (m_s), determined by the regulator and varying between three (3) and four (4).

Finally, the use of internal model is granted only for NBG, therefore the calculation of market risk capital charges for the rest of the Group's subsidiaries is based on the Standardized Approach.

The components of capital requirements under the standardized approach and the internal model approach for market risk, as of 29th December, 2017, are shown in the tables below.

Table 31: EU MR1 – Market risk under the standardized approach (€ mio)

		RWAs	Capital requirements
	Outright products		
1	Interest rate risk (general and specific)	119	10
2	Equity risk (general and specific)	104	8
3	Foreign echange risk	277	22
4	Commodity risk	0	0
	Options		
5	Delta-plus method	189	15
6	**Total**	**689**	**55**

Table 32: EU MR2-A – Market risk under the IMA (€ mio)

		RWAs	Capital requirements
1	**VaR** (higher of values a and b)	**864**	**69**
(a)	Previous day's VaR (Article 365(1) of the CRR (VaRt-1))		24
(b)	Average of the daily VaR (Article 365(1)) of the CRR on each of the preceding 60 business days (VaRavg) x multiplication factor (mc) in accordance with Article 366 of the CRR		69
2	**SVaR** (higher of values a and b)	**2,000**	**160**
(a)	Latest SVaR (Article 365(2) of the CRR (SVaRt-1))		57
(b)	Average of the SVaR (Article 365(2) of the CRR) during the preceding 60 business days (SVaRavg) x multiplication factor (ms) (Article 366 of the CRR)		160
6	**Total**	**2,864**	**229**

Finally, the Bank's regulatory VaR/sVaR estmates during the last reporting period are shown in the table below.

Table 33: EU MR3 – IMA values for trading portfolios (€ mio)

	VaR (10 day 99%)	
1	Maximum value	25
2	Average value	23
3	Minimum value	21
4	Period end	24
	SVaR (10 day 99%)	
5	Maximum value	58
6	Average value	53
7	Minimum value	49
8	Period end	57

7.1. Stress Testing

The daily VaR refers to “normal” market conditions. Supplementary analysis is, however, necessary for capturing the potential loss that might incur under extreme and unusual conditions in financial markets. Thus, the GMORM Division conducts stress testing on a weekly basis, through the application of different stress scenarios on the relevant risk factors (interest rates, equity indices, foreign exchange rates). Stress testing is performed on both the Trading and the AFS portfolios, as well as separately on the positions of the Trading Book.

The scenarios used are shown in the following table:

Table 34: Stress testing Scenarios

Scenario	Description			
Interest Rate Risk				
		0 - 3 months	3 months –5 years	> 5 years
1	Parallel Curve shift	+200 bps.	+200 bps.	+200 bps.
2	Parallel Curve shift	-200 bps.	-200 bps.	-200 bps.
3	Steepening of the curve	0 bps.	+100 bps.	+200 bps.
4	Flattening of the curve	+200 bps.	+100 bps	0 bps.
Equity Risk				
	-30% for all indices			
Foreign Exchange Risk				
	EUR depreciation by 30%			

7.2. Back testing

In order to verify the predictive power of the VaR model used for the calculation of Market Risk capital requirements, the Bank conducts back-testing on a daily basis. In accordance with the guidelines set out in the Capital Requirements Regulation 575/2013, the calculations only refer to the Bank’s trading portfolio and involve the comparison of the hypothetical as well as the actual daily gains/losses of the portfolio, with the respective estimates of the VaR model used for regulatory purposes. The hypothetical gains/losses is the change in the value of the portfolio between days t and t+1, assuming that the portfolio remains constant between the two days. In the same context, the actual gains/losses is the change in the value of the portfolio between days t and t+1, including all the transactions and/or any realized gains/losses that took place in day t+1, excluding fees, commissions and net interest income.

Any excess of the hypothetical / actual losses over the VaR estimate is reported to the regulatory authorities within five business days. During 2017, there were no cases, in which the back-testing result exceeded the respective VaR calculation, mainly due to the fact that interest rate volatilities were at their lowest levels.

The graph below illustrates the regulatory VaR, as well as the hypothetical and the actual P&L, since the beginning of 2017. The spikes in the VaR during the year are associated with Greek Banking holidays, where the VaR was multiplied by the square root of the number of days that corresponded to the holiday. However, as of January 1st, 2018, the GMORM Division also calculates VaR/sVaR and performs backtesting on Greek non-business days, which do not coincide with Target holiday.

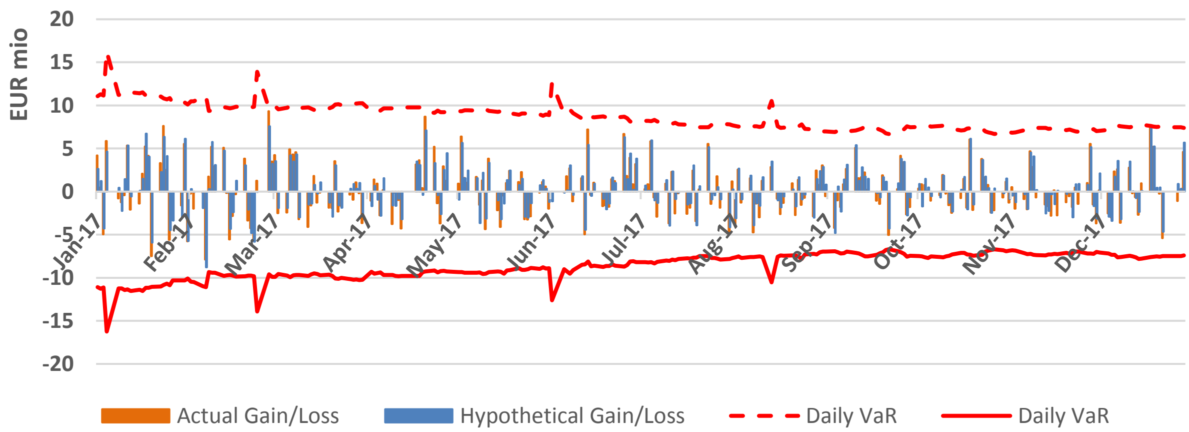


Figure 2: EU MR4 – Comparison of VaR estimates with gains/losses

8. OPERATIONAL RISK

The Bank has adopted the Standardised Approach (SA) for the calculation of operational risk regulatory capital requirements, on an individual, as well as on a consolidated basis. Under the Standardised Approach, the capital requirement for operational risk is the average, over three years, of the risk-weighted relevant indicators calculated each year through the allocation of Gross income to the eight (8) regulatory business lines. For reasons of accurate illustration and compliance with regulatory reporting, revenues accrued from activities that cannot be readily mapped into a particular business line (unallocated), are classified to the business line yielding the highest capital risk weight (18%). The Bank has decided to use ''Trading and Sales'' business line for this allocation.

9. EQUITY EXPOSURES NOT INCLUDED IN THE TRADING BOOK

Investments in shares of stock and mutual funds not included in the trading portfolio are included in the Available for Sale (AFS) portfolio. These investments are held with the intention of achieving capital gains. The AFS investments in shares and mutual funds are initially recognised and subsequently measured at fair value. Initial measurement includes transaction costs. The fair value of AFS investments in shares that are quoted in active markets is determined on the basis of the quoted prices. For those not quoted in an active market, fair value is determined, where possible, using valuation techniques and taking into consideration the particular facts and circumstances of the shares' issuers. The fair value of mutual funds is based on their published price, at each reporting date. The carrying amount of AFS equity instruments listed on a Stock Exchange Market equals their market value. The carrying amount as of 31.12.2017 is presented below:

Table 35: AFS Equity instruments

	€ mio
Listed	45
Not Listed	45
Mutual Funds	5
Total	**95**

The total amount of realized gains from the disposal of AFS equity instruments and mutual funds for the year 2017 was €14 mio. The net amount of unrealized gains of AFS equity instruments and mutual funds as at 31 December 2017 was €33 mio after tax.

The amount of unrealized gains of available-for-sale equity instruments and mutual funds, recognized in reserves as at 31 December 2017 is included in Common Equity Tier 1 capital (CET1).

10. SECURITISATION

Overview

Securitisation is defined as a structure where the cash flow from a pool of financial assets is used to service obligations to at least two different tranches or classes of creditors (holders of asset backed securities), with each class or tranche reflecting a different degree of credit risk (i.e. one class of creditor is entitled to receive payments from the pool before another class of creditors). Primary recourse for securitizations lies with the underlying securitized financial assets. Hence, the holders of the asset backed securities only have recourse to the securitized financial assets.

Securitisations may be categorised as either: (a) conventional securitizations - where assets are sold to a Special Purpose Vehicle (SPV), which issues notes in different tranches with different risk and return profiles. Cash flow arising from those assets is used by the SPV to pay the coupons and principal on the notes issued by the SPV; or (b) synthetic securitizations - where only the underlying credit risk or part of the credit risk is transferred to a third party through the use of credit derivatives or guarantees, without the ownership of assets being transferred to the SPV. In both conventional and synthetic securitizations, the risk is dependent on the performance of the underlying asset pool.

The Bank may be involved in the following types of business activities that give rise to securitisation exposures:

(a) Bank originated securitisations – where the Bank assigns the financial assets it has originated to a SPV, which in turn issues asset backed securities;
(b) the purchase of asset backed securities for trading or portfolio investment.

Bank originated securitizations

As originator, the Bank may securitize financial assets (e.g. mortgage or corporate loans) in a traditional or a synthetic transaction, depending on the objectives of such transaction. The objectives pursued through a transaction can vary from funding to the reduction of the credit risk and capital requirements or more sophisticated asset management.

When conducting a securitization as originator and taking into account such transaction's objective, the Bank considers all aspects of such transaction and makes a comprehensive judgment on the structure and the appropriateness of such transaction. The Bank assesses the effects on the liquidity position, the reduction of credit risk, the cost of capital, the improvement of return on risk as well as any practical effects.

Where the Bank intends to securitise assets it has originated, it ensures the terms and conditions applicable to the proposed securitisation and any support facilities or dealings are arm's length and market based and compliant with prudential regulations. These transactions are managed by the Bank's Treasury.

All of the securitizations that the Bank has concluded to date have been conventional securitizations and were initiated purely for funding and contingent liquidity purposes. The objective of the securitizations has been to access international debt capital markets and potentially to access the liquidity provided by the Eurosystem to ensure functional credit and money markets. For the Bank, securitizations have been an opportunistic source of liquidity rather than a core external funding source. The Bank has not derecognized any of the securitised assets and currently consolidates the existing securitisation vehicles.

Securitizations as Investor

In the case of the Bank acting as investor in a securitisation position, the Bank will use the Ratings Based Method of EU Regulation 575/2013 (CRR, Art. 261) for capital calculation purposes. For the Ratings Based Method, the Bank uses ratings provided by the rating agencies. As at December 31st, 2017 there was no exposure after credit risk mitigation to securitised positions for investment purposes.

National Bank of Greece Outstanding Securitisations

Titlos plc

Titlos plc was a securitisation transaction involving Hellenic Republic receivables. The transaction was closed on 26 of February 2009 and had an original outstanding balance of €5,100 mio. On 1/12/2017, the Bank proceeded to termination of the Titlos plc securitization. As a result, on the same date, the bond issued by Titlos plc was cancelled and the relevant receivable returned to its original position. The aforementioned transaction had no effect on the financial position, results, cash flows and liquidity of the Bank on a consolidated and stand-alone basis.

SINEPIA DAC (SME loans)

SINEPIA DAC is a securitisation transaction involving SME and Corporate loans. The transaction was launched on 8th of August 2016 and had an original outstanding balance of €648 mio. Six floating rate tranches of bonds were issued, 4 senior classes (A1 to A4, rated BB by S&P and B- by Fitch) with an original balance of €324 mio and two junior tranches (M and Z, both unrated) with an original balance of €324 mio. The senior classes were subscribed by the European Investment Bank, the European Investment Fund, the European Bank for Reconstruction and Development and the Bank. The junior notes were fully subscribed by the Bank. As at 31/12/2017, the senior notes were fully repaid, while there were €301 mio outstanding from the junior notes.

The table below provides more details on the Bank's securitisations:

Table 36: Securitisations

Issuer (SPE)	Asset Type	Issue Date	Final Maturity	Outstanding (€mio)
Sinepia Class M	SME loans	08/08/16	18/07/35	236
Sinepia Class Z	SME loans	08/08/16	18/07/35	65

11. INTEREST RATE RISK IN THE BANKING BOOK

Interest Rate Risk in the Banking Book (IRRBB) consists of potential impacts arising from changes in interest rates that can affect the Bank's earnings (Net Interest Income – "NII") and/or the net present value of assets and liabilities (Economic Value of Equity – "EVE").

The main sources of IRRBB are the following:

- Repricing risk: it arises from timing differences in the maturity (for fixed-rate) and repricing (for floating-rate) of the Group's assets, liabilities and off balance-sheet positions, which can expose the Group's income and underlying economic value to unanticipated fluctuations as interest rates vary;
- Yield curve risk: it arises from unanticipated changes in slope and / or the shape of the yield curve, resulting in adverse effects on the Group's income or underlying economic value;
- Basis risk: it derives from imperfect correlation in the adjustment of the rates earned and paid on different instruments with otherwise similar repricing characteristics;
- Optionality risk: it occurs when a bank's customer or counterparty has the right, but not the obligation, to buy, sell, or in some manner alter the quantity and / or the timing of cash flows of an instrument or financial contract.

On a regular basis the Bank measures the IRRBB applying a number of scenarios (parallel shifts, flattening and steepening of the interest rate curves) to the net Interest Income and to the Economic Value of Equity.

The interest rate risk is calculated on the basis of the contractual repricing terms, i.e. the next repricing date, if the instrument's interest rate is floating, or its maturity, if the instrument's rate is fixed.

The main assumptions made for the calculation of the interest rate risk in the banking book are the following:

- Saving and Current Accounts: maturity is estimated taking into account the stickiness of the deposits. Furthermore, a 0% pass-through rate assumption is used for the calculation of the NII changes;
- Mortgages: prepayment risk options have not been taken into account;
- Non-performing loans: they have been treated as "Non-rate sensitive"

It should be noted that:

- the sensitivity of the interest income is measured on the basis of an instantaneous shock in the interest rate curve which is subsequently kept constant over a period of 12 months and excludes assumptions on future changes in the mix of assets and liabilities;
- the sensitivity of the Economic Value of Equity is measured across the full maturity spectrum of the bank's assets and liabilities.

The following table reflects the effect of a negative or positive interest rate shock on the Net Interest Income measure, broken down by the main currencies. The Net Interest Income results are presented herein, as this measure produced a higher interest rate sensitivity compared to the Economic Value of Equity measure.

As of the end of December 2017, the sensitivity of the Net Interest Income to an instantaneous and parallel rate change of -100 bps is -87.1 € mio.

The sensitivity analysis of Net Interest Income for the Banking Book as of 31.12.2017 is presented below:

Table 37: Sensitivity Analysis of NII

Currency	Net Interest Income Sensitivity (change from base scenario)	
(€ mio)	+100 bps	-100 bps
EUR	160.3	(62.7)
USD	18.1	(18.1)
OTHER	8.7	(6.3)
TOTAL	**187**	**(87.1)**

The reduction in the economic value in the event of a +/-200 bps change in interest rates stayed within the limits of the alert threshold set by the prevailing Regulatory provisions (20% of the Regulatory Capital).

12. LIQUIDITY RISK

Liquidity risk is defined as the current or prospective risk to earnings and capital arising from the institution's inability to meet its liabilities when they come due without incurring unacceptable losses. It reflects the potential mismatch between incoming and outgoing payments, taking into account unexpected delays in repayments (term liquidity risk) or unexpectedly high outflows (withdrawal/call risk). Liquidity risk involves both the risk of unexpected increases in the cost of funding of the portfolio of assets at appropriate maturities and rates, as well as the risk of being unable to liquidate a position in a timely manner and on reasonable terms.

The Bank's executive and senior management has the responsibility to implement the liquidity risk strategy approved by the Board Risk Committee ("BRC") and to develop the policies, methodologies and procedures for identifying, measuring, monitoring and controlling liquidity risk, consistent with the nature and complexity of the relevant activities. The Bank's executive and senior management is informed about current liquidity risk exposures on a daily basis, ensuring that the Group's liquidity risk profile stays within approved levels. In addition, top management receives a liquidity report, which presents a detailed analysis of the Group's funding sources and counterbalancing capacity, on a daily basis. Moreover, the Asset Liability Committee ("ALCO") monitors the gap in maturities between assets and liabilities as well as the Bank's funding requirements based on various assumptions, including conditions that might have an adverse impact on the Bank's ability to liquidate investments and trading positions and its ability to access the capital markets. On a long term perspective, the Loans-to-Deposits ratio is also monitored. This ratio stood at 79.2% and 79.9%, on a domestic (Greece) and on a Group level, respectively, as of December 31st 2017.

Since liquidity risk management seeks to ensure that the respective risk of the Group is measured properly and is maintained within acceptable levels then, even under adverse conditions, the Group must have access to funds necessary to cover customer needs, maturing liabilities and other capital needs, while simultaneously maintaining the appropriate counterbalancing capacity to ensure the above. In addition to the Bank's liquidity buffer, each of the Group's subsidiaries maintains a separate liquidity buffer well above 10% of its respective total deposits, which ensures the funding self-sufficiency in case of a local crisis.

The Bank's principal sources of liquidity are its deposit base, Eurosystem funding, via the Main Refinancing Operations ("MROs") and the Targeted Longer-term Refinancing Operations ("TLTROs") with ECB and repurchase agreements (repos) with major foreign Financial Institutions ("FIs"). ECB funding and repos with FIs are collateralized mainly by high quality liquid assets, such as EFSF bonds, EU sovereign bonds, Greek government bonds and T-Bills, as well as by other assets, such as highly rated corporate loans and covered bonds issued by the Bank.

During 2017, the Bank's liquidity profile was significantly improved. The Bank regained its funding independence from the ELA mechanism and further decreased its reliance on ECB funding, reducing its total exposure to Eurosystem funding to the lowest levels since the beginning of the crisis. Specifically, on December 31st 2017, Eurosystem funding comprised exclusively of TLTROs and stood at €2.75 billion, a decrease of €9.6 billion when compared to the respective figure as of December 31st 2016. More specifically, ECB funding decreased in the amount of €4 billion, due to the exchange of EFSF bonds in the context of the short-term debt relief measures for Greece and ELA funding decreased by €5.6 billion, due to a number of drivers that reflect the gradual restoration of market confidence in the Bank. In this context, the Bank's customer deposits increased in the amount of €1.5 billion and stood at €38.8 billion as of December 31st 2017. Additionally, the Bank issued and sold to private investors a new covered bond, accessing long term funding in the amount of €0.75 billion. Moreover, the Bank further utilized own issuances, such as covered bonds and asset-backed securities (ABS), in order to replace ELA funding with funding through repurchase agreements, in the amount of €1.1 billion. Also, the divestment of foreign subsidiaries, namely UBB, Interlease and Vojvodjanska Banka further improved the Bank's liquidity position in the amount of €0.95 billion. Finally, due to the recent liquidity crisis in Greece, the Bank remained dependent on ELA funding until November 2017, rendering the use of LCR not applicable, as a liquidity metric. Therefore, under these conditions, LCR is not considered an appropriate metric for the Bank.

The Bank's funding cost remained almost unchanged, when compared to the respective level as of December 31st 2016 and stood at 0.50% as of December 31st 2017. Finally, the Bank's liquidity buffer during this period increased by €1.3 billion and stood at €11 billion on December 31st 2017, of which €0.9 billion was collateral eligible for funding with the ECB and €9.4 billion was collateral that could be posted in order to draw liquidity from ELA, while €0.1 billion was collateral that could be used for secured funding with FIs and the remaining €0.7 billion was either in the form of Cash or deposited in Nostro accounts.

13. ASSET ENCUMBRANCE

13.1. Information on importance of encumbrance

The following is the disclosure for the year ended 31 December 2017, of on-balance sheet encumbered and unencumbered assets, and off-balance sheet collateral based on the Guidelines on disclosure of encumbered and unencumbered assets, issued by the EBA on 27 June 2014.

Table 38: Assets

€ mio		Carrying amount of encumbered assets	Fair value of encumbered assets	Carrying amount of unencumbered assets	Fair value of unencumbered assets
		010	040	060	090
010	**Assets of the reporting institution**	**15,873**		**46,588**	
030	Equity instruments	-	-	136	136
040	Debt securities	4,098	3,725	1,312	1,126
120	Other assets	11,775		45,140	

Table 39: Collateral received

€ mio		Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance
		010	040
130	**Collateral received by the reporting institution**	**1,787**	-
150	Equity instruments	-	-
160	Debt securities	1,101	-
230	Other collateral received	686	-
240	**Own debt securities issued other than own covered bonds or ABSs**	-	-

Table 40: Encumbered assets/collateral received and associated liabilities

€ mio		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
		010	030
010	**Carrying amount of selected financial liabilities**	**11,305**	**17,661**

More specifically, as at 31 December 2017, the Group and the Bank have the following main types of encumbrance for funding purposes mainly with the Eurosystem, other central banks and FIs:

- trading and investment debt securities,
- loans and advances to customers,
- covered bonds backed with mortgage loans,
- securitised notes backed with SME loans.

In addition to the items presented above, as at 31 December 2017, the Group and the Bank have pledged an amount of €320 mio included in due from banks with respect to a guarantee for the non-payment risk of the Hellenic Republic, as well as Hellenic Republic Treasury bills of €149 mio for trade finance purposes.

It should be noted that traditionally, the Bank has been a deposit-led bank. As a result, most of its funding was based on unsecured deposits and therefore there was no need for secured funding. However, the emergence of economic crisis in Greece has adversely affected Bank's credit risk profile, preventing it from obtaining funding in the capital markets, increasing the cost of such funding and the need for additional collateral requirements in repo contracts and other secured funding arrangements, including those with the Eurosystem.

14. REMUNERATION POLICIES AND PRACTICES

The Bank is committed to an integrated Human Resources Management Policy and hence, has introduced procedures and has taken necessary measures in order to describe the general framework and basic principles for determining the remuneration of all employees working in the Bank and the Group. The governance arrangements and decision making process regarding the remuneration policy are presented in the following paragraphs.

14.1. The proportionality principle

The Bank applies the provisions of the current regulatory remuneration framework in a way and to the extent that is appropriate to its size, internal organization, nature, scope and complexity of its activities. In particular, the Bank aims to match the Remuneration Policy and practices with the individual risk profile, risk appetite and strategy of the Bank and its Group.

In order to apply the proportionality principle, the following (indicatively) criteria are taken into consideration (including the criteria provided in the EBA/GL/2015/22 guidelines):

1. The size of the Bank, particularly relating to the value of its assets and liabilities, its exposure to risk, the level of its regulatory own funds, as well as the number of staff and branches of the Bank.
2. The internal organization of the Bank, its listing on regulated markets, the use of internal methods for the measurement of capital requirements and its corporate goals; and
3. The nature, scope and complexity of its business activities and in particular, the type of its business activities, its Group dimension and activity on an international level, its extended customer base and variety of the type of clients, the portion of High Risk clients and/or activities over the total of clients and/or activities, the relative risks, the complexity of its products and contracts, etc.

14.2. Human Resources and Remuneration Committee

The Human Resources and Remuneration Committee (HRRC) was established by a Board decision (meeting no. 1259/5.5.2005) in order to provide assistance to the Bank's Board of Directors regarding the attraction, retention and development of staff of high personal and professional morals, the development of an objective evaluation and fair reward framework, the establishment and maintenance of a cohesive value and motivation system aiming at the human resources development of the Bank and the Group and the alignment of the Bank's and the Group's Remuneration Policy and the relevant procedures to the legal and regulatory framework. In particular, the Committee ensures the adoption on behalf of the Bank of an accurate, well documented and transparent remuneration policy, which shall be consistent with the business strategy, the risk profile and the risk appetite of the Bank and shall not encourage excessive and short-term risk-taking. The main responsibilities of the HRRC include the following:

- preparing the Remuneration Policy of employees, Management and Board members of the Bank and Group Companies, as well as calling the Board to review regularly, and at least whenever there are changes in the applicable regulatory framework,, the Group Remuneration Policy with particular focus on the impact and incentives created by risk, capital and liquidity management. The Committee shall recommend to the Board corrective measures on issues that arise during the regular review.
- monitoring regularly the implementation of Group Remuneration Policy on the basis of reports from annual reviews performed, and submitting proposals to the Board when necessary. The Committee shall cooperate with other Committees of the Board and with the Risk Management, Compliance and Corporate Governance, Internal Audit - Inspection, HR and HR Strategic Planning Divisions, as well as with external experts, whenever required;
- recommending to the Board the total level of annual variable remuneration (bonuses) at the Bank and the Group as well as the adoption of a new or modification of the existing long-term motivation program related to granting shares, according to the remuneration policy;
- recommending to the Board: a) the goals and objectives relevant to the remuneration of the CEO and evaluate the CEO's performance in light of these goals and objectives and; b) following proposal by the CEO, the remuneration of the executive directors, senior executives and highest paid employees of the Bank, according to the remuneration policy; Such remuneration should reflect the powers, duties, expertise and responsibilities of the persons indicated under a) and b). In fulfilling the said duty, the Committee should pay particular attention to the impact of its decisions on risk profile and management.
- consulting with the Audit Committee on the approval of the remuneration of the Head of Internal Audit, and directly supervising the remuneration of top executives in the independent control functions, including the Group Risk Management and Compliance Divisions; and
- reviewing regularly the remuneration policy for the Board's non-executive members (including the Board Chairman), and submitting proposals to the Board regarding the annual remuneration determined for the non-executive Board members, which is then submitted for approval to NBG Annual General Meeting of Shareholders.

The Committee is governed by a Functioning Regulation (Charter), which has been reviewed following a proposal by the Corporate Governance and Nomination Committee in order to incorporate Law 4261/2014 (CRD IV). The Charter in force was approved by the Board on June 26, 2017.

The Committee consists of at least three members of the Board, which should not exceed 40% (rounded to the nearest whole number) of total Board members (excluding the HFSF Representative). All members of the Committee are non-executive Directors, while the majority of the members (excluding the HFSF Representative)including the Chairman are independent Directors, as per the independency definition included in the Corporate Governance Code and in any case according to the provisions of the legal and regulatory framework in force. The members and Chairman of the Committee are elected by the Board of the Bank, following recommendation by the Board's Corporate Governance & Nominations Committee. The HFSF representative on the Bank's Board is a member of the Committee, while also the HFSF Observer attends the Committee meetings. Among the members of the Committee, there are individuals with experience in the financial sector, while at least one member has sufficient expertise, knowledge and professional experience in risk management and audit activities, in order to contribute to the alignment of the remuneration structure to the risk and capital profile of the Bank. Further, the Committee Charter includes provisions on participation of a member of the Risk Committee in meetings of the Committee when concerning matters in its competence over Remuneration, while it is noted that the current structure of the Remuneration Committee includes members of the Board's Risk Committee.

Pursuant to Greek Law 3864/2010 and according to the provisions of the Relationship Framework Agreement between the Bank and the HFSF, the HFSF appointed Ms. Panagiota Iplixian as its Representative on the Bank's Board. The HFSF Representative participates in Board Committees, including the Human Resources and Remuneration Committee.

The Committee is comprised of the following members:

Table 41: Board HRRC Members

Human Resources and Remuneration Committee	
Chair	Marianne Økland
Member	Claude Piret
Member	Haris Makkas
Member	Panagiota Iplixian (HFSF representative)

Ms Panagiota Iplixian was appointed as of end of March 2017 as the new Representative of the Hellenic Financial Stability Fund on the Board of Directors, in replacement of Mr. Panagiotis Leftheris who had been previously appointed on 19/7/16 as Representative of the Hellenic Financial Stability Fund on the Board of Directors, in replacement of Mr. Haris Makkas who submitted his resignation[2]. The HFSF Representative is entitled to participate in the Board Committees and committees which do not solely comprise executive members, and has the rights and authorities prescribed by Law 3864/2010 as in force and the Relationship Framework Agreement between the National Bank of Greece and the Hellenic Financial Stability Fund. Pursuant to Law 3864/2010 (article 10 §2b), the Representative of the HFSF on the Bank's Board, has veto powers on any Board decision relating to the dividend policy and the compensation of the Board's Chairman, the CEO, other members of the Board, as well as the General Managers and their Deputies.

- During 2017, the Committee convened twelve times. Its members receive compensation for their participation.
- During 2017, the Committee dealt with the contracts, promotions and appointments of General Managers and Assistant General Managers of the Bank while it was thoroughly briefed on the implementation of the Performance Management System ("PMS"). Additionally, the Committee was informed concerning the NBG Voluntary Exit Incentive Scheme and addressed matters concerning the Bank's human resources. In June 2017, the Human Resources and Remuneration Committee Charter was revised.
- Detailed information regarding the responsibilities, the composition and the operation of the HRRC of the Bank's Board is available in the Bank's website (www.nbg.gr - section: The Group / Corporate Governance / Board of Directors / Committees), as well as in the Group and the Bank's Annual Financial Reports, as a part of the Board's Corporate Governance Statement.

14.3. Remuneration Policy

The Bank's Remuneration Policy is adopted by the Board, following the recommendation of the Board's Human Resources and Remuneration Committee (the "HRRC"), and has lately being revised so as to include the staff in units responsible for NPL/NPE management as a specific category of personnel for whom particular incentive schemes should be provided, in compliance with the European Central Bank Guidance to banks on non-performing loans (March 2017). The Bank's remuneration practices are consistent with the Greek Laws 4261/2014 (which transposed European Directive 2013/36/EU – CRD IV) and 3864/2010, as in force, the EU Regulations regarding remuneration (esp. Regulations (EU) 575/2013 and 604/2014), the BoG GA 2650/19.01.2012 and the Amended Relationship Framework Agreement between the Bank and the HFSF and the Bank's obligations towards the Monitoring Trustee, as well as the Bank's business strategy, risk profile and risk appetite and discourages excessive and short-term risk taking. Additionally, the Bank's remuneration practices

[2] *As notified to the Bank by the HFSF letter dated 23/5/2018, Mr. Christoforos Koufalias is appointed as HFSF Representative to the Board of Directors in accordance with Law 3864/2010, as in force, in replacement of Ms. Panagiota Iplixian.*

follow the EBA guidelines on sound remuneration policies which are applicable from January 2017, as well as other legislative provisions (e.g Law 4438/2016 for the alignment of Greek legislation with the Directive 2014/17/EE of the European Parliament and the Council on credit agreements for consumers relating to residential immovable property, MiFID II, EBA Guidelines on product oversight and governance arrangements on retail banking products etc).

Within a Group context, the Bank oversees the remuneration policies and practices, in order to ensure that irrespective of the type of sector in which a Group company operates, the principles set at a Group level are followed. The Remuneration Policy has been forwarded to the Group companies in order for them to adopt a Remuneration Policy taking the Bank's Remuneration Policy as a guide and giving consideration to the respective applicable local regulatory framework, as well as the nature, scale and complexity of their activities. Based on the above and in connection with the variety of business models inside the Group, some Group companies apply more sophisticated policies or practices in fulfilling their regulatory requirements, while others meet these requirements in a simpler or less burdensome way.

14.4. Other relevant stakeholders/ Units

The Remuneration Policy is elaborated with the assistance of the Human Resources, Risk Management and Compliance and Corporate Governance Units, in accordance with their respective responsibilities. With the assistance of the aforementioned Units, the Policy is reassessed and reviewed. The implementation of the Remuneration Policy is subject to central and independent internal control carried out at least on an annual basis by the Internal Audit - Inspection Division.

The implementation of the Policy is assigned to the Human Resources Unit, while the Group Compliance and Corporate Governance Units reassure the compliance of the Policy and the remuneration practices of the Bank and the Group with the relevant regulatory framework and international best practices.

External experts may participate in the development and periodical review of the Remuneration Policy, whenever the Board sees fit. However, during 2017 no such external expert advice was sought.

14.5. Remuneration Policy Governance

The Bank's and the Group's remuneration policy governance is depicted in the following diagram:

Board of Directors

- Approves or reviews the Group Remuneration Policy, following relevant recommendation by the Human Resources and Remuneration Committee
- Oversees the implementation and periodic review of the Remuneration Policy and its general principles
- Ensures that the implementation of the Remuneration Policy and procedures are subject to central and independent audit and review at least annually

Human Resources and Remuneration Committee

- Recommends the adoption or review of the Group Remuneration Policy
- Is responsible for updating of the Policy and ensuring compliance of the Bank and the Group with the provisions of the Remuneration Policy

As prescribed by the applicable Remuneration Policy, the Functions of the Bank having competence over the following areas shall be involved in the design, review and implementation of the remuneration policy:

Compliance – Risk Management – Strategic Planning – Human Resources – Internal Audit

Figure 3: Remuneration policy

14.6. Main characteristics of the remuneration system of the Bank according to the Bank's Remuneration Policy

The remuneration practices of the Bank are in compliance with the provisions of the existing regulatory framework concerning all staff, as well as with regulatory provisions regarding identified staff - specific categories of staff determined in accordance with Regulation (EU) No. 604/2014.

The basic principles and the most important design characteristics of the remuneration system of the Bank, which are aligned with applicable labor legislation, Collective Labor Agreements and Business Collective Labor Agreements, as well as relevant guidelines of the supervisory authorities, are described below.

14.6.1. Remuneration structure

Total remuneration may include fixed (such as salary) as well as variable payments or benefits (such as bonus, share options etc).

In any case, total remuneration is composed primarily of fixed payments, while the fixed and variable components of total remuneration are balanced to an appropriate ratio, which is within the limits determined by Law 4261/2014 (CRD IV).

Regarding share options in particular, no options were granted in 2017.

14.6.2. Criteria used for determining variable remuneration

For determining variable remuneration, if awarded, the following are taken into account:

- the assessment of the performance (individual and collective), which is set in a multi-year framework sufficient to indicate real performance, not only under financially measurable criteria but also under qualitative criteria, including, but not limited to, knowledge of the field of work, managerial skills, efficiency and general professional conduct, level of interest in and contribution to the work produced, compliance with the Bank's policies etc.
- the risks linked to such performance over a longer time horizon,
- the overall financial standing of the Bank and the Group,
- the market conditions and the long-term business targets of the Bank and the Group (including risks and the cost of capital).

Any deficiencies or shortcomings as regards a staff member's failure to comply with the procedures and the Policy of the Bank/Group cannot be offset by achievement of targets.

14.6.3. Risk alignment of remuneration

Members of the Board of Directors and Senior Management, officers participating in decisions related to the assumption of risk, as well as other individuals whose professional activities have a material impact on the risk profile of the Bank and the Group Companies, shall not be provided with any incentive to undertake excessive risk, nor shall they be rewarded for undertaking any risks that may exceed the business decisions of the Bank/Group.

When bonuses are awarded, the Bank places emphasis on effecting payment not by means of a pure up-front cash payment, but rather by alternative means (such as shares) and in installments (Deferred Bonus Pool), considering performance and risks linked to such performance over a longer time horizon.

14.7. Adjustment / deferral / retention/ claw back of variable remuneration

The Bank's Remuneration Policy foresees particular provisions including on deferral of at least 40% of variable remuneration for at least 3 to 5 years, or in the case of a variable remuneration component of a particularly high amount, of at least 60% of the amount, as well as on retention of instruments forming part of variable remuneration, with a view to aligning incentives with the Bank's longer-term interests and taking into consideration performance and performance-linked current and future risks over time.

The Bank may suspend, entirely or in part, the payoff of variable remuneration, if specific ratios (such as capital adequacy, liquidity etc.) are not met or if the financial situation of the Bank/Group has deteriorated significantly.

Without prejudice to the provisions of labor law, the Bank shall reclaim any bonus paid if, following such payment, it is discovered that the performance for which the bonus was offered derived from practices that are irregular or inconsistent with the general principles described in the Remuneration Policy.

14.8. Payment / vesting

According to the Remuneration Policy, variable remuneration is paid or vested, including any deferred part, only if it is sustainable in terms of the aggregate financial situation of the Bank and/or the Group companies, and justified on the basis of a) the financial results of the Bank and/or any Group company and b) the performance of the business unit involved, as well as the individual staff member concerned.

14.9. Remuneration of senior management

The remuneration of Senior Management is approved by the Board, following the recommendation of the HRRC. In particular, their salaries are determined annually or as provided for under the terms of their relevant contracts, taking into account the salaries of peers in the Greek and international banking and other sectors, as well as the Bank's financial position, risks undertaken and supervisory indicators.

The remuneration of Senior Management in the Risk, Compliance and Internal Audit Units shall not be related to the performance of the business units controlled. The Committee directly oversees the remuneration of top executives in the Group Risk Management and Compliance Divisions.

14.10. Directors' Remuneration

The Board develops the proposal to the General Meeting of Shareholders on the remuneration of its members for their board services. This proposal is formulated, in line with the current regulatory framework and the relevant commitments and legislation to which the Bank is subject in accordance with EU state aid rules and according to the Bank's Remuneration Policy, the Charters of competent Board Committees as well as industry best practices, in a way that adequately reflects the time and effort the members are expected to contribute to the work of the Board, while at the same time promoting efficiency of the Board.

Remuneration of the Board's Chairman, the CEO and the Deputy Chief Executive Officer(s) is determined based on proposal by non-executive members of the Board.

The salaries of the Chairman, the CEO and Board members are determined annually or as provided for under the terms of their relevant contracts, taking into account the salaries of peers in the Greek and international banking and other sectors, as well as the Bank's financial position, risks undertaken and supervisory indicators.

The remuneration of non-executive members of the Board shall be linked to factors such as their general responsibilities and the time they devote to carrying out their duties, but not to the short-term results of the Bank/Group and shall not include bonuses.

The Annual Ordinary General Meeting of the Bank's shareholders approves the remuneration of the Chairman of the Board, the CEO, the Deputy CEOs and non-executive Directors, as well as their remuneration in their capacity as members of the Bank's Audit, Corporate Governance & Nominations, Human Resources & Remuneration, Risk Management, and Strategy Committees for the previous financial year, pursuant to article 24, par. 2 of the Companies Act (Law 2190/1920) and determines their respective remuneration through to the next Annual General Meeting.

The remuneration received by the Chairman of the Board, the executive and non-executive Directors for the year 2017, due to their relationship with the Bank, and the compensation they received for their participation in the Board and Board Committees' meetings (as well as the individual attendance of each member of the Board in these meetings) have already been published in the Bank's Annual Financial Report for the annual period ended December 31st, 2017, as part of the Board's Annual Report, which is available in the Bank's website (www.nbg.gr - section: The Group / Investor Relations / Financial Information / Annual and interim financial statements).

During 2017, no variable remuneration has been granted to the Chairman of the Board and the executive Directors, while the remuneration of the non-executive Directors does not include bonuses according to the Bank's Remuneration Policy.