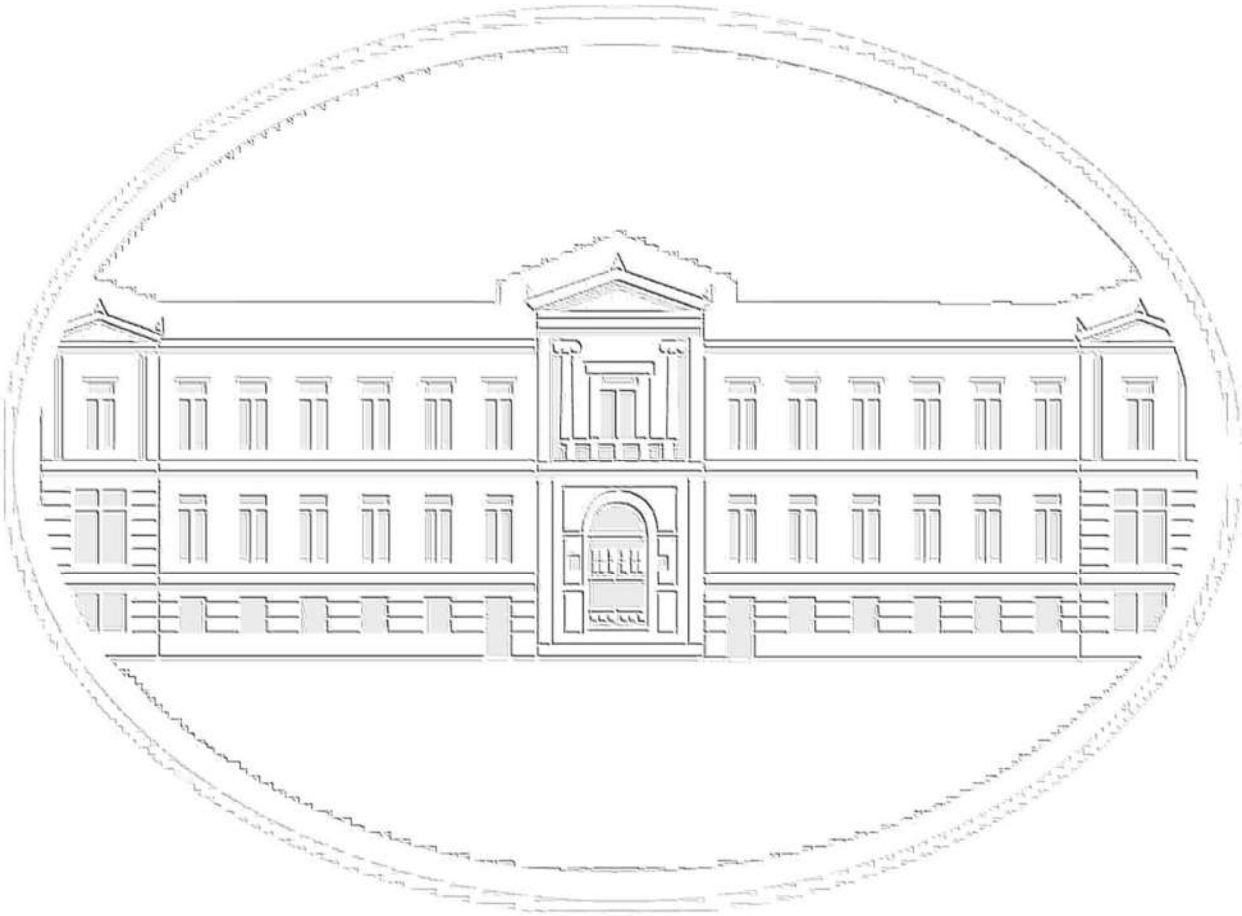
NATIONAL BANK OF GREECE S.A.



Pillar III Disclosures
on a Consolidated Basis

31 December 2019

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List of abbreviations

Abbreviation	Definition	Abbreviation	Definition
ABS	Asset-Backed Securities	**IFRS**	International Financial Reporting Standards
A-IRB	Advanced Internal Ratings Based (Approach)	**IMA**	Internal Model Approach
ALCO	Asset Liability Committee	**IRB**	Internal Ratings Based (approach)
AMC	Asset Management Companies	**IRRBB**	Interest Rate Risk in the Banking Book
ATHEX	Athens Exchange	**ISDA**	International Swaps and Derivatives Association
BC	Bankruptcy Code	**IT**	Information Technology
BCBS	Basel Committee on Banking Supervision	**ITS**	Implementing Technical Standards
BoG	Bank of Greece	**IVS**	International Valuation Standards
Bps	Basis Point	**JST**	Joint Supervisory Team
BRC	Board Risk Committee	**KPI**	Key Performance Indicator
BRRD	Bank Recovery and Resolution Directive	**LCR**	Liquidity Coverage Ratio
BU	Business Unit	**LGD**	Loss Given Default
CCF	Credit Conversion Factor	**LR**	Leverage Ratio
CCP	Code of Civil Procedure	**M&A**	Mergers and Acquisitions
CCR	Counterparty Credit Risk	**MDA**	Maximum Distributable Amount
CCyB	Countercyclical Capital Buffer	**MoB**	Months on Book
CEBS	Committee of European Banking Supervisors	**MRA**	Moody's Risk Advisor
CEF	Credit Equivalent Factor	**MRO**	Main Refinancing Operations
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 Amortisation	**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**	Standardised 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
GFLRM(D)	Group Financial & Liquidity Risk Management (Division)	**ST**	Stress Test
GMRA	Global Master Repurchase Agreement	**sVaR**	Stressed Value at Risk
GORM(D)	Group Operational Risk Management (Division)	**TLAC**	Total Loss Absorbing Capacity
GRCA(D)	Group Risk Control & Architecture (Division)	**TLTRO**	Targeted Long-Term Refinancing Operations
G-SII	Global Systemically Important Institution	**TRIM**	Targeted Review of Internal Models
HFSF	Hellenic Financial Stability Fund	**TSCR**	Total SREP Capital Requirement
HRRC	Human Resources and Remuneration Committee	**UBB**	United Bulgarian Bank
IAS	International Accounting Standards	**VaR**	Value at Risk
ICAAP / ILAAP	Internal Capital / Liquidity Adequacy Assessment Process	**VCV**	Variance-Covariance
ICT	Information and Communication Technology		

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.

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 (including Cyprus and Malta) and Egypt.

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 reward 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. Response to COVID19

I. Fiscal Policy

The European Commission published the Temporary Framework that allowed EU Member States exceptionally to provide five types of state aid: (i) Direct grants, selective tax advantages and advance payments; (ii) State guarantees for loans taken by companies from banks; (iii) Subsidised public loans to companies; (iv) Safeguards for banks that channel state aid to the economy; and (v) Short-term export credit insurance. The Commission sent a consultation to Member States on extending the temporary framework to five additional types of state aid: (i) support for COVID-19-related research and development; (ii) support for the construction and upgrading of testing facilities; (iii) support for the production of products to tackle the COVID-19 outbreak; (iv) Targeted support in the form of deferral of tax payments and/or suspensions of employers' social security contributions; and (v) Targeted support in the form of wage subsidies for employees. On 3 April, the Commission decided to extend the Temporary Framework to include these five measures. The Commission also decided to temporarily remove all countries from the list of "marketable risk" countries under the short-term credit insurance Communication, in order to make public short-term export credit insurance more widely available. This contributes to expanding the flexibility introduced by the temporary state aid framework with respect to the possibility by State insurers to provide insurance for short-term export-credit.

Activation of the general escape clause of the Stability and Growth Pact (SGP). Following proposals by the European Commission, the European Council agreed that the conditions for the use of the general escape clause of the EU's fiscal framework –namely, "a severe economic downturn in the euro area or the Union as a whole" –were fulfilled. The use of the clause will provide flexibility for Member States to take necessary measures to support their economies, "including through further discretionary stimulus and coordinated action, designed, as appropriate, to be timely, temporary and targeted".

The new instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE). This new instrument, open to all 27 Member States, proposes a EUR 100 billion solidarity instrument to complement or contribute to the creation of national short-term unemployment schemes in the form of loans. The Commission intends to mobilise the EUR 100 billion with support of the Member States, who will provide voluntary guarantees for 25 billion euros. The loans should help recipient States increase their public expenditure in the area of short-time work schemes and measures aiming to protect jobs. The recipient State should open a "special account with its national central bank for the management of the financial assistance received", and the Commission and Member State should conclude an implementation agreement.

The European Investment Fund (EIF) confirmed that it has unlocked EUR1bn from the European Fund for Strategic Investments that will serve as a guarantee to the EIF. The €1 billion unlocked from the EFSI under the COSME Loan Guarantee Facility and the InnovFinSME Guarantee under Horizon 2020 allows the EIF to provide guarantees worth €2.2 billion to financial intermediaries, unlocking €8 billion in available financing. The guarantees have been offered through the EIF to the market via a call for expressions of interest issued on 6 April to intermediaries. Key guarantees include: a) Simplified and quicker access to the EIF guarantee, b) a higher risk cover –up to 80% of potential losses on individual loans, c) focus on working capital loans across the EU, d) allowing for more flexible terms, including postponement, rescheduling or payment holidays.

II. Monetary policy and liquidity/market operations

On 12 March, the ECB announced that the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 0.00%, 0.25% and -0.50% respectively. In addition, a temporary envelope of additional net asset purchases of EUR 120 billion will be added until the end of the year, ensuring a strong contribution from the private sector purchase programmes. Reinvestments of the principal payments from maturing securities purchased under the asset purchasing programme (APP) will continue, in full, for an extended period of time past the date when the Governing Council starts raising the key ECB interest rates, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation.

Interest rate on TLTRO III reduced by 25bps, can now be as low as 25bps below average deposit facility rate from June 2020 to June 2021 for all TLTRO III operations outstanding during that period (-0.75%). Borrowing allowance raised from 30% to 50% of eligible loans. Lending performance threshold to be met between 1 April 2020 and 31 March 2021 in order to attain minimum interest rate on TLTRO III reduced to 0% from 2.5%. Early repayment option available after one year from settlement starting in September 2021. Easing of TLTRO III accompanied by series of LTROs designed to bridge liquidity needs until settlement of fourth TLTRO III operation in June 2020. Operations will be conducted as fixed rate tender procedures with full allotment. Rate in these operations will be fixed at the average of the deposit facility rate over the life of the respective operation. Interest paid on maturity, all operations mature on 25 June 2020.

The Pandemic Emergency Purchase Programme (PEPP) was launched, which is a new temporary asset purchase programme of private and public sector securities, with a total envelope of EUR 750 billion. Purchases will be conducted until the end of 2020 and will include the asset categories eligible under the APP. For the purchase of public sector securities, the benchmark allocation across jurisdictions will continue to be capital key of national central banks, but PEPP will be conducted in flexible manner – allowing for fluctuations in the distribution of purchase flows over time, across asset classes and among jurisdictions. A waiver of eligibility requirements for securities issued by the Greek government will be granted for purchases under PEPP. The eligible range of assets under the corporate sector purchase programme (CSPP) extended to non-financial commercial paper, making all commercial papers of sufficient credit quality eligible for purchase under CSPP. Additionally, the ECB announced the easing of collateral standards by adjusting main risk parameters under the collateral framework. In particular, the scope of Additional Credit Claims (ACC) –i.e. loans and other debt obligations which are not tradable bonds –has been expanded to include claims related to the financing of the corporate sector. On 26 March, it was clarified that the Public Sector Purchase Programme issuer/issue limit, which limited purchases to 33% of a single Member State's debt instrument, will not apply to the PEPP. The ECB distinguishes the PEPP's objectives from those of other bond-buying programmes, saying "the PEPP requires a high degree of flexibility in its design and implementation compared to the APP and its monetary policy objectives are not identical to that of the APP."

III. Capital and stress testing

ECB provided guidance clarifying that banks are allowed to operate temporarily below Pillar 2 Guidance (P2G), the Capital Conservation Buffer (CCB) and the Liquidity Coverage Ratio (LCR) in times of stress. The ECB has also brought forward the implementation of Article 104a CRD5, which allows banks to meet Pillar 2 Requirements (P2R) partially with lower quality capital (a measure which was originally set to apply to EU banks from June 2021). Additionally the ECB set out its expectation then NCA draw down the Countercyclical Capital Buffer (CCyB).

On 20 March, the ECB published FAQs on supervisory measures in reaction to COVID-19. The release covers relief measures regarding asset quality deterioration and non-performing loans, relief measures regarding operational aspects of supervision, and relief measures regarding capital and liquidity requirements. On 27 March, the ECB issued a recommendation that at least until 1 October 2020 no dividends are paid out to banks' shareholders and no irrevocable commitment to pay out dividends is undertaken by banks for the financial years 2019 and 2020. Banks should also refrain from share buy-backs aimed at remunerating shareholders. Where a bank considers itself legally required to pay dividends, it should immediately give reasons to its relevant supervisor.

The EBA announced that the EU-wide stress test is postponed to 2021 to allow banks to prioritise operational continuity. It also encouraged national competent authorities to make full use of the flexibility embedded in the existing regulatory framework, such as allowing banks to cover Pillar 2 requirements with capital instruments other than common equity tier 1.

The EBA provided some further information later in March. It reiterated its call to banks to refrain from distributing dividends or share buybacks for the purpose of remunerating shareholders and assess their remuneration policies in line with the risks stemming from the economic situation. In addition, the EBA urged one month flexibility for reports with remittance dates between March and the end of May 2020, and called for flexibility in assessing deadlines of institutions' Pillar 3 disclosures. The Quantitative Impact Study based on June 2020 data has also been cancelled. Finally, the EBA called on NCAs to share information on emerging ML/TF risks, setting clear regulatory expectations and using supervisory tools flexibly. On April 2, the EBA published Guidelines on the criteria to be fulfilled by legislative and non-legislative moratoria applied before June 30. The guidelines clarify that payment moratoria do not trigger classification as forbearance if the measures taken ara based on the applicable national law, or an industry-or sector-wide private initiative applied. However, the Guidelines also clarify that institutions must continue to adequately identify those situations where borrowers may face longer-term financial difficulties, and classify exposures in accordance with existing regulation.

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On 2 April, EIOPA urged insurers to suspend all discretionary dividend distributions and share buy-backs. This approach should be applied by all insurance groups at the consolidated level and also regarding significant intra-group dividend distributions or similar transactions, whenever these may materially influence the solvency or liquidity position of the group or of one of the undertakings involved, and should also be applicable to the variable remuneration policies.

IV. IFRS9

On 20 March, the ECB announced it will exercise flexibility regarding the classification of debtors as "unlikely to pay" when banks call on public guarantees granted in the context of COVID-19. The supervisor will also exercise certain flexibilities regarding loans under COVID-19 related public moratoriums. Second, loans which become non-performing and are under public guarantees will benefit from preferential prudential treatment in terms of supervisory expectations about loss provisioning. Lastly, supervisors will deploy full flexibility when discussing with banks the implementation of NPL reduction strategies, taking into account the extraordinary nature of current market conditions. It encourages banks to avoid excessive pro-cyclical effects when applying the IFRS 9 international accounting standards. The ECB also confirmed the activation of capital and operational relief measures announced on March 12. Estimates that these could free up EUR 120 billion of CET1.

On 25 March, ESMA issued a statement that sets out some accounting implications of the economic support and relief measures adopted by EU Member States in response to the outbreak. The measures include moratoria on repayment of loans and have an impact on the calculation of expected credit losses in accordance with IFRS9. The statement provides guidance to issuers and auditors on the application of IFRS 9 Financial Instruments, specifically as regards the calculation of expected credit losses and related disclosure requirements.

EBA, following its call on 12 March 2020 to Competent Authorities to make use of the full flexibility provided for in the existing regulation, issued a second statement to explain a number of additional interpretative aspects on the functioning of the prudential framework in relation to the classification of loans in default, the identification of forborne exposures, and their accounting treatment. The EBA also provides some guidance for payment system providers to ensure the protection of consumers and the good functioning of the EU payment system.

In Greece, a Legislative Decree was issued on 30 March, announcing that:

1. State will award a repayable advance. The total amount of said funding plan will reach EUR 1(one) billion. All affected businesses may benefit from an extended time horizon for repayment, in conjunction with low interest rates and a grace period.
2. The postponement of the maturity and payment date for securities is provided. The said postponement shall last for 75 days. The measure under examination applies to: 1) Businesses whose operation has been banned or are affected by COVID-19; ii) Securities with maturity date from form 30.03.2020 until 31.05.2020. For affected businesses with CPA codes that will be included in the relevant list in April, the measure is also applicable, starting from the day after the inclusion of their CPA code list of affected businesses.

In addition, the Hellenic Bank Association issued a communication, announcing that the postponement of payment of instalment of principal, which are on from 18.03.2020 until 30.09.2020 due on 18.03.2020 until 30.09.2020 (at least), is provided. The measure applies to legal entities operating in sectors affected by COVID-19, on the basis of the list of CPA codes of affected business sectors. The borrowers that fall within the above scope are eligible to apply for payment deferral provided their loans were not overdue as at 31.12.2019.

V. Other

On March 25th, Basel Committee announced that the implementation date of the Basel III standards finalised in December 2017 has been deferred by one year to 1 January 2023. The accompanying transitional arrangements for the output floor have also been extended by one year to 1 January 2028. Also, the implementation date of the revised market risk framework finalised in January 2019 has been deferred by one year to 1 January 2023 and the implementation date of the revised Pillar 3 disclosure requirements finalised in December 2018 has been deferred by one year to 1 January 2023.

1.1.2. 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*** that places the ECB as the central prudential supervisor of financial institutions in the euro area. Since November 2014 NBG Group's supervision is assigned directly to the ECB, as 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 documents are complemented by numerous Implementing Technical Standards (ITS), Regulatory Technical Standards ("RTS"), Guidelines ("GL") and Recommendations issued by the European Banking Authority, 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***: Directive 2014/49/EU of the European Parliament and Council “on deposit guarantee schemes” (“DGSD”), 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 EC put forward a relevant proposal in November 2015. However, a common system for deposit protection has not yet been established. Work has started on a roadmap for beginning political negotiations. In December 2018, the European Council stated that it will establish a High-level working group with a mandate to work on next steps. The High-level group should report back by June 2019. On 8 August 2019, EBA published its opinion on the implementation of the Deposit Guarantee Schemes Directive (DGSD) in the EU. The opinion proposes changes in relation to the current provisions on transfers of DGS contributions between DGSs, DGSs' cooperation with various stakeholders, the current list of exclusions from eligibility, current provisions on eligibility, depositor information, the approach to third country branches' DGS membership, the implications of the recent review of the three European Supervisory Authorities (ESAs), and cross-references to other EU regulations and EU directives. The opinion proposes no changes, for example, to the current coverage level of EUR 100,000, provisions on home-host cooperation, cooperation agreements, or the cooperation between the EBA and the European Systemic Risk Board (ESRB).

EU package of Risk Reduction Measures: CRR2 / CRD5 / BRRD2/SRMR2

Introduction: On November 23rd, 2016, the EC 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 Banking Package includes prudential standards adopted by the Basel Committee on Banking Supervision and by the Financial Stability Board (FSB), while its main objective is to reduce risk in the EU banking system.

The Banking Package comprises two regulations and two directives, relating to:

- bank capital requirements (amendments to regulation 575/2013 and directive 2013/36/EU),
- the recovery and resolution of banks in difficulty (amendments to directive 2014/59/EU and regulation 806/2014).

The Banking Package strengthens bank capital requirements and reduces incentives for excessive risk taking, by including a binding leverage ratio, a binding net stable funding ratio and setting risk sensitive rules for trading in securities and derivatives. In addition, it contains measures to improve banks' lending capacity and facilitate a greater role for banks in the capital markets, such as:

- reducing the administrative burden for smaller and less complex banks, linked in particular to reporting and disclosure requirements,
- enhancing the capacity of banks to lend to SMEs and to fund infrastructure projects.

The banking package also contains a framework for the cooperation and information sharing among various authorities involved in the supervision and resolution of cross-border banking groups.

Timeline: On 25th May 2018, the ECOFIN Council agreed its mandate to start negotiations with the European Parliament. A first agreement was achieved on the main elements of the banking package and confirmed by the ECOFIN Council on 4 December 2018. EU ambassadors have now endorsed the deal on all risk reduction measures. In late-February of 2019, both the European Council and European Parliament endorsed the deal on the legislation reached by negotiators while in April the European Parliament approved the final agreement on the package of reforms proposed by EC to strengthen the resilience and resolvability of European banks. In 20th May 2019 the relevant legislation 2019/876 was published, and entered into force on 27 June 2019.

This marks a milestone in the completion of the Banking Union, in the finalisation of the post-crisis regulatory agenda, and in the implementation of international standards. Building on the existing rules, this set of adopted measures will address the remaining challenges to financial stability, while strengthening the global competitiveness of the EU banking sector. This package had already made subject of an agreement during the inter-institutional negotiations with the Council of the EU.

The main focus areas of Risk Reduction Measures Package are illustrated below:

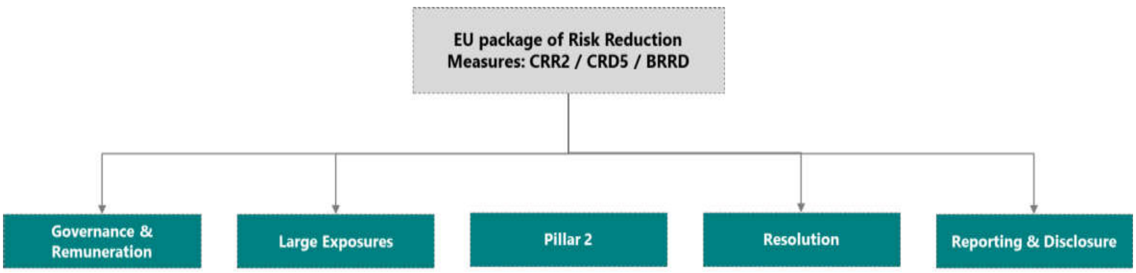


Figure 1: EU package of Risk Reduction Measures

The approved agreement on the package of reforms implements components of the Basel III framework, including the following key aspects:

- Proposal for CRR 2 covers the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, the Standardised Approach for counterparty credit risk (SA-CCR), market risk and the fundamental review of the trading book (FRTB), exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and amends European Market Infrastructure Regulation (EMIR or EU Regulation No 648/2012).

- Proposal for CRD 5 is on exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers, and capital conservation measures.
- Proposal for SRMR 2 is about loss-absorbing and recapitalisation capacity for credit institutions and investment firms.
- Proposal for BRRD 2 is on loss-absorbing and recapitalisation capacity of credit institutions and investment firms and it amends Directive 98/26/EC, Directive 2002/47/EC, Directive 2012/30/EU, Directive 2011/35/EU, Directive 2005/56/EC, Directive 2004/25/EC, and Directive 2007/36/EC.

However, 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 IV' (see relevant section below).

On November 21st 2019, the EBA published a set of roadmaps outlining its approach and timelines for delivering the mandates stemming from the aforementioned Risk Reduction Measures Package.

Regarding the governance area, the EBA aims to optimising the existing framework with an emphasis on the finalisation of the remuneration deliverables. In the area of large exposures, the EBA's priority will be to complete the framework where currently no EBA work exists, namely for determining exposures arising from derivatives. In the area of Pillar 2, the EBA will consider how to make the Pillar 2 framework fit for purpose in view of ongoing and new challenges. In particular, proportionality will be strengthened, and the anti-money laundering and counter-terrorist financing (AML/CTF) and sustainable finance dimensions will be clarified together with Pillar 2 capital add-ons.

On resolution, the EBA's work aims at facilitating effective resolution planning and preparedness, such as on MREL calibration and monitoring. In the area of supervisory reporting, the EBA aims at achieving an efficient reporting framework with enhanced proportionality. Finally with its work on disclosure, the EBA aims to become the EU-wide Pillar 3 hub following the completion of the EUCLID project.

Recovery and Resolution Developments

Announcement of the second part of SRB's annual policy on MREL: On 16th January, 2019, the Single Resolution Board ("SRB") published the second part of its policy for 2018 for MREL concerning the second wave of resolution plans, i.e. the plans for more complex banks. As for 2018, SRB required a two-step transitional approach to the MREL definition process, with the first part of its policy referring to reorganisation plans for Banks that had no binding targets being released in November 2018. The second part introduces a series of new elements to enhance the capacity for bank resolution within the Banking Union, among which: an improved approach for eligible instruments for MREL consolidated targets, increased mandatory subordinate requirements and, finally, the introduction of binding MREL targets at individual level. The SRB published an update to its policy on MREL in light of the publication of the Banking Package in the Official Journal of the EU on 7 June 2019.

Publication of the "Expectations for Banks": The Single Resolution Board (SRB) published for consulation in October 2019 the "Expectations for Banks" document, which outlines best practice on key aspects of resolvability. It sets out the capabilities the SRB expects banks to demonstrate in order to show that they are resolvable. It reflects best practice in and sets benchmarks for assessing resolvability. The document will provide clarity to the market on the actions the SRB expects banks to take. While the expectations are general, their application will be tailored to each individual bank, based on a dialogue with the SRB's internal resolution teams. The result will feed into the SRB's annual resolution work programmes for banks.

On February 17th 2020, the Single Resolution Board (SRB) launched a public consultation on a number of substantial changes to its policy on the Minimum Requirement for Own Funds and Eligible Liabilities (MREL). This document describes the proposals, provides the rationale and highlights several specific questions to which the SRB seeks responses. The proposals cover the implementation of provisions related to, among others:

- MREL requirements for Global Systemically Important institutions (G-SIIs);
- Changes to the calibration of MREL, including introducing MREL based on the leverage ratio;
- Changes to the quality of MREL;
- Dedicated rules for certain business models, such as cooperatives, and for resolution strategies, such as multiple point of entry (MPE);
- How these changes will be phased in.

In addition, the package tackles the issue of contractual recognition of bail-in for liabilities issued under third-country laws, as well as the powers of resolution authorities to suspend payments (moratorium powers).

1.1.3. Reporting and Disclosure

Reporting

The EBA works on harmonising and improving the reporting framework since its inception in 2011 with the first reporting framework to be published in 2013. Since then, the EBA reporting framework has evolved over the years with its new releases to have been published on February 14th 2020 (reporting framework v2.9) and 09 April 2020 (reporting framework v2.10).

The EBA reporting framework is going to cover the categories: a reporting framework based on CRR/CRR 2/CRD/CRD 5, including the Backstop Regulation; a reporting framework based on BRRD/BRRD 2; a reporting framework for investment firms based on the IFR.

On November 22nd 2019, EBA launched a public consultation on the draft Implementing Technical Standard (ITS) on disclosure and reporting of the minimum requirement for own funds and eligible liabilities (MREL) and the total loss absorbency requirement (TLAC). The consultation ran until 22 February 2020. The integrated approach aims to optimise efficiency by institutions when complying with their disclosure and reporting obligations, to facilitate the use of information by authorities and market participants, and to promote market discipline.

The legislation adopting the banking package amends rules on capital requirements to reinforce the capital and liquidity positions of banks under CRD 5 and CRR 2. CRR 2 includes a number of key measures, such as amendments regarding the leverage ratio, the new net stable funding requirement, a new market risk framework introduced in the form of a reporting requirement and a new total loss-absorbing capacity (TLAC) requirement. Besides these changes to the substance of the prudential framework, the reporting and disclosure requirements themselves have been subject to amendments.

The package also aims to enhance proportionality, as the new rules are more growth-friendly and better able to be adapted to the size, risk and systemic importance of the banks. Proportionality is also reflected in the EBA's proposals for reporting requirements, as well as in the cost of compliance study on reporting and the feasibility study on integrated reporting that the EBA is mandated to submit to the European Commission by CRR 2.

In addition to the changes stemming from the risk reduction package, the European Council published its conclusions on an action plan designed to tackle non-performing loans (NPLs) in Europe in July 2017. In its action plan, the European Council requests that the European Commission consider introducing prudential backstops to address potential under-provisioning of non-performing exposures (NPEs). The backstop would apply to newly originated exposures in the form of compulsory prudential deductions from institutions' own funds.

Following this request, Regulation (EU) 2019/30 of the European Parliament and of the Council amending Regulation (EU) No 575/2013 (the Backstop Regulation) was published in April 2019. It introduced a Pillar 1 measure that directly applies to all institutions subject to the CRR. In particular, the Backstop Regulation sets out uniform minimum levels of coverage to ensure that institutions have sufficient loss coverage for future NPEs. Consequently, the reporting framework will have to be expanded to cover this new element.

The released reporting framework v2.9 (published on 14 February 2020) acknowledged the adoption by the EC of the Implementing Act amending Regulation (EU) No 680/2014 with regard to COREP and FINREP changes. More specifically:

- The COREP amendments concern the new securitisation framework and changes to LCR to align with the LCR amending Act;
- The FINREP amendments concern the reporting requirements on non-performing exposures (NPE) and forbearance to allow the monitoring of reporting institutions' NPE strategies, the reporting requirements on profit and loss items and the implementation of the new International Financial Reporting Standard on Leases (IFRS 16).

Disclosure – Pillar 3

Following the recent updates to the regulatory frameworks for credit institutions and investment firms, and the publication in 2018 of the European Commission's action plan on sustainable finance, the EBA is implementing a new strategy on its policy regarding institutions' Pillar 3 disclosures that should foster the role of institutions' disclosures in promoting market discipline.

On November 14th 2019, the Bank for International Settlements (BIS) published two consultative documents related to Pillar 3 disclosure setting:

- revised disclosure requirements related to the market risk framework (a set of adjustments to the Pillar 3 templates for the revised market risk framework to reflect changes introduced in minimum capital requirements for market risk and a proposal for enhancement of disclosure of the trading desk structure of banks using the internal models approach by reinforcing a materiality threshold to determine the scope of individual trading desks subject to the requirement).
- and consulting on voluntary disclosure templates related to banks' sovereign exposures.

On October 16th 2019, the EBA launched a public consultation on the new comprehensive Implementing Technical Standard (ITS) for financial institutions' public disclosure, designed to promote market discipline. This proposal seeks to optimise the EBA Pillar 3 policy framework by moving from a silo based approach, with different disclosure policy products, to an all-inclusive ITS. It also implements regulatory changes introduced by the CRR2 and aligns the disclosure framework with international standards.

The above documents are not yet in force.

On March 2nd 2020, the EBA published its Report assessing institutions' Pillar 3 disclosures with aim to assess the implementation by institutions of the Pillar 3 framework as well as of identifying best practices and potential areas for improvement that should help institutions enhance their own disclosures and which will be a valid input to the EBA's policy work on Pillar 3. According to the finding of the report, institutions are on the correct path towards achieving consistency and comparability through the implementation of common disclosure formats, accompanied by qualitative explanations that help communicate meaningful prudential information. However, it noted some areas for improvement:

- Omission of information without any indication of the reasons;
- Unclear identification and location of Pillar 3 reports that hinders the ability of users to find them;
- Lack of consistency in the structure of Pillar 3 reports and of some of the information reported, particularly qualitative information;
- Oversimplification of interim reports compared to end-of-year reports;

- Lack of reconciliation of quantitative information across disclosure templates or inconsistent ways to calculate quantitative flows of information.

1.1.4. Governance and Remuneration

On December 19th 2019, the EBA launched a public consultation on its draft Regulatory Technical Standards (RTS) on the criteria to identify all categories of staff whose professional activities have a material impact on the institutions' risk profile ("risk takers").

"Risk takers" will be identified based on the criteria laid down in the revised Capital Requirements Directive (CRD) and those specified within the draft RTS.

Members of staff are identified as having a material impact on the institution's risk profile as soon as they meet at least one of the criteria, be it the criteria foreseen under the CRD, the qualitative or quantitative criteria in the draft RTS or, where necessary because of the specificities of their business model, additional internal criteria, to ensure that all risk takers are identified.

The qualitative criteria which were set out in 2014 in the RTS on identified staff have been largely retained in the updated draft RTS. The revised qualitative criteria identify staff with managerial responsibilities and with decision-making powers that have a material impact on the institutions risk profile. In terms of quantitative criteria, the revised CRD set out a threshold of total remuneration of €500,000 combined with the average of the remuneration of members of the management body and senior management.

The draft RTS retain the additional quantitative criteria that identify the staff high levels of remuneration above €750,000 and the 0.3% of staff with the highest remuneration, based on the rebuttable presumption that the professional activities of those staff would have a material impact on the institutions risk profile.

1.1.5. NPE Management Regulatory Framework

ECB Final Guidance on NPLs

On March 15th, 2018, the ECB published the addendum to the ECB Guidance to banks on NPLs. The addendum supplements the qualitative NPL guidance, published on 20 March 2017, and specifies ECB's supervisory expectations for prudent levels of provisions for new NPLs. The addendum does not bind banks, serving as a basis for the supervisory dialogue between the SIs and ECB Banking Supervision. It refers to loans classified as NPLs after 1 April 2018, in line with the EBA's definition.

The background to the addendum is that, in line with the CRD IV, supervisors have to assess and address institution-specific risks which are not already covered, or which are insufficiently covered, by the mandatory prudential requirements in the CRR ("the Pillar 1 rules"). Specifically, the existing prudential framework requires supervisors to assess and decide whether banks' provisions are sufficient and timely from a prudential perspective, while the addendum lays out what ECB Banking Supervision expects in this regard. As with other supervisory expectations, the addendum is complementary to any binding legislation; this includes the proposal for a Regulation amending the CRR as regards minimum loss coverage for non-performing exposures.

The supervisory expectations outlined in the addendum consider the extent to which NPLs are secured. For fully unsecured exposures and unsecured parts of partially secured exposures, it is expected that 100% coverage is achieved within 2 (two) years of the NPE classification. For fully secured exposures and secured parts of partially secured exposures, it is expected that 100% coverage is achieved within 7 (seven) years of the NPE classification, following a gradual path. The expectations for secured exposures adhere to the prudential principle that credit risk protection must be enforceable in a timely manner. The ECB will assess prudential provisioning levels of new NPEs during the supervisory dialogue, considering the quantitative expectations summarised in the following table.

Table 1: Overview of the quantitative expectations

(%)	Unsecured part	Secured part
After 2 years of NPE vintage	100%	-
After 3 years of NPE vintage	100%	40%
After 4 years of NPE vintage	100%	55%
After 5 years of NPE vintage	100%	70%
After 6 years of NPE vintage	100%	85%
After 7 years of NPE vintage	100%	100%

The practical implementation of the addendum is to form part of the supervisory dialogue, in which the Joint Supervisory Teams ("JSTs") discuss with each bank deviations from the provisioning expectations. Thereon, ECB Banking Supervision will decide, on a case-by-case basis, whether supervisory measures are appropriate and if so, which Banks are required to inform the ECB of any differences between their practices and the prudential provisioning expectations, and the results of this dialogue will be incorporated in the 2021 Supervisory Review and Examination Process ("SREP"). Banks should review their underwriting policies and criteria to reduce the emergence of new NPEs.

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.

On July 11th, 2018, the ECB announced additional steps in its supervisory approach to the stock of NPLs. The approach creates a consistent framework for addressing the issue, as part of the supervisory dialogue, through bank-specific supervisory expectations aimed at achieving adequate provisioning of legacy NPLs. This assessment was guided by: i) individual banks' current NPL ratios, ii) their main financial features, iii) their NPL reduction strategy (if available) and iv) a benchmarking of comparable peers in order to ensure consistent treatment. Most recent data and their capacity to absorb additional provisions was also considered. All SIs have been assessed with the aim of setting bank-specific expectations so as to ensure continued progress in reducing legacy risks and the same coverage of the stock and flow of NPLs over the medium term.

On August 22nd, 2019 the ECB published a communication letter to provide transparency in respect of the ECB's supervisory expectations regarding banks' treatment of NPLs, following an assessment of the interaction between its approach to NPEs under Pillar 2 and the new EU regulation that outlines the Pillar 1 treatment of NPEs, where NPLs arising from loans originated after 26 April 2019 in principle are subject solely to Pillar 1 treatment. In order to enhance the consistency and simplicity of the overall approach to NPEs, and, after summarising related policies and measures, the communication document (i) clarifies aspects relating to the EBA's publication of NPE-related guidelines; (ii) provides further details regarding the ECB's supervisory expectations for provisioning of NPE stock; (iii) clarifies the interaction between ECB's NPE coverage expectations under Pillar 2 and the Pillar 1 prudential rules, and (iv) summarises adjustments to the Pillar 2 approach in respect of supervisory expectations for prudential provisioning for new NPEs under the scope of the above Addendum.

More specifically:

1. The scope of the ECB's supervisory expectations for new NPEs will be limited to NPEs arising from loans originated before 26 April 2019, which are not subject to Pillar 1 NPE treatment. NPEs arising from loans originated from 26 April 2019 onwards will be subject to Pillar 1 treatment, with the ECB paying close attention to the risks arising from them.
2. The relevant prudential provisioning time frames, the progressive path to full implementation and the split of secured exposures, as well as the treatment of NPEs guaranteed or insured by an official export credit agency, have been aligned with the Pillar 1 treatment of NPEs set out in the new EU regulation.
3. All other aspects, including specific circumstances, which may make prudential provisioning expectations inappropriate for a specific portfolio/exposure, remain as described in the Addendum.
4. Supervisory expectations for the stock of NPEs (i.e. loans classified as NPEs on 31 March 2018) remain unchanged, as communicated in the Supervisory Review and Evaluation Process letters sent to banks and in the press release in July 2018.
5. Despite recent progress in NPLs stock decrease, the ECB considers it of the utmost importance that the level of NPLs is further reduced, thereby resolving them in a swift manner while economic conditions are still favourable.

European Commission proposals for NPLs

On March 14th, 2018, the Commission proposed an ambitious and comprehensive package of measures to tackle 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 the following 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 in the restructuring of banks, by providing non-binding guidance 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.

On December 14th, 2018, the Council and the European Parliament agreed a new framework for dealing with banks' bad loans. They reached a provisional political agreement on capital requirements applying to banks with NPLs on their balance sheets. The proposal aims at creating a prudential framework for banks to deal with new NPLs and thus to reduce the risk of their accumulation in the future. Specifically, it provides for requirements to set aside sufficient own resources when new loans become non-performing and creates appropriate incentives to address NPLs at an early stage.

On the basis of a common definition of NPLs, the proposed new rules introduce a "prudential backstop", i.e. common minimum loss coverage for the amount of money banks need to set aside to cover losses caused by future loans that turn non-performing. In case a bank does not meet the applicable minimum level, deductions from banks' own funds would apply. Further, the agreed framework introduces a uniform calendar, as shown in the table below, which applies irrespective of the trigger of the non-performance. For unsecured NPLs, a calendar of three years should apply. For secured NPLs, a progressive calendar of seven or nine years would apply, depending on the collateral type. In all cases, full coverage should ultimately be built up.

Table 2: Rules for Coverage of Expected Losses

Period	Final Agreement		
	Unsecured	Secured Immovable	Secured Other CRR eligible
After 1 year	0%	0%	0%
After 2 years	35%	0%	0%
After 3 years	100%	25%	25%
After 4 years	100%	35%	35%
After 5 years	100%	55%	55%
After 6 years	100%	70%	80%
After 7 years	100%	80%	100%
After 8 years	100%	85%	100%
After 9 years	100%	100%	100%

On January 14th, 2019, the ECOFIN and the European Parliament reached an agreement on the Commission's proposal for a Regulation concerning minimum loss coverage for (new) NPEs. This Regulation sets out more lenient arrangements compared to the ECB's Addendum with respect to the:

- **Perimeter:** the Regulation applies to exposures originated after its entry into force (expected in the following months), while the ECB's Addendum applies to NPEs classified as such after 1 April 2018, and
- **Timeline for full coverage:** the Regulation requires full coverage for the secured part of NPEs within 9 years (part secured by immovable property) or 7 years (part of NPEs secured by other collateral).

It should be noted that the Regulation allows supervisory authorities to apply (on a case-by-case basis) stricter requirements compared to those included in the Regulation. Hence, the ECB would probably continue applying the Addendum. In addition, pursuant to the Regulation:

- Common criteria for the classification of NPEs and forborne exposures (for the purposes of the prudential backstop) are established,
- The prudential backstop should be applied on an exposure-by-exposure level,
- If forbearance measures are applied to non-performing exposures, the coverage requirement should remain stable during one additional year.

On April 17th, 2019, the European Parliament following a provisional version of amendments (March 14th, 2019) and its approval by the Council of the European Union adopted the Regulation amending the CRR as regards minimum loss coverage for NPEs, amending as appropriate the respective Articles of the CRR. The new regulation complements existing prudential rules and requires a deduction from own funds when NPEs are not sufficiently covered by provisions or other adjustments.

Greece's NPL Legislative Update

Electronic Auctions – Law 4512/2018

Since 21.2.2018, all auctions of real estate properties take place electronically, through the special platform of the Notaries Association, www.eauction.gr. By virtue of the Law 4512/2018, the physical auctions were completely abolished. The electronic platform has significantly enhanced the management and the efficiency of the liquidation effort.

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

Pursuant to art. 176 of the said Law, two "mirror" provisions, art. 977A and 156A are established in Code of Civil Procedure and Bankruptcy Code, respectively.

According to the 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 quantitively limited (up to 9.670,32 euros per employee) superseniority 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.

- **Amendment of provisions of Law 4354/2015 on assignment and transfer of Non-Performing Loan/claims (NPLs)**

Pursuant to art. 69 par. 2 Law 4549/2018 (by virtue of which art. 3 par 2 of Law 4354/2012 was amended), the Bank's obligation to send to the debtors a settlement proposal according to the Code of Conduct prior to the loan transferring was restricted only in cases that the debtor is considered as Consumer (as per art. 1a of Law 2251/1994).

- **Law 4549/2018: settlement of State guaranteed loans.**

Pursuant to art. 103 of the said Law, the Banks are authorised to proceed with the settling of State guaranteed loans with the debtors without being obliged anymore to request the State's prior consent to the settlement scheme. The exact terms and conditions of such debt settling (so that the State's guarantee remains valid in favor of the Bank) are provided for by the Ministerial Decision 2/9/2018.

- **Amendments on Law 4307/2014**

By means of Law 4599/2019, minor amendments were made to Special Administration Process prescribed in L. 4307/2014. In particular:

The duration of the whole process was prolonged to 18 months, instead of 12, along with a provision for an optional six month extension, upon court approval.

The special administrator is entitled to trade company assets with third party assets of the same value, as estimated by certified assessors listed to the Ministry of Finance Registry.

The company under special liquidation is exempt from the obligation to provide Tax and Social Security clearance certificates, as to transfers of assets, loans, credits, and financing of any kind, as well as any other transaction with the Public Sector, during the special administration period.

- **Law 4605/2019: primary residence protection law**

During 2019, the Greek Parliament voted a new law as a successor for L.3869/2010. The new Law 4605/2019 (L.4605) protects the primary residence of individuals (with or without the capacity to be declared bankrupt i.e. both merchants and non-merchants) in financial difficulty, while a restructuring schedule will be proposed by the creditors.

The procedure will be implemented electronically, through an online platform, while a pre-screening for eligibility will take place, before the final application shall be submitted.

Briefly, the main eligibility criteria for the new L.4605 are the following:

- The total outstanding debt (including principal and compound interest on the debt) that is eligible to be restructured must not exceed € 130k
- The property value must not exceed € 250k or € 175k if the underlying loan is related to SBL
- There is an annual income criterion that starts at € 12,5k for the single-person household and is increased by € 8,5k for the spouse and € 5k for each protected member up to a maximum of € 36k
- Additional immovable property must not exceed € 80k, including means of transport
- Cash deposits must not exceed € 15k

The terms of restructuring schedule include:

- Haircut to loans with an LTV>120%, so that the new LTV after haircut equals 120%
- Extension up to 25 years
- Interest rate of 2% plus Euribor
- Subsidy from Hellenic Republic, ranging from 30%-50% (based on the borrower's income capacity) of the loan installment

In light of the widely recognised deficiencies of the L.3869, L.4605 has been designed in order to actually protect financially distressed individuals, without, at the same time, hindering the Banks' effort to reduce their NPE stock. In fact, the implementation of the L.4605 is expected to contribute to the deleveraging of the stock of NPEs in the banking system.

1.1.6. Fundamental Review of the Trading Book (FRTB) & Standardised Approach for Counterparty Credit Risk (SA-CCR)

In April 2014, the Basel Committee on Banking Supervision (BCBS) finalised the standardised approach for measuring counterparty credit risk exposures (standardised approach for counterparty credit risk – SA-CCR). In January 2016, it published Minimum capital requirements for market risk (fundamental review of the trading book – FRTB).

In order to address issues identified in the course of monitoring the implementation and impact of the FRTB framework, the BCBS published in March 2018 a consultative document on revisions to the standards on market risk, which put forward proposals to review the FRTB standards on targeted areas, as well as a proposal for a simplified standardised approach for market risk. Following this, the BCBS published a revised version of its Minimum capital requirements for market risk in January 2019.

Fundamental Review of the Trading Book

On November 21st 2019, the EBA launched a public consultation on specific supervisory reporting requirements for market risk, which are the first elements of the Fundamental Review of the Trading Book (FRTB) introduced by the revised Capital Requirements Regulation (CRR2) in the prudential framework of the EU. The consultation ran until 7 January 2020.

On March 27th 2020, the EBA published its final draft Regulatory Technical Standards (RTS) on the new Internal Model Approach (IMA) under the Fundamental Review of the Trading Book (FRTB) that cover 11 mandates.

These mandates are distinguished in liquidity horizons for the IMA, back-testing and PLA requirements and criteria for assessing the modellability of risk factors under the IMA.

On 13 January 2020, the EBA launched a consultation on draft RTS on how institutions should calculate the own funds requirements for market risk for their non-trading book positions that are subject to foreign-exchange risk or commodity risk under the FRTB standardised and internal model approaches.

In light of the current situation linked to COVID-19, the Group of Central Bank Governors and Heads of Supervision (GHOS) decided to defer the implementation date of the revised market risk framework by one year to 1 January 2023, which will also allow EU banks to benefit from a longer implementation time.

Standardised Approach for Counterparty Credit Risk

On December 18th 2019, the EBA published the final draft Regulatory Technical Standards (RTS) on the Standardised Approach for Counterparty Credit Risk (SA-CCR). These draft RTS specify key aspects of the SA-CCR and represent an important contribution to its smooth harmonised implementation in the EU.

The final draft RTS sets out the method for identifying the material risk drivers of derivative transactions on the basis of which the mapping to one or more risk categories is to be done. In addition, these RTS set out the formula that institutions are to use to calculate the supervisory delta of options, when mapped to the interest rate risk category, which is compatible with negative interest rates. Finally, the final draft RTS introduces a method suitable for determining the direction of the position in a material risk driver.

1.1.7. Basel 4 (finalisation of Basel 3)

Revision of Market Risk minimum capital requirements (Fundamental Review of the Trading Book)

As of January 2016, the first iteration of FRTB appeared, with its core features including: a clearly defined boundary of the trading and the banking book; an internal models approach with separate capital requirements for risk factors that cannot be modelled; and a standardised approach that is risk-sensitive and designed and calibrated as a credible fallback to the internal models approach.

On January 14th, 2019, the Basel Committee's oversight body, the Group of Central Bank Governors and Heads of Supervision (GHOS), endorsed a set of revisions to the market risk framework. The changes were initially proposed in a consultative document (March 2018), informed by a quantitative impact based on end 2017 data. (On February 25th, 2019, a corrected version was published to address typos.) The revisions to the FRTB framework include the following key changes:

- a simplified standardised approach for banks with small or non-complex trading portfolios,
- clarifications on the scope of exposures that are subject to market risk capital requirements,
- refined standardised approach treatments of foreign exchange risk and index instruments,
- revised standardised approach risk weights applicable to general interest rate risk, foreign exchange and certain exposures subject to credit spread risk,
- revisions to the assessment process to determine whether a bank's internal risk management models appropriately reflect the risks of individual trading desks, and
- revisions to the requirements for identification of risk factors eligible for internal modelling.

The revised market risk framework is estimated to result in a weighted average increase of about 22% in total market risk capital requirements relative to the Basel 2.5 framework.

In late 2019, the European Commission launched a Consultation for the adoption of the full framework of Basel IV. Based on the results of the Consultation, the suggestions of the European Commission for the further amendment of the CRR/CRD will be submitted by the summer of 2020. The feedback period was completed on 3/1/2020.

Impact of Basel 4 in EU banks

On April 8th 2020, the EBA published two Reports, which measure the impact of implementing the final Basel III reforms and monitor the current implementation of liquidity measures in the EU. Being based on June 2019 reporting date, these results do not reflect the economic impact of the coronavirus disease (Covid-19) on participating banks. The liquidity coverage ratio (LCR) of EU banks, which was fully implemented in January 2018, stood at around 147% on average in June 2019.

The Basel III monitoring Report assesses the impact on EU banks of the final revisions of credit risk, split into four sub-categories, operational risk, and leverage ratio frameworks, as well as of the introduction of the aggregate output floor. It also quantifies the impact of the new standards for market risk (FRTB) and credit valuation adjustments (CVA).

Overall, the results of the Basel III capital monitoring exercise, based on data as of 30 June 2019, show that European banks' minimum Tier 1 capital requirement would increase by 16.1% at the full implementation date (2028) and without taking into account EU-specific adjustments. The impact of the risk-based reforms is 20.2%, of which the leading factors are the output floor (6.5%) and operational risk (5%). The fact that the leverage ratio is currently the constraining (i.e. the highest) Tier 1 requirement for some banks in the sample but would not be as constraining under the final Basel III, explains why part of the increase in the risk-based capital metric (-4.1%) is not to be accounted for as an actual increase in the overall Tier 1 requirement. This offsetting effect (-4.1%) is attributed to the leverage ratio contribution to the total impact.

1.1.8. Pillar 2 (SREP, ICAAP, ILAAP)

ECB Guides on ICAAP/ILAAP

Banks submit ICAAP and ILAAP information packages to the Single Supervisory Mechanism (SSM) on a yearly basis. The SSM takes those packages into account in its annual assessment as part of the Supervisory Review and Evaluation Process (SREP).

On February 20th, 2017, the ECB initiated a multi-year project to develop comprehensive Guides on ICAAP and ILAAP for SIs. On March 2nd, 2018 the ECB launched a public consultation on draft Guides on ICAAP and ILAAP, while on November 9th, 2018, the ECB published the final guides. The guides, which are not legally binding, are applicable from 1 January 2019. Banks are expected to assess the risks they face, and ensure, in a forward-looking manner, 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 aligned to the institution's business model, size, complexity, riskiness, market expectations, etc.).

As mentioned in a newsletter article published by ECB on February 13th, 2019, the ICAAP and ILAAP are expected to play an even greater role in the SREP in the future, which should encourage and incentivise banks to continuously improve these processes. Among others, both the qualitative and quantitative aspects of the ICAAP – the latter focusing on identifying and quantifying risks – could play an enhanced role in the calculation of additional capital requirements on a risk-by-risk basis.

Below are the seven ECB principles, finalised with the guides of ICAAP and ILAAP published in November 2018:

- **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 overall management framework.
- **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 aims 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 (JST) and the ECB.

On January 28th 2020, ECB released the outcomes of its 2019 SREP, publishing for first time aggregate data by business model and bank-by-bank information on Pillar 2 requirements in an effort to improve transparency. Key messages are the following:

- SREP CET1 requirements and guidance (excluding systemic buffers and countercyclical buffer) for the 2019 cycle are stable overall at around 10.6% compared to the 2018 cycle.
- Business model remains a key supervisory focus.
- Governance remains a risk area of particular supervisory concern due to deteriorating scores driven by limited effectiveness of management bodies, weaknesses in internal controls, poor data aggregation capabilities and weak outsourcing arrangements.
- By the end of September 2019, the volume of non-performing loans held by significant institutions had been reduced to € 543 billion (3.4% NPL ratio).
- Operational risk driven by specific one off losses and increased IT/cyber risk for a number of significant institutions.

Overall, the two key risk management processes for capital and liquidity – ICAAP and ILAAP – show significant need for improvements, also in light of their role in the SREP which will increase in the future.

EBA Pillar 2 Guidelines: SREP / IRRBB / Stress Testing

The 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 whether additional Pillar 2 capital is required, as a new minimum, where Pillar 1 does not capture the risks adequately.

On July 19th, 2018, the EBA published its final guidance in order to strengthen the EU's Pillar 2 framework. These final revised Guidelines are aimed at further enhancing institutions' risk management and supervisory convergence in the SREP. The three Guidelines are the following:

1. **Final Report on the Guidelines on the revised common procedures and methodologies for SREP and supervisory stress testing:** The changes to the SREP Guidelines do not alter the overall SREP framework and mainly aim to enhance the requirements for supervisory stress testing and explain how stress testing results will be used in setting the Pillar 2 Guidance (P2G). The changes and additions outlined in the Final Report, include: i) a section on P2G, ii) supervisory stress testing requirements, iii) a clarification on the scoring framework and iv) consistency checks with relevant EBA standards and guidelines, in particular in the areas of internal governance and institution-wide controls assessment.

2. **Revised final Guidelines on the management of interest rate risk arising from non-trading activities (IRRBB Guidelines):** The revised IRRBB Guidelines reflect developments in the BCBS and clarify internal governance and supervisory outlier tests requirements during the first phase of the European implementation of the Basel standards. The revisions are intended to link to future requirements, which will be incorporated in the CRD5/CRR2 framework.

   The revised Guidelines replace the existing Guidelines and are applicable from 30 June 2019 with transitional arrangements for specific provisions until 31 December 2019.

Based on the Directive (EU) 2019/878 of the European Parliament and of the Council of 20 May 2019 (entered into force on 27 June and it will apply on 29 December 2020 with the exception of some provisions) that amends the Capital Requirements Directive (CRD 5), the main changes to the Pillar 2 framework are the below:

- A focus on proportionality led to the introduction of simple and conservative alternatives for smaller, less complex banks in terms of standards for and disclosures and reporting of interest rate risks in the banking book;
- In light of sustainable finance, the EBA is mandated to assess the potential inclusion of environmental, social and governance (ESG) risks in the SREP review;
- In view of the prudential supervisors' role in complementing the role of anti-money laundering (AML) authorities and participating actively in the fight against money laundering (ML) and terrorist financing (TF), the AML dimension is highlighted in several key prudential instruments such as the SREP;
- Pillar 2 capital add-ons are confined to a purely microprudential perspective in order to avoid overlaps with the existing macroprudential tools that aim to address systemic risk;
- The conditions for applying Pillar 2 capital add-ons to cover specific risks to which a bank is exposed are clarified and the institution-specific nature of those requirements is emphasised. The add-ons are complemented by the possibility for supervisors to express supervisory expectations for banks to hold additional capital under the form of Pillar 2 guidance. The Pillar 2 guidance now also forms part of the joint decision on institution-specific prudential requirements for EU cross-border banking groups;
- The framework for the interest rate risk in the non-trading book (IRRBB) is modified (in CRD 5 and CRR 2), introducing the credit spread risk in the banking book (CSRBB), as well as a common standardised approach and a simplified standardised methodology for IRRBB, and adding the net interest income (NII) perspective to the economic value of equity (EVE) perspective for the purposes of interest rate risk management, disclosures and prudential supervision.

On 21 June 2019, BIS published an overview of Pillar 2 supervisory review practices and approaches. The report described the key concepts of Pillar 2 and the different practices in use across Basel Committee member jurisdictions.The revised Guidelines replace the existing Guidelines, being applicable from January 1st, 2019.

1.1.9. Internal Models

ECB guide to internal models

On September 7th, 2018, ECB launched public consultation in regards to the three risk-type-specific chapters of its guide to internal models, on credit risk, market risk and counterparty credit risk. The chapters provide transparency as to how ECB understands the applicable regulations for using internal models to calculate own fund requirements for credit risk, market risk and counterparty credit risk.

On October 1st 2019, ECB released the guide to internal models, in order to ensure a common and consistent approach to matters related to them. The guide covers issues regarding credit, market and counterparty credit risk, as well as general topics about the governance, the validation, the audit and the use of internal models.

On February 5th 2020, ECB published for consultation a guide that outlines the methodology it uses to assess the internal models banks apply to calculate their exposure to counterparty credit risk (CCR). The guide also describes how the ECB will assess the advanced methods banks use to calculate the own funds required to account for the risks related to credit valuation adjustments. In addition, this guide indicates how ECB Banking Supervision intends to assess the internal CCR models used by directly supervised banks, drawing on the approaches already defined by the European Banking Authority for other risk types. CCR emerges when banks trade in derivatives and in transactions where securities are used to borrow or lend cash, such as repurchase agreements. The guide aims to harmonise supervisory practices related to internal CCR models and to provide transparency regarding the methodologies the ECB uses to assess the components of these models during investigations. Finally, the guide should not be construed as going beyond the current applicable European Union and national laws and is therefore not intended to replace, overrule or affect said laws.

EBA on internal models

The EBA published an Opinion specifying the general principles and timelines for the implementation of the regulatory review of the internal ratings-based (IRB) approach. The aim of the Opinion is to provide guidance and clarity to both Competent Authorities and institutions on the planned review and its implementation. The Opinion is supported by a Report, which summarises the feedback received from the public consultation on the EBA discussion paper on the future of the IRB approach. Both the Opinion and the Report are part of the EBA's work to identify the main regulatory actions necessary to address the key drivers of variability in the implementation of IRB models. The proposed changes to the regulatory framework, included in the Opinion, aim at addressing the current concern about the lack of comparability of capital requirements determined under the IRB approach across institutions. The publication performed on February 4th 2020.

The European Banking Authority published on 31 January 2020 two Reports on the consistency of risk weighted assets (RWAs) across all EU institutions authorised to use internal approaches for the calculation of capital requirements. The reports cover credit risk for high and low default portfolios (LDPs and HDPs), as well as market risk. The results confirm that the majority of risk-weights (RWs) variability can be explained by fundamentals. These benchmarking exercises are a fundamental supervisory and convergence tool to address unwarranted inconsistencies and restoring trust in internal models.

The market risk report presents the results of the 2019 supervisory benchmarking and summarises the conclusions drawn from a hypothetical portfolio exercise (HPE) that was conducted by the EBA during 2018/19.

The 2019 exercise is the first exercise with the new set of hypothetical instruments and portfolios. The new set of instruments mainly consists of vanilla instruments and is more extensive in terms of the number of instruments to model with respect to the three previous benchmarking exercises. Compared to the previous exercises, the 2019 analysis shows a substantial reduction in terms of dispersion in the initial market valuation and some reduction in risk measures, especially for the aggregated portfolios. This improvement was expected and is likely due to the simplification in the market risk benchmarking instruments. The remaining dispersion is probably the result of new benchmarking instruments being used by banks for the first time.

Definition of Default

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

In the meantime, the ECB launched a process for the implementation of the new definition of default within the SSM for significant institutions using the IRB Approach. In specific, the ECB process aims to take into account the needs of institutions for a manageable and streamlined process that would allow them to finalise the effective implementation of the revised IRB approach framework by the end of 2020, as required by the EBA. The envisaged approach (called the "Two-Step Approach") proposes the following two sequential steps:

1. The implementation of the new definition of default: Institutions are encouraged to focus on the alignment of processes, procedures and IT systems used for the identification of defaults with the new definition of default, which will enable them to start collecting real default data in a manner that is compliant with the new definition of default as soon as possible. Further, this step encourages institutions to submit the ECB templates required, when requesting a material change to their rating system.
2. The adjustments to risk parameters to take into account the new definition of default and other necessary evolutions: Entails full adjustment of rating systems by institutions considering the necessary changes to the definition of default, other EBA IRB review, as well as follow-up from previous internal model investigations, such as Targeted Review of Internal Models' (TRIM) missions.

It should be noted that the changes expected in reference to the definition of default arise from the implementation of EBA's two regulatory products, namely: The RTS on materiality threshold for credit obligations past due under Article 178 of the CRR 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).

On November 21th, 2018, the ECB published the Regulation on the materiality threshold for credit obligations past due for all SIs within SSM, both for retail and for non-retail exposures. The materiality threshold will comprise an absolute component, expressed as a specific maximum amount for the sum of all amounts past due owed by an obligor, and a relative component, expressed as a percentage of the amount of credit obligation past due in relation to the total amount of all on-balance sheet exposures to that obligor. By setting a single materiality threshold, the ECB Regulation improves the comparability of RWAs and defaulted exposures across SIs.

1.1.10. EU-wide Stress Test

Stress testing has become an essential tool for supervisors to understand and assess firms' risks, vulnerabilities and risk management capabilities. As concerns about crystallisation of significant cyclical economic risks grow, scrutiny of stress testing outcomes is likely to increase.

On January 22nd 2020, EBA launched a public consultation on possible future changes to the EU-wide stress test. This discussion paper aimed to present the EBA's vision of the future of the EU-wide stress test.

The proposed new framework tries to balance the need to preserve comparability and conservatism, while allowing for more flexibility in order to identify banks' idiosyncratic risks. The proposal envisages two components owned by supervisors and banks respectively: the supervisory leg and the bank leg. The supervisory leg serves as the starting point for supervisory decisions and would be directly linked to the setting of Pillar 2 Guidance (P2G). The bank leg, on the other hand, allows banks to communicate their own assessment of risks in an adverse scenario.

- The supervisory leg would be based on a common EU methodology, in line with the current constrained bottom-up approach but with the possibility for competent authorities to adjust or replace banks' estimates based on top-down models or other benchmarking tools.

The methodology for the bank leg would be less prescriptive than today and give banks more discretion in calculating their projections. In practice, banks would use the same common methodology as in the supervisory leg but would be allowed to relax the methodological constraints to the extent they can explain and disclose the rationale and impact of such deviations.

However, in the light of the operational pressure on banks due to Coronavirus ("COVID-19"), on 12 March 2020 the EBA announced its decision to postpone the EU-wide stress test exercise to 2021, in order to allow banks to focus on and ensure continuity of their core operations.

1.1.11. Liquidity Stress Test 2019 (LiST 2020)

On October 7th 2019, ECB conducted a sensitivity analysis of liquidity risk - Stress Test 2019 (LiST 2019) to assess banks' ability to withstand hypothetical idiosyncratic liquidity shocks. Results are being used by the Joint Supervisory Teams in the 2019 Supervisory Review and Evaluation Processes (SREP) assessment.

The topics covered in this exercise were: a) Recap of the key features of the LiST 2019, b) Aggregate results, and c) Integration of 2019 stress test results into the SREP

Sensitivity analysis focused on hypothetical idiosyncratic shocks calibrated on the basis of supervisory experience from recent liquidity crisis episodes.

The shocks simulated in the exercise were calibrated on the basis of supervisory experience gained in recent crisis episodes, without any reference to monetary policy decisions. The sensitivity analysis focused solely on the potential impact of idiosyncratic liquidity shocks on individual banks. It did not assess the potential causes of these shocks or the impact of wider market turbulence.

The results of the exercise are broadly positive: about half of the 103 banks that took part in the exercise reported a "survival period" of more than six months under an adverse shock and more than four months under an extreme shock. The "survival period" is defined as the number of days a bank can continue to operate using available cash and collateral without access to funding markets.

The six-month time horizon exceeds the period covered by the liquidity coverage ratio, which requires banks to hold a sufficient reserve of high-quality liquid assets to allow them to survive a period of significant liquidity stress lasting 30 calendar days. Long survival periods under the severe shocks envisaged by the exercise would leave banks significant time to deploy their contingency funding plans.

Universal banks and global systemically important banks would generally be affected more severely than others by idiosyncratic liquidity shocks as they typically rely on less stable funding sources – such as wholesale and corporate deposits, which were subject to higher outflow rates in the exercise. Retail banks would be affected less strongly, given their more stable deposit base.

Based on the findings of the exercise, the ECB will require banks to follow up mainly in the following areas where vulnerabilities were identified:

- Survival periods calculated on the basis of cash flows in foreign currencies are often shorter than those reported at the consolidated level. Several banks make recourse to short term wholesale funding denominated in such currencies and some of them may be overly reliant on the continued functioning of the foreign exchange swap market.
- When considered on a stand-alone basis, subsidiaries of euro area banks domiciled outside the euro area typically display shorter survival periods than those within. While it is common for subsidiaries to rely on intragroup funding and/or funding from the parent, this may expose some banks to ring-fencing risk in foreign jurisdictions.
- Certain regulatory "optimisation strategies" revealed in the exercise will be discussed with the banks in the context of the supervisory dialogue.
- Many banks would be able to mobilise collateral in addition to readily available liquidity buffers to secure extra funding in times of need. However, collateral management practices – which are critical in the event of a liquidity crisis – would benefit from further improvement in some banks.
- Banks may underestimate the negative impact on liquidity that could result from a credit rating downgrade. Banks with recent experience of managing liquidity under stressed conditions were able to provide higher-quality data in this context.

The results will not directly affect supervisory capital requirements.

1.1.12. Other regulatory developments

Supervisory priorities

On October 7th 2019, the ECB released the SSM Supervisory Priorities for 2020. The key drivers of banking sector risks identified are: (i) economic, political and debt sustainability challenges in the euro area, (ii) business model sustainability, and (iii) cybercrime and IT deficiencies. Further significant risk drivers are: execution risk attached to banks' strategies for non-performing loans (NPLs); easing lending standards; repricing in financial markets; misconduct/money laundering/terrorism financing; Brexit; global outlook and geopolitical uncertainties; reaction to regulation; and climate-change related risks.

EBA EU-wide Transparency Exercise

On September 23rd, 2019 the EBA launched its regular EU-wide transparency exercise. In November 2019, together with the Risk Assessment Report (RAR), the EBA released up to 2,2 mln data points on about 130 EU banks. The data covered capital positions, financial assets, risk exposure amounts, sovereign exposures and asset quality.

New Securitisation framework

On December 12th, 2017, the European Parliament and the Council of the EU issued the Regulation (EU) 2017/2402 in reference to a general framework for securitisation, creating a specific framework for simple, transparent and standardised ("STS") securitisations, and amending Directives 2009/65/EC, 2009/138/EC and 2011/61/EU and Regulations (EC) No 1060/2009 and (EU) No 648/2012. Securitisation is an important element of well-functioning financial markets, while soundly structured securitisations are an important channel to diversify sources and allocate risk more widely within the Union. The newly established framework for STS securitisations is in effect from January 1st, 2019 and applies only to securitisations taking place after this date, irrespective of the institution's status as originator or investor. Further, on December 12th, 2017, the European Parliament and the Council of the EU issued the Regulation (EU) 2017/2401 amending Regulation the CRR on prudential requirements for credit institutions and investment firms.

On July 31st 2019, the EBA launched a public consultation on draft Guidelines (GLs) on the determination of the weighted average maturity (WAM) of the contractual payments due under the tranche, as per the Capital Requirements Regulation (CRR) Article 257(1) (a).

On October 23rd 2019, the EBA published its Opinion on the regulatory treatment of securitisations of non-performing exposures (NPE). Securitisations can play an instrumental role in reducing NPE stocks in credit institutions' balance sheets but such a role may be hindered by certain provisions in the EU law securitisation framework. This Opinion recommends various amendments to the Capital Requirements Regulation (CRR) as well as to the Securitisation Regulation to remove the identified constraints. The Opinion is addressed at the European Commission and contributes to the objectives of the Council of the EU's "Action plan to tackle non-performing loans in Europe". A copy of the Opinion has been sent to the European Parliament and the Council.

NPE securitisations are transactions backed by pools comprised exclusively or almost exclusively of NPE at the time of inception. Though structurally similar to other securitisations, the underlying assets have distinctive features that set NPE securitisations apart from those from an economic substance perspective, namely due to the large discount on their nominal value and their specific underlying risks.

The Opinion explains that the regulatory framework imposes certain constraints on credit institutions using securitisation technology to dispose of NPE holdings, namely:

- Very high capital requirements on investor credit institutions under the CRR: the pre-eminent securitisation capital methods (the SEC-IRBA and the SEC-SA) and the look-through approach lead to disproportionately high capital charges on NPE securitisation positions when compared to relevant benchmarks and, as a result, tend to overstate the actual risk embedded in the portfolio;
- Compliance challenges as regards certain risk retention and due diligence requirements under the Securitisation Regulation.

Common Equity Tier 1 (CET1)

On May 28th 2014, the EBA launched its first publication of the list of Common Equity Tier 1 (CET1) instruments of EU institutions. Since then the EBA has included 16 new forms of instruments issued after the entry into force of the Capital Requirements Regulation (CRR) and assessed their terms and conditions against the regulatory provisions with the aim of identifying any discrepancy with the eligibility criteria. On July 22nd 2019, the EBA published its updated list of CET1 instruments accompanied by an updated CET1 Report, which includes information on the underlying objectives of the monitoring as well as on the consequences of including or excluding instruments in or from the CET1 list.

EBA Guidelines on Outsourcing

On February 25th, 2019, the EBA published its revised Guidelines on outsourcing arrangements setting out specific provisions for the governance frameworks of all financial institutions within the scope of its mandate with regard to their outsourcing arrangements. The aim is to establish a more harmonised framework for credit institutions and investment firms subject to the CRD, as well as payment and electronic money institutions.

The Guidelines ensure that institutions can apply a single framework on outsourcing for all their banking, investment and payment activities and services. The revised Guidelines are consistent with the requirements on outsourcing under the Payments Services Directive (PSD2), the Markets in Financial Instruments Directive (MiFID II) and the Commission's Delegated Regulation (EU) 2017/565.

EBA consultation on Guidelines on ICT and security risk management

On November 28th 2019, the EBA published its final Guidelines on ICT and security risk management. These Guidelines establish requirements for credit institutions, investment firms and payment service providers (PSPs) on the mitigation and management of their information and communication technology (ICT) and security risks and aim to ensure a consistent and robust approach across the Single market. These Guidelines will enter into force on 30 June 2020.

The increasing digitalisation in the financial sector and the growing interconnectedness across financial institutions and third parties make financial institutions' operations vulnerable to internal and external ICT and security risks that can potentially compromise their viability. As a result, sound ICT and security risk management are key for a financial institution to achieve its strategic, corporate, operational and reputational objectives.

These Guidelines set out expectations on how all financial institutions should manage internal and external ICT and security risks that they are exposed to. This guidance also provide the financial institutions with a better understanding of supervisory expectations for the management of the said risks, covering sound internal governance, information security requirements, ICT operations, project and change management and business continuity management.

The Guidelines are addressed to credit institutions and investment firms as defined in the Capital Requirements Directive (CRD), for all of their activities, and to PSPs subject to the revised Payment Services Directive (PSD2), for their payment services.

Credit Underwriting

On June 19th 2019, the EBA launched a consultation on its draft Guidelines on loan origination and monitoring. Learning from the elevated levels of non-performing exposures (NPEs) across the EU in recent years, the draft guidelines aim to ensure that institutions have robust and prudent standards for credit risk taking, management and monitoring, and that newly originated loans are of high credit quality. The draft Guidelines also aim to ensure that the institutions' practices are aligned with consumer protection rules and AML requirements.

The draft Guidelines specify the internal governance arrangements for granting and monitoring of credit facilities throughout their lifecycle. They introduce requirements for borrowers' creditworthiness assessment and bring together the EBA's prudential and consumer protection objectives.

The EBA has developed these Guidelines building on the existing national experiences, addressing shortcomings in the institutions' credit granting policies and practices highlighted by the recent financial crisis. At the same time, these Guidelines reflect recent supervisory priorities and policy developments related to credit granting. Particularly, they account for the need to consider in credit granting environmental, social and governance factors, anti-money laundering and counter-terrorist financing, as well as technology-based innovation.

The draft Guidelines represent the first instance in which the EBA is proposing requirements that apply to providers of consumer credit under the Consumer Credit Directive (CCD) and to non-bank mortgage credit providers under the Mortgage Credit Directive (MCD). This amended scope of action is the result of the EU Commission's review of the three European Supervisory Authorities, which has not yet come into effect, will see the Consumer Credit Directive (CCD) to be added to the EBA's scope.

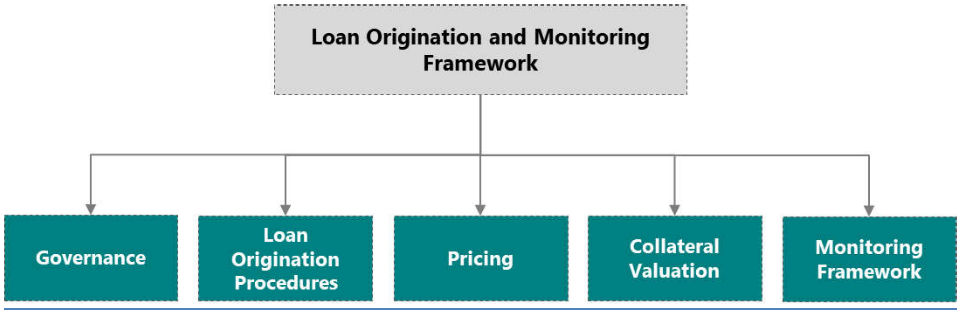


Figure 2: Loan Origination & Monitoring Framework

Sustainable Finance

Climate change and the response to it by the public sector and society in general have led to an increasing relevance of environmental, social and governance (ESG) factors for financial markets. It is, therefore, essential that financial institutions are able to measure and monitor the ESG risks in order to deal with transition and physical risks.

On June 18th 2019, the European Commission published new guidelines on corporate climate-related information reporting, as part of its Sustainable Finance Action Plan (published on 08 March 2018). These guidelines will provide companies with practical recommendations on how to better report the impact that their activities are having on the climate as well as the impact of climate change on their business. The Commission also welcomed three important expert reports published by the Technical Expert Group on sustainable finance including key recommendations on the types of economic activities that can make a real contribution to climate change mitigation or adaptation (taxonomy).

- The first is a classification system – or taxonomy – for environmentally-sustainable economic activities. This aims to provide practical guidance for policy makers, industry and investors on how best to support and invest in economic activities that contribute to achieving a climate neutral economy.
- The second expert report on an EU Green Bond Standard recommends clear and comparable criteria for issuing green bonds. In particular, by linking it to taxonomy, it will determine which climate and environmentally-friendly activities should be eligible for funding via an EU green bond.
- Finally, a third expert report on EU climate benchmarks and benchmarks' ESG disclosures sets out the methodology and minimum technical requirements for indices that will enable investors to orient the choice of investors who wish to adopt a climate-conscious investment strategy, and address the risk of greenwashing. The report also sets out disclosure requirements by benchmark providers in relation to environmental, social and governance (ESG) factors and their alignment with the Paris agreement.

On December 6th 2019, the EBA published its Action plan on sustainable finance with focus first on key metrics and disclosure to support banks' green strategies and then look into evidence for any adjustments to risk weights. As the exact manifestation of transition and physical risk remains uncertain, the EBA also encourages financial institutions to act now to incorporate ESG factors into their business strategies, and to identify measure and monitor ESG risks including simple metrics, such as a green asset ratio. To this end, they can then use scenario analysis as an explorative tool to understand the relevance of the exposures affected by and the potential magnitude of the ESG risks.

Following the EU Action Plan, on 11 December 2019, the Commission presented its EU Green Deal announcing an ambitious package of measures, targeting all European sectors and industries, for a just and inclusive transition towards achieving climate neutrality by 2050. In January 2020, the European Parliament adopted its motion for resolution on the European Green Deal, backing the Commission's announcement with large consensus.

On January 14th 2020, the Commission published its Sustainable Europe Investment Plan, outlining the strategy to mobilise the EUR 1 trillion in investment necessary to achieve the 2050 climate neutrality goal, through a mix of public and private funding from a variety of sources, including the EU budget, the Invest EU programme and gradually transforming the European Investment Bank (EIB) into a climate bank. The plan also aims at creating an enabling framework for private investors to identify and allocate funds in sustainable products and activities, as well as, support for the public sector and local administrations.

External Credit Assessment Institutions

On May 20th 2019, the Joint Committee of the three European Supervisory Authorities (EBA, EIOPA and ESMA - ESAs) published a second amendment to the Implementing Technical Standards (ITS) on the mapping of credit assessments of External Credit Assessment Institutions (ECAIs) for credit risk under the Capital Requirements Regulation (CRR). The amendment reflects the outcome of a monitoring exercise on the adequacy of existing mappings. The ITS are part of the EU Single Rulebook for banking aimed at creating a safe and sound regulatory framework consistently applicable across the European Union (EU).

The Implementing Regulation on the mapping of ECAIs under the CRR, adopted by the European Commission on 7 October 2016, specified an approach that establishes the correspondence between credit ratings and the credit quality steps (CQS) defined in the CRR, together with providing mappings for 26 ECAIs.

This amendment to the ITS reflects the outcome of a monitoring exercise on the adequacy of the mappings, based on the additional quantitative and qualitative information collected after the original Implementing Regulation entered into force. In particular, the ESAs proposed to change the CQS allocation for two ECAIs, and to introduce new credit rating scales for ten ECAIs. The ESAs also addressed the mappings of Credit Rating Agencies (CRAs) recently registered in accordance to the CRA Regulation and that are related to previously mapped ECAIs.

1.1.13. International Financial Reporting Standard 9 (IFRS 9) – Financial Instruments

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 at 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 was presented in profit or loss.

In relation to the impairment of financial assets, IFRS 9 requires an expected credit loss (ECL) model, as opposed to an incurred credit loss model under IAS 39. The ECL model requires an entity to account for 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 is required to be measured through a loss allowance as 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
- lifetime ECL (ECL that result from all possible default events over the life of the financial instrument).

A loss allowance for 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 recognises 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 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.

For more details and information on the accounting policies and critical judgments applied by the Group in order to comply with the requirements of IFRS 9, please refer to Notes 2.7 and 3, of the 2019 Annual Financial Report, respectively.

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 add back to 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 added back to the 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 aforementioned 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. The Group decided to apply the transitional arrangements set out in Article 1 of the Regulation, including the provisions of paragraph (4), during the transitional period.

Roadmap on IFRS9 and IFRS9 benchmarking exercise

The European Banking Authority (EBA) published on July 23rd 2019 the IFRS 9 roadmap providing a comprehensive overview of planned monitoring activities on IFRS 9 implementation.

In addition, the EBA launched an IFRS 9 benchmarking exercise on a sample of institutions aimed at analyzing the different modelling practices followed by institutions and how IFRS 9 implementation impacts the amount of expected credit losses in terms of own funds and regulatory ratios.

1.1.14. IFRS 16 Leases (effective for annual periods beginning on or after 1 January 2019)

IFRS 16 supersedes relevant lease guidance including IAS 17 *Leases*, IFRIC 4 *Determining whether an agreement contains a lease*, SIC-15 *Operating Leases – Incentives* and SIC-27 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*, and establishes principles for the recognition, measurement, presentation and disclosure of lease agreements, with the objective of ensuring that lessees and lessors provide relevant information that faithfully represents those transactions.

IFRS 16 introduces a single on-balance sheet lease accounting model for lessees. A lessee recognises a right-of-use (RoU) asset, representing its right to use the underlying asset and a lease liability representing its obligation to make lease payments. The lease liability is initially measured at the present value of the future lease payments, discounted using the rate implicit in the lease or, if this rate cannot be readily determined, the lessee's incremental borrowing rate (IBR). The IBR is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The RoU asset is initially measured at the amount of the lease liability plus any additional direct costs by the lessee. Adjustments may also be required for lease incentives, payments at or prior to commencement and restoration obligation or similar.

Subsequently, the RoU asset is amortised over the length of the lease, and the lease liability is measured at amortised cost. The operating lease expense for the leases accounted for under IAS 17 is replaced by a depreciation charge for the RoU asset and an interest expense from the unwinding of the discount on the lease liability. The change in presentation of operating lease expenses results in an improvement in cash flows from operating activities and a corresponding decline in cash flows from financing activities.

Lessor accounting remains similar to the current standard – i.e. lessors continue to classify leases as finance or operating leases, using the same classification criteria provided by IAS 17.

Leases in which the Group is a Lessor

There was no significant impact for the Group's finance leases or for the leases in which the Group is a lessor.

Leases in which the Group is a Lessee

The Group applied the modified retrospective approach, where the RoU asset is set equal to the amount of the lease liability upon adoption, and did not restate the comparative information. The Group applied the practical expedient to grandfather the lease definition on transition to IFRS 16 and not reassess whether a contract is or contains a lease. Therefore, at the transition date (i.e. 1 January 2019), the Group applied IFRS 16 solely to contracts that were previously identified as leases based on IAS 17 and IFRIC 4.

The Group has elected to take a recognition exemption for short-term leases and leases of low-value items, for which lease payments are recognised as operating expenses on a straight-line basis over the lease term.

As at 31 December 2018, the Group had non-cancellable operating lease commitments of €196 million. Since most of these arrangements relate to leases other than short-term leases and leases of low-value assets, IFRS 16 increased the assets, liabilities and retained earnings of the Group by €136 million, €132 million and €4 million respectively as at 1 January 2019. Refer to Note 48 of the 2019 Annual Financial Report for more details on the impact of the first time adoption of IFRS 16 as at 1 January 2019 and Note 26 and 34 for the effect of the disposal of NBG Pangaea REIC in the second quarter of 2019.

The Group's RoU assets and lease liabilities are included in line items 'Property and equipment' and 'Other liabilities', respectively.

2. NBG's TRANSFORMATION PROGRAMME

Following a clear mandate from its Board of Directors, NBG embarked in 2018 into a program to transform itself deeply and radically and achieve a viable and sustainable business model, which will enhance its capital adequacy. Building upon its long-lasting tradition of trust and service to society, NBG has set out to become more than just a modern banking institution: its aspiration is to become the bank of first choice.

The Transformation Program is delivered within Workstreams, each led by a General Manager/Assistant General Manager, while some Workstreams broadly coincide with the executive's functional area, cross-functional collaboration is strongly encouraged.

Six Workstreams have been identified, as follows:

1. **Healthy Balance Sheet Workstream**: relating to the reduction of NPEs, the appropriate safeguarding of capital adequacy, as well as to the optimisation of the funding structure.
2. **Efficiency & Agility Workstream**: relating to the delivery of a Bank-wide Value Based Management framework, the timely and sustainable reduction of costs (including staff costs real estate spend, sourcing and other G&A)
3. **Best Bank for our Clients Workstream**: relating to Retail and Corporate service and coverage model, product offerings, digital proposition and use of analytics in commercial actions.
4. **Technology & Processes Workstream**: relating to the underlying technological platforms of the Bank as well as to the redesign of its processes towards an efficient and agile operating model.
5. **People, Organisation & Governance Workstream**: relating to the redesign of the overall Human Resources framework, target organisational structure and the introduction of a unified, comprehensive and rigorous Performance Management System.
6. **Visibility, Controls & Compliance Workstream**: relating to the delivery of a Bank-wide data governance framework, the management of non-financial risks, the enhancement of risk culture and the delivery of a robust system of internal controls.

The Transformation Program is structured over six-month periods, termed Seasons. This setup maintains the pace and ensures that the organisation remains focused yet agile, as new Initiatives may enter the Program and existing ones may be appropriately adjusted or removed.

Building upon the significant momentum and the detailed design work conducted during its first Seasons, the Program is now well into its execution phase. All Transformation Program Initiatives / Sub-Initiatives have "locked-down" tangible objectives to be delivered within each Season, supporting the succesfull delivery of the Bank's Strategy and Business Plan targets.

During 2019, more than 800 staff have been directly involved in the Program in at least one of the 30+ Initiatives, achieving significant visible results across all six Workstreams.

Transformation Program priorities for 2020

Taking stock of the achievements of Transformation Program in 2019, NBG confidently looks forward to 2020 and beyond:

- Major NPE initiatives planned, including a preparation of a major securitisation transaction, are expected to further support the balance sheet clean-up and clearly set up the Bank for growth;
- A new wave of headcount reduction together with the launch of a new demand management function and a focused real estate spend reduction program are expected to further contain costs;
- Increased focus on sales and customer service in both Corporate and Retail Banking is expected to boost the Bank's capacity to capture the anticipated growth in the Greek banking market; a strong digital offering with new innovative and value-adding solutions for Retail and Corporate customers, is expected to further boost digital usage and sales through digital channels;
- Additional efforts to further enhance technological infrastructure and platforms, as well as further process optimisation, centralisation and automation initiatives are expected to enable efficiencies and boost customer experience;
- Roll-out of the new performance management system, the implementation of a leaner organisational structure and the deployment of a new HR function and processes are expected to further modernise the Bank's HR management framework;
- Deployment of the new data governance framework, enhancement of risk culture, and roll-out of internal controls are expected to strengthen visibility and transparency across the organisation.

Finally, the launch of a comprehensive culture and change management program in 2020 is also expected to mark an important step in NBG's transformation journey.

COVID19 Statement and Impact on Transformation Program

NBG moved fast in February 2020 in terms of identifying and addressing the COVID19 crisis. Our immediate priorities included securing the health and safety of our employees and customers, while enabling a "work-from-home" operating model.

While the Bank's strategic priorities have not changed, it have moved to adjust its Transformation Program to reflect its response to COVID19. Specifically note the following:

- The Bank has launched relief measures to support its customers and ensure the health of its balance sheet, in line with regulatory guidelines and measures announced by the Greek Government and the Hellenic Bank Association;
- NBG accelerated the implementation of digital transformation, offering more digital functionalities for Retail and Corporate customers, and supporting their migration to alternative channels through targeted campaigns;
- NBG adapted a key customer-facing processes to allow for remote functionality while at the same time putting in place appropriate internal controls and operational risk mitigation actions;
- The Bank increasing the level of ambition in terms of medium-to-long term cost efficiency, considering a faster move towards digital channels and a more flexible and remote operating model in a post-COVID19 environment.

Overall, NBG remains committed to our aspiration to be the bank of first choice for its customers, its talent and its shareholders during and after these trying times.

3. RISK MANAGEMENT FRAMEWORK

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

Risk management and control plays a fundamental role in the overall strategy of the Group, aiming to both effectively manage the risks of the organisation and to align with the legal and regulatory requirements. The Group aims at adopting best practices regarding risk governance, taking into account all relevant guidelines and regulatory requirements, as set by the Basel Committee on Banking Supervision (BCBS), the European Banking Authority (EBA), the European Central Bank (ECB) \ Single Supervisory Mechanism (SSM), the Bank of Greece (BoG), the Hellenic Capital Market Commisison (HCMC) legislation, as well as any decisions of the competent authorities supervising the Group's entities.

Group Risk management at NBG has a structured and tiered approach, based on a number of governance bodies, internal policies and procedures, and controls framework.

The Board of Directors bears ultimate accountability for NBG's risk position. It signs off on the risk strategy and risk appetite, and monitors the effectiveness of risk governance and management advised by its two specialised committees: the Board Risk Committee (BRC) and the Board Audit Committee (BAC). The Bank's Executive Committee (ExCo) and other committees, supporting to the Executive Committee are in charge of daily management actions and steer of the business. The Group Chief Risk Officer (CRO) is a member of the Executive Committee. The CRO has direct access to the Board of Directors, has delegated decision-authority for executive matters over Risk and leads the Risk Management Function. The Group Risk management Function has specialist teams per risk type. The Group Risk Management Function teams conduct day-to-day risk management activities according to policies and procedures as approved by the BRC, the Executive Committee and other committees. The perimeter is based on the industry standard "ThreeLlines of Defence" model (please see below). The Group Risk Management Function activities are supported by underlying systems and infrastructure. Finally, risk culture is viewed as a core component of effective risk management, with the tone and example set by the Board of Directors and senior management. The Bank's objective is to establish a consistent risk culture across all Units.

Hence, there are four layers relevant to Risk Management, all rolling up into the Board of Directors:

1. **Oversight and approval**

   At the top of the house, the members of the Board are responsible for oversight and approval on governance structures of NBG, ensuring the right frameworks and policies are in place to ensure the bank can be effectively managed.

2. **Executive management actions & sign-off**

   The Executive management layer (ExCo and other executive committees) decides on management actions, signs off on materials produced and reported, and actively steers the bank.

3. **Methodology and framework**

   Procedures and methodologies are in place to guide risk management, e.g. credit approval procedures, model development and validation, product assessments.

4. **Execution and analysis**

   The execution layer is in charge of implementing the frameworks, models and policies set forth by the aforementioned layers, and provide the Board and the executive committees with relevant analyses and results to base their decisions upon.

The Board Risk Committee

The Group has clearly defined its risk appetite and has established 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"), also 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 Committee has two roles, namely it operates a) as the Board Risk Management Committee and b) as the Board Committee Responsible for Non-Performing Loans/Exposures (NPLs/NPEs) as prescribed by Art. 10 par. 8 of Greek Law 3864/2010, as in force.

The BRC convenes regularly at least on a monthly basis, as well as extraordinarily, whenever deemed necessary by its Chairman.

During 2019, the Committee convened sixteen times. In the context of its responsibilities and during the course of the year, key workings of the Committee included revision of Risk and Capital Strategy, redesign of the Risk Appetite Framework and ongoing monitoring of compliance, enhancements in risk reporting, restructuring of monthly CRO report, initiation of project on Risk Culture, included within the Bank's Transformation Program initiatives, update of ICAAP/ILAAP frameworks, Corporate Credit Risk Policy, Stress Test Framework, NPE Divestment Policy, revision of NPE Targets submitted to the Single Supervisory Mechanism, launching of new IRRBB framework, introduction of On Balance Sheet Netting Policy, and oversight of NPE reduction initiatives (e.g. Asset Protection Scheme).

Since 19 December 2013 the Committee has been 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 shall fulfil the eligibility criteria applying in accordance with Art.10 of the Law 3864/2010 as in force and should have previous experience in the field of financial services or commercial banking and at least one member (expert) should have solid risk and capital management experience, as well as familiarity with local and international regulatory framework. Also, in accordance with the provisions of Art. 76 of EU Directive 2013/36 all members of the Committee have appropriate knowledge, skills and expertise to fully understand and monitor the risk strategy and the risk appetite.

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. The Committee Charter was further updated in February 2019, and further in July 2019, and 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, as follows:

- **First line:** The risk taking units (e.g. credit originating departments, Treasury) are responsible for assessing and minimising risks for a given level of expected return by establishing and implementing internal rules and controls to the on-going business.
- **Second line:** The Group Risk Management Function oversees, monitors, controls and quantifies risks; provides appropriate tools and methodologies, coordination and assistance to lines of business; provides input towards the measurement of risk adjusted performance across business line; participates in the credit approval process for the Group's corporate banking, retail banking and subsidiaries portfolios; performs independent assessment of credit risk undertaking in respect of each portfolio and has the right of veto; proposes appropriate risk mitigation measures, supported by local Risk Management (for subsidiaries) and specialised units (for the Bank). Additionally, under the Second line:
    - The Group Compliance Function follows regulatory compliance across the Group and ensures that all units meet regulatory and other compliance requirements, through monitoring, advising and training.
    - The Group Risk Management Function cooperates with the Business Processes Division, the Group Internal Control Function, the Group CyberSecurity & Data Governance Division, the Group Security Division and the Legal Division.

      These Divisions provide support, advice, appropriate tools and methodologies, acting as control units for specific subcategories of operational risk (e.g. legal risk, Information & Communication Technology ("ICT") risk) as well as ensuring the Bank's business continuity and mitigation of physical threats.
- **Third line:** The Internal Audit function of the Group, which reports directly to the Board of Directors through the Audit Committee, complements the risk management framework, acting as an independent reviewer, focusing on the effectiveness of the risk management framework and control environment.

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

The Group Risk Management Function

The organisational chart and reporting lines of NBG Group Risk Management Function are depicted in the figure below:

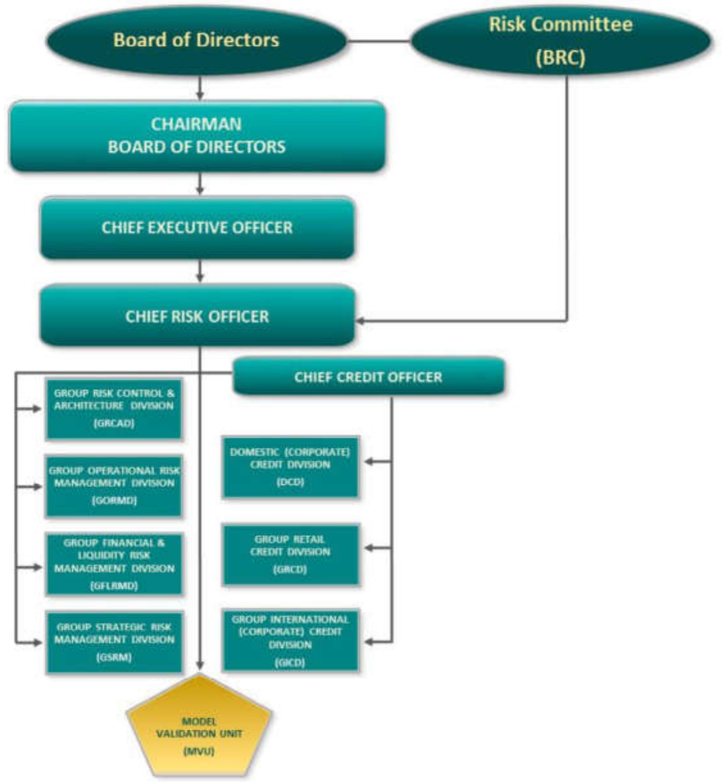


Figure 3: Organisational Chart of Risk Function

The CRO reports to the CEO, has direct access to the BRC and is its main rapporteur. The CCO, is operating under the CRO, supervises three Credit Divisions, as above, which are involved in the credit approval process for the Group's corporate banking, retail banking and subsidiaries portfolios.

Group Risk Management

The Bank acknowledges the need for efficient risk management and has established four specialised Divisions and one Unit: the NBG Group Risk Control and Architecture Division ("GRCAD"), the NBG Group Financial and Liquidity Risk Management Division ("GFLRMD"), the NBG Group Operational Risk Management Division ("GORMD"), the NBG Group Strategic Risk Management Division ("GSRM"), and the Model Validation Unit ("MVU"), to properly identify, measure, analyse and manage, monitor and report the risks undertaken by the Group, entailed in all its business activities. These Units identify the risks of different portfolios and activities (including model risk), and supervise accordingly all subsidiaries operating in the financial sector. All risk management units of the Group subsidiaries are coordinated by and adequately report to the aforementioned Divisions/Unit.

In addition, the three Credit Divisions, which are independent of the credit granting units, are involved in the credit approval process for the Group's corporate banking, retail banking and subsidiaries portfolios. They perform an independent assessment of the credit risk undertaking in respect of each portfolio and have the right of veto. Credit Units' independence ensures an unbiased level control for credit risk undertaken. These Units are also responsible for developing and updating the relevant Credit Policies (see Section 3.2).

Based on its charter, the mission of the GRCAD is to:

- specify and implement credit risk policies emphasising on rating systems, risk assessment models and risk parameters, according to the guidelines set by the Bank's Board of Directors;
- establish guidelines for the development of 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 segment of corporate and retail asset class;
- implement a number of clearly defined and independent credit risk controls on credit risk models, which enable an effective oversight of risks emerging from credit activities at all levels. These controls are documented and communicated to the business units on a quarterly basis. GRCAD itself inspects these same controls on a quarterly basis, assuring they are functioning properly and remain altogether sufficient for the purposes they were developed;
- provide regular assurance that models continue to perform adequately, thus complementing the periodic validation and usage reviews;

- assess the adequacy of methods and systems that aim to analyse, measure, monitor, control and report credit risk undertaken by the Bank and other financial institutions of the Group; and
- estimate Regulatory Capital required in respect with Credit Risk and Internal Capital required in respect to all banking risks and prepare relevant regulatory and Management Information System ("MIS") reports.

The GRCAD consists of:

- the Credit Risk Control Sector, which in turn consists of the Credit Risk Control Subdivision and Credit Risk Internal Reporting and the NPE Independent Review Subdivision;
- the Corporate Credit Risk Model Development Subdivision;
- the Retail Credit Risk Model Development Subdivision;
- the Credit Risk Regulatory Reporting Subdivision;
- the ICAAP, Stress Testing and Risk Management Regulatory Framework Monitoring Subdivision; and
- the Risk Management Operations Support Subdivision.

The mission of the GFLRMD is to:

- plan, specify, implement and introduce market, counterparty, liquidity and Interest Rate Risk in the Banking Book ("IRRBB") risk policies, under the guidelines of the Bank's Board of Directors;
- develop and implement in-house models for pricing and risk measurement purposes;
- run appropriate tests to ensure that the models continue to perform adequately, thus complementing the periodic validation reviews;
- assess the adequacy of methods and systems that aim to analyse, measure, monitor, control and report the above risks undertaken by the Bank and other financial institutions of the Group;
- independently evaluate financial products, assets and liabilities of the Bank and the Group;
- estimate Regulatory Capital required in respect with market risk and counterparty credit risk, calculate the regulatory metrics for Liquidity Risk and IRRBB and prepare relevant regulatory and MIS reports; and
- provide timely and accurate information to the Bank's senior bodies (the BRC and the Asset Liability Committee ("ALCO") and the Regulator (the SSM), with sufficient explanatory and investigation capabilities on the materiality and trend of the aforementioned risks, as well as handle all issues pertaining to market, counterparty, liquidity and IRRBB risks, under the guidelines and specific decisions of the BRC, the ALCO and the SSM.

The GFLRMD consists of:

- the Market Risk Management & IRRBB Sector which in turn consists of the Market Risk Management Subdivision and the IRRBB Management Subdivision;
- the Liquidity Risk Management Subdivision;
- the ILAAP Framework Monitoring Subdivision; and
- the Counterparty Credit Risk Subdivision.

The mission of the GORMD is to:

- design, propose, support and periodically validate the Operational Risk Management Governance Framework ("ORMGF"), ensuring that it is aligned with the best practices, the regulatory requirements and the directions set by the Board of Directors;
- ensure the development of policies, methods and systems for the identification, measurement and monitoring of operational risks and their periodic assessment and validation;
- address all operational risk related issues as per the directions and decisions of the BRC; and
- continuously monitor and review the Group operational risk profile and report to senior management and the Supervisory Authorities.

The GORMD consists of:

- the Operational Risk Framework Implementation Sector, which in turn consists of the Operational Risk Program Implementation and the Operational Risk Internal Events Collection Subdivisions;
- the Operational Risk Framework Development Subdivision;
- the Operational Risk Reporting Subdivision; and
- the Operational Risk Awareness and Training Subdivision.

The mission of GSRM, is shaped taking into account the wide spectrum of risks that may be correlated to the Group's Strategy, in alignment with the prevailing business needs and the assessment of the related risk areas. More specifically GSRM is responsible for:

- monitoring, analysing and evaluating risks that are evident or related to the Business Strategy of the Group and may negatively impact the profitability and the dynamic structure of the Balance Sheet for both the Bank and/or the Group;
- analysing the hypothesis and assumptions embedded in the Strategic Planning, Business Planning (business model mapping), and Future Profitability;
- managing of risks related to the implementation of the Business Strategy;
- analysing risks and potential impacts measured via appropriate Key Risk Indicators (KRI's) and stemming from deviations in relation to the expressed targets set in the Business Strategy & Business Planning;

- developing scenarios and the execution of Stress Testing Exercises;
- performing sensitivity analyses related to the risks entailed in the dynamic profitability evolution and of the Asset & Liability Structure;
- monitoring the development, execution, and revising of financial targets related to the Strategy of NPE's;
- selecting and using appropriate performance measures which are adjusted based on risk (risk-adjusted performance metrics – "RAPM") aiming to evaluate the Strategy Risks;
- analysing & evaluating of Capital Adequacy & Profitability Risks;
- executing of industry wide Stress Test exercises according to regulatory demands and guidelines (EBA, SSM, etc) in cooperation with the involved units;
- modelling, methodological documentation & submission of estimations, reports and sensitivity analyses under different scenarios, and more specifically of the Dynamic Analysis of the Net Interest Income ("NII") and of profitability;
- monitoring of the evolution of NPEs; and
- monitoring of the dynamic evolution of Assets & Liabilities (Dynamic Asset Liability Management ("ALM")).

The GSRM Consists of:

- the Business Strategy Risk Monitoring Sector which in turn consists of the Profitability Risk Monitoring Subdivision, the Risk Adjusted Performance Monitoring Subdivision & the Strategic Risk Evaluation & Action Planning Subdivision;
- the Scenario Planning & Analysis Sector which in turn consists of the NPE Monitoring Subdivision, the Stress Testing & Sensitivity Analysis Subdivision & the Strategic Risk Evaluation & Unified platform management Subdivision; and
- the Dynamic Modelling & Asset Liability Management Subdivision.

The mission of the MVU's is to:

- establish, manage, and enforce the Model Validation Policy;
- develop new and enhance the existing Model Risk Management standards;
- update the Model Validation Policy based on applicable regulatory guidance and requirements;
- communicate and escalate model risk metrics to the Board of Directors, the BRC, the Group CRO and senior management;
- independently validate and approve new and existing models based on their materiality;
- document material changes in model validation reports; and
- annually recertify material models and review results of on-going monitoring.

The MVU consists of:

- the Market Risk Validation Subdivision; and
- the Credit Risk Validation Subdivision.

The mission of the DCD is to provide an independent assessment of the domestic corporate credits. This is achieved through the following:

- participate in the credit approving bodies for corporate clients with the right of veto;
- review all Corporate credit proposals, submitted for assessment and approval by the competent credit committees;
- review the outcome of the individual assessment for impairment of lending exposures performed by the Credit Granting units;
- participate in the formulation / revision of the Corporate Credit Policy, the Credit Process Manual and numerous other credit regulations;
- draft and circulate guidelines / instructions for the effective implementation of relevant policies and regulations; and
- monitor the implementation and the timely management of the Early Warning alerts for each client as well as the outcome of relevant actions.

The mission of the GRCD is to provide an independent assessment of domestic and international retail credit. This is achieved through the following:

- manage the Retail Credit Policy in co-operation with GRCAD;
- form the relevant Retail Banking Regulations;
- participate in the development of Retail products in all stages of the credit cycle (new credit, rescheduling, restructuring) and determine the framework and dynamic controls of the relevant credit criteria;
- set in detail through the frameworks referred in the relevant Regulations the appropriate approval procedure; and
- participate in decision-making, in accordance with the approval authority tables, based on the credit proposals of the relevant Credit Granting units, which are solely responsible for the correct presentation of the quantitative and qualitative data contained in those. The GRCD reviews the correct implementation of the Credit Policy and Regulations.

The GRCD consists of:

- the Retail Banking Credit Policy Subdivision (Domestic);
- the Applications Assessment Subdivision (Domestic);
- the Portfolio Analysis (Domestic) & International Subsidiaries Retail Credit Subdivision; and
- the Credit Policy Implementation Review Subdivision.

The mission of the GICD is to provide an independent assessment of corporate credit in the Group's Banking Subsidiaries and Branches outside Greece. This is achieved through the following:

- participation in the Credit Committees with veto power;
- review all Corporate credit proposals, submitted for assessment and approval by the competent credit committees;
- participation in the classification process of Obligors; and
- participation in the formulation /revision of Corporate Credit Policies and Credit Procedures Manuals.

Each Division/Unit has distinct responsibilities and covers specific types of risk and all Divisions/Units report ultimately to the CRO.

Risk Appetite Framework

Following work during 2018 and early 2019, the Bank recently established a new, enhanced Risk Appetite Framework (RAF) adhering to the best international practices.

The objective of the Risk Appetite Framework is to set out the level of risk that the Group is willing to take in pursuit of its strategic objectives, also outlying the key principles and rules that govern the risk appetite setting. The RAF constitutes an integral part of the Group's Risk & Capital Strategy and the overall risk management framework. The RAF has been developed in order to be used as a key management tool to better align business strategy, financial targets and risk management, and enable a balance between risk and return. It is perceived as a reference point for all relevant stakeholders within the Bank, as well as the supervisory bodies, for the assessment of whether the undertaken business endeavors are consistent with the respective risk appetite.

The development of the new RAF was conducted in three phases:

- Phase 1: target state orientation and gap analysis;
- Phase 2: framework and metrics update;
- Phase 3: embedding / implementation roadmap.

Specifically for the Phase 3, the key objective was to further enhance the way RAF is being implemented and embedded within the Group. It consists of the following pillars:

- Communication of the RAF;
- Standardisation of RAF monitoring process;
- Cascading of RAF indicators;
- Escalation process in case of a threshold breach;
- Update of documentation related to RAF;
- Alignment of NBG subsidiaries RAF with Group RAF.

An effective RAF is fundamental to a strong risk management and governance framework. The RAF is not just a Key Performance Indicator (KPI) monitoring system; it constitutes an essential mechanism to support the Board's oversight of the strategy execution within the risk boundaries that the Group is willing to operate. Through RAF, overall aspirations of the Board are translated to specific statements and risk metrics, enabling planning and execution, while promoting firm-wide thinking.

The new Risk Appetite Framework:

- has been formed by both top-down Board guidance and leadership and bottom-up involvement of senior management and other stakeholders across the Bank,
- incorporates quantitative risk metrics and qualitative statements that are easy to communicate and assimilate,
- supports Group's business strategy by ensuring that business objectives are pursued in a risk-controlled manner that allows to preserve earnings stability and protect against unforeseen losses,
- supports and guides decision-making process on a day-to-day basis, by providing the necessary risk related perspective,
- incorporates a forward looking view about the Group's risk profile expectations,
- reflects the types and level of risk that the Bank is willing to operate within, based on its overall risk appetite and risk profile, as well as the maximum level of risk that the Group can withstand, through the risk capacity,
- contributes in promoting a risk culture across the Group,
- establishes the governance arrangements for RAF update and monitoring,
- outlines the roles and responsibilities of involved bodies and stakeholders overseeing the development, implementation and monitoring of the RAF,
- defines the escalation and assessment process in case of an indicator breach, in order for ordinary and extraordinary management actions to be timely initiated and implemented to reduce the level of risk as required,
- is aligned with other associated key processes of the Bank, including Business plan / Budget, ICAAP / ILAAP, Recovery plan, NPE Strategy, limit setting and remuneration.

Within this context, the RAF allows:

- ✓ to strengthen the ability to manage and mitigate risks,
- ✓ to facilitate the monitoring and communication of the Bank's risk profile quickly and effectively.

The assessment of the Bank's risk profile against the RAF is an ongoing and iterative process. With regards to the timing that the RAF update takes place (as part of the regular annual update process), the interaction with other key processes of the Bank (Business Plan/Budget, NPE target setting, ICAAP, ILAAP, Recovery Plan, SREP) is taken into consideration. Specific focus is placed to RAF's interplay with the Business Plan, as the two processes feed into each other: in certain cases the risk appetite is expected to act as backstop / constraint to the Business Plan, while for other cases, the Business Plan provides input for setting risk tolerance levels.

Risk Profile Assessment / Risk Taxonomy

The ongoing assessment of the Group's risk profile is a key component of the risk management process and comprises a series of specific steps. Every type of risk is analysed and assessed on the basis of its specific characteristics and the qualitative features (policies, procedures, control mechanisms) applied in its management. A common component 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").

The ICAAP framework provides a list of the main risk categories and sub-categories covered by the ICAAP, as well as 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 utilising 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 3: Material Risk Types and their treatment in ICAAP

Risk Types	Capital requirements approaches		
	Regulatory Capital	Internal Capital	Qualitative Analysis
Credit Risk	√	√	√
Concentration Risk	-	√	√
Settlement Risk	-	√	√
Residual Risk	-	√	√
Securitisation 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	-	√	√
ICT Risk	-	-	√
Model Risk	-	√	√
Legal Risk	-	√	√
Reputational Risk	-	-	√
Strategic Risk	-	-	√
Business Risk	-	√	√
Capital Access Risk	-	-	√
Liquidity Risk	-	-	√
Real Estate Risk	-	√	√
Pension Risk	-	-	√

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 formalised 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 annual 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,
- ICAAP documentation.

Both the Board and the Bank's Executive Committees are actively involved and support the ICAAP. Detailed roles and responsibilities are described in detail in the ICAAP Framework document. 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, specialised treatment, and proper coordination at Group level. The BRC bears ultimate responsibility for the adequacy and proper execution of the ICAAP.

ICAAP's design and implementation Framework concerns the entire Group's material risks. The parameters taken into account are the size of the relevant Business Unit/Group's Subsidiary, the exposure per risk type and the 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 (Operational)
- ICT (Operational)
- Model (Operational)
- Liquidity
- Business
- Strategic
- Reputational (Operational)
- Real estate
- Legal (Operational)
- Capital Access
- Pension.

The calculation of NBG Group "Total Internal Capital" consists of two steps: In the first step, 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 step, 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 2019 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. 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 aiming at achieving full compliance with the EBA and ECB guidelines and standards concerning ICAAP/ILAAP, the Supervisory Review and Evaluation Process ("SREP") and Stress Testing.

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 ILAAP the Group evaluates its liquidity and funding risk in the context of a management framework of established policies, systems and procedures for their identification, management, measurement and monitoring.

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.

Other developments

Revert to Standardised Approach

National Bank of Greece obtained in 2008 (i.e. upon implementation of the Basel II framework) the approval of the National Competent Authority (NCA) to use the Internal Rating's Based (IRB) approach for calculating own funds requirements for credit risk for the corporate (including Specialised Lending) and its residential mortgage exposures. In 2013, the Bank expanded the use of the IRB approach after relevant application in order to calculate own fund requirements for credit risk for the retail SME exposures.

Up to 31.12.2013, the regulatory documents governing the Standardised Approach (SA) and the Internal Ratings Based (IRB) approach were Bank of Greece Governor's Acts 2588/20.8.2007 and 2589/20.8.2007 respectively. As of 1.1.2014 these documents were superseded by Regulation (EU) 575/2013 (CRR). The change of the regulatory framework did not alter the approaches used to calculate the own funds requirements for credit risk as regards the Bank's portfolios.

The Bank had been using the Foundation-IRB approach (without own estimates of LGD or Conversion Factors) regarding its corporate exposures (including Specialised Lending) and the Advanced-IRB approach (with own estimates of LGD and/or Conversion Factors) regarding its residential mortgage and retail SME portfolios until Q1 2019. In specific, 46% of total exposures were subject to credit risk under IRB, 18% under Advanced IRB and 28% under Foundation IRB respectively. The own funds requirements for credit risk for all other portfolios are calculated using the Standardised Approach (SA).

In July 2018 the Bank applied to the ECB for permission to revert to the use of the Standardised Approach (SA) for the calculation of the risk-weighted exposure amounts currently under the IRB approach, in accordance with Article 149 of Regulation (EU) 575/2013 (CRR) and following relevant approval by the Bank's Executive Committee and Board of Directors.

The main rationale of the reversal to the use of the Standardised Approach request is the need for NBG to prioritise on resources and investments towards addressing the most critical challenges such as the implementation of an ambitious strategy for the reduction of the stock of non-performing exposures and operational costs reduction. Thus, the restriction of operational burden caused by the full roll-out and maintenance of the IRB Approach will serve the Bank to focus in the medium term on areas of strategic importance. Furthermore, RWAs will be more stable and predictable while an adverse immediate impact will be offset by the benefits of the planned NPE reduction.

NBG, following application for permission to migrate its credit IRB portfolios to Standardised Approach, has received a decision by ECB on permission to revert to Standardised Approach for calculating own funds requirements for credit risk as of 21st May 2019.

The reversal to Standardised Approach for calculating own funds requirements for credit risk was completed in Q2 2019 and thereinafter the Bank officially reports the capital requirements under the Standardised Approach for the whole portfolio. The initial impact of revert to Standardised Approach on CET1 of about 1.12% is gradually offset by the, well on track, NPE reduction mentioned above. Both CET1 and Total Capital ratio as of 31.12.2019 (16.0% and 16.9% respectively) are comfortably above SREP capital requirements for 2019 and 2020.

The bank will preserve its internal modelling infrastructure and intends to take advantage of the experience gained with credit risk models in order to maintain and develop further the use of the models and enhance modelling capabilities used for risk management purposes covering the following areas indicatively : a)credit approval and risk based pricing; b) IFRS9 and credit risk adjustments calculation; c) risk management controls and monitoring; d) early warning systems; e) EVA and RAPM modelling; f) internal capital assessment and allocation as presented in the following table:

Table 4: Use of NBG's IRB models after intended reversion to SA

RM Area	Corporate PD	Mortgage PD	Mortgage LGD	SME Retail PD	SME Retail LGD	SME Retail CCF
Capital Requirements						
Credit approval	✓	✓		✓		
RM – monitoring for obligors/exposures	✓	✓	✓	✓	✓	✓
Pricing of transactions	✓	✓		✓	✓	
Early warning systems						
Collection & recovery policies / processes			✓			
Credit risk adjustments	✓	✓	✓	✓		
Internal capital assessment & allocation	✓	✓	✓	✓	✓	✓
Internal reporting	✓	✓	✓	✓	✓	✓
Portfolio credit risk monitoring	✓	✓	✓	✓	✓	✓

BCBS 239

In January 2013, the Bank for International Settlements (BIS) published the BCBS 239 - "*Principles for effective risk data aggregation and risk reporting*". The overall objective of the guidelines is to strengthen banks' risk data aggregation capabilities and internal risk reporting practices. Implementation of the principles is expected to strengthen risk management at banks – in particular, "globally significant banks" ("G-SIBs") – thereby enhancing their ability to cope with stress and crisis situations. The guidelines were initially intended to turn into regulation for G-SIBs at the beginning of 2016 and to apply to other domestic systemically important banks three years later.

However, in May 2018, the ECB published a report on the thematic review on effective risk data aggregation and risk reporting, which shows that the implementation status of the BCBS 239 principles within a sample of 25 SIs is unsatisfactory. Thus far, none of those SIs – some of which are classified as global systemically important banks – have fully implemented the BCBS 239 principles. Weaknesses stem mainly from a lack of clarity regarding responsibility and accountability for data quality. In specific, it seems difficult to comprehend what the roles and responsibilities of business, control and IT functions are. Hence, further efforts will be needed in the coming years so as to enhance the effectiveness of risk data aggregation and reporting.

Furthermore, in June 2018, the BCBS issued a progress report on banks' implementation of the Principles for effective risk data aggregation and reporting. The assessment covered 30 G-SIBs and notes that in 2017 most G-SIBs made, at best, marginal progress in implementing the Principles. In specific, G-SIBs have found it challenging to comply with the Principles, mainly due to the complexity and interdependence of IT improvement projects.

In view of these results, the BCBS made the following recommendations:

- Banks to continue the implementation of the Principles based on the roadmaps agreed with their supervisors and consider how this can benefit other data-related initiatives, and
- Supervisors to maintain emphasis on ensuring that banks fully implement the Principles including meeting with banks' BoDs and/or senior management and promoting home-host cooperation in relation to the implementation of the Principles by global banking groups.

NBG has initiated a "Data Governance Program" to tackle with 11 overarching principles for effective risk data aggregation, governance and reporting as depicted in the following table. In this context, NBG has conducted a current state assessment to justify its level of compliance against regulatory requirements, and identify critical areas to be adjusted in line with the best practices.

Table 5: BCBS 239 Principles

BCBS 239 Pillars	
Governance & Infrastructure *(Governance, Data Architecture & IT infrastructure)*	• policies and procedures are sufficiently documented and up-to-date, including escalation and remediation procedures; • systems are secure and resilient, with a clear ownership structure, sufficient automation, and an end-to-end audit trail
Risk Data Aggregation Capabilities *(Adaptability, Timeliness, Completeness, Accuracy & Integrity)*	• robust internal controls that are regularly monitored; • appropriate balance of automated and manual processes; • prevention of unauthorised alterations/manipulation that compromise data accuracy, completeness and reliability; • availability of relevant risk data aggregated across all firm's legal entities, business lines, jurisdictions, etc.; • aggregated risk data is available and risk reports are produced within established timeframes; • risk data aggregation capabilities are able to change (or be changed) in response to changing circumstances (internal or external)
Risk Reporting Practices *(Distribution, Frequency, Comprehensiveness, Reporting Accuracy, Clarity & Usefulness)*	• reconciliations between Risk and Finance data; • risk reports include or deal with all risks relevant and material to the firm; • risk reporting is easily understood and free from indistinctness and ambiguity; • reports are regularly issued without need for multiple runs to generate an error-free report; • reports are received by appropriate people or groups

The Bank is on the right path for improving compliance with BCBS 239 through actions fulfilling all the above key principles such as replacement of Operational Risk system, Enterprise Data Warehouse, Asset and Liability management system, Risk Confidence ("RCO") system for IFRS9, BRC report redesign and Data Governance Program implementation.

Moreover on April 2019 the Bank initiated BCBS 239 program to improve automation in management and reporting process and other mitigating actions in order to reach the desired target state of compliance such as completion and standardisation of risk documentation, establishment of a BCBS 239 compliance function and its integration to the NBG responsible unit, management, measurement and monitoring of IRRBB.

Risk Culture

As part of the Transformation Program, during the Q1.2019, the Risk Management Function launched the development of a Risk Culture Program.

Risk Culture is defined as an institution's norms, attitudes and behaviors related to risk awareness, risk taking and risk management, and the controls that shape decisions on risk. Risk Culture influences the decisions of management and employees during the day-to-day activities and has an impact on the risks they assume.

The objective of NBG is to establish a sound and consistent Risk Culture across all units that is appropriate for the scale, complexity, and nature of the Bank's business, in line with regulatory/ supervisory requirements and in accordance with best business practices, based on solid values which are articulated by the Group's Board of Directors and Group's Senior Management.

The formulation of the Risk Culture Program takes into consideration supervisory guidelines and expectations and is based on the following foundational elements and assessment indicators:

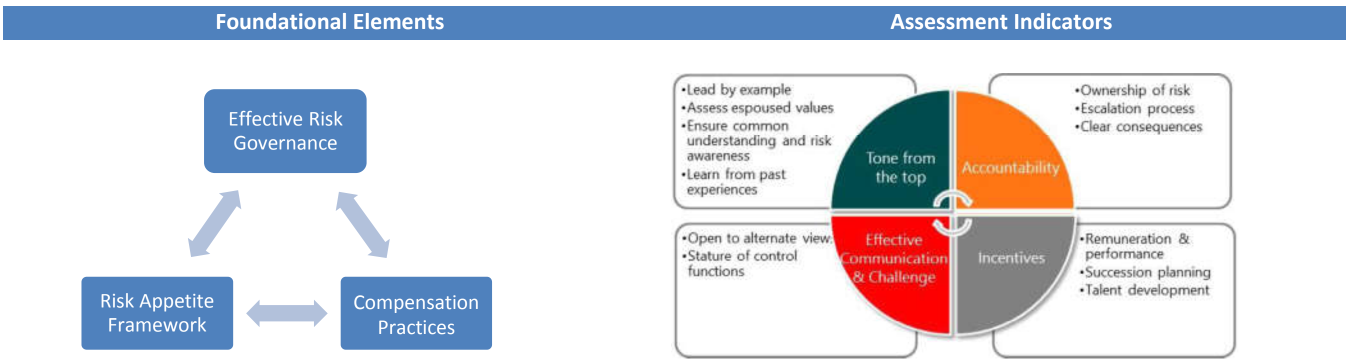


Figure 4: Elements of Risk Culture Program

In 2019, the Risk Culture program:

- set NBG's Risk Culture target state and assess existing state, address identified gaps and develop the program's implementation roadmap based on the following key elements:

- developed the Risk Culture Framework, aiming at defining and documenting the principles, processes and methodologies for setting, measuring, monitoring, reporting and enhancing Risk Culture at NBG, along with the governance framework that the Bank has established for its effective development and implementation;
- developed the methodology and analytic tools for measuring Rick Culture at NBG

The Risk Culture program targets for 2020 are to:

- enhance the Risk Culture governance in the Bank;
- develop and implement communication / training plans on risk awareness, risk taking, risk management and other risk-related topics across all NBG units;
- harmonise NBG Group Subsidiaries' approach with regards to setting, measuring, monitoring, reporting and enhancing Risk Culture

Strategic Risk Management

For Group Strategic Risk Management ("GSRM"), 2019 signified the implementation of an Integrated Forecasting and Stress Testing Platform (the "Platform"). The Platform enables connectivity among Bank's models, analytics & data to produce Bank-wide forecasts, with the target to increase automation, create efficiencies and minimise operational risk across multiple forecasting exercises ("Use Cases" i.e. bottom-up Business Plan, NPE Target Setting, ICAAP, and 2020 EU-wide Stress Testing). The Platform currently is fully tested and working in Bank's Development and User Acceptance Testing ("UAT") environment, with clear plan agreed with IT to migrate the Platform to Production environment.

Moreover, in 2019, the Bank achieved the first reproduction of the Business Plan via the platform (end-to-end execution of runs of all models in the forecasting sequence of a business plan Use Case) and the delivery of integration of the Collateral Tool into the platform, delivering an automated approach to transforming units' input to NPE Plan input.

In addition and in the context of the Transformation Program of NBG, GSRM has embarked into a series of longer term projects aiming to further develop the Strategic Risk Management Capabilities of the Bank and the Group.

Major progress achieved in 2019 relates to the establishment of the Risk Adjusted Performance Measurement (RAPM) mechanism including the Risk-Adjusted Economic Value Added ("EVA") metrics. To that end, GSRM facilitated the approval of the revised Risk Based Pricing methodologies for Corporate & Retail Portfolios, as well as the approval of the update of the Liquidity Curve (approval within Feb. 2020) used for Risk Adjusted NII. In addition, GSRM presented to the Strategy Committee the Risk Adjusted Performance of the New Loans book and launched new ALCO reporting including all relevant reports related to "Total Bank" and "per portfolio" breakdown, and presented the final documentation for the ALM data model & governance (Bank level). The abovementioned data model, has also allowed for the generation of accurate and reliable data on a daily frequency, facilitating the Bank in incorporating to its day-to-day operations the BCBS 239 principles.

Green Banking

The Bank launched in 2019 the following green banking products, which contribute to environmental protection:

- Loans for participation in the "Energy-Saving at Home II" program co-funded by Hellenic Development Bank (ex ETEAN S.A.), on favorable terms for energy improvements in homes. In 2019, 1,403 of such loan applications were approved totalling €10 million, of which 1,704 corresponding to a total of €14 million were disbursed.
- "Green Loan" granted under favourable terms and conditions for financing the purchase and installation of energy-saving equipment and new hybrid technology cars.
- "Estia Green Home" loan for the purchase, repair or construction of energy upgraded homes.
- For yet another year, the Bank contributed to the country's efforts to improve its environmental footprint by financing RES projects worth €507 million.

Code of Ethics / Whistleblowing Policy

Extensive information about the Bank's Code of Ethics, Whistleblowing Policy and other items regarding sound Corporate Governance can be found in the Corporate Governance Statement section of the Bank's Annual Financial Report for 31.12.2019 (www.nbg.gr / Investor Relations / Financial Infromation).

The Code of Ethics is available on the Bank's website www.nbg.gr (section: Group / Corporate Governance / Regulations and Principles).

The Bank's website (section: Group / Corporate Governance / Contact / Contact Audit Committee) also provides the contact information for the submission of confidential reports.

3.2. Credit Risk

3.2.1. Credit granting processes and controls

Credit risk is the risk of financial loss relating to the failure of a borrower to honor his/her contractual obligations. It arises in lending activities as well as in various other activities where the Group is exposed to the risk of counterparty default, such as trading, capital markets and settlement activities. Credit risk is the largest risk the Group faces. Credit risk control processes are conducted separately by the Bank and each of its subsidiaries. The credit risk procedures established by the subsidiaries are coordinated by the GRCAD.

The Group's credit granting processes include:

- Credit-granting criteria based on the particular target market, the borrower or counterparty, as well as the purpose and structure of the credit and its source of repayment,
- Credit limits that aggregate in comparable and meaningful manner different types of exposures at various levels,
- Clearly established procedures for approving new credits as well as the amendment, renewal and re-financing of existing credits.

The Group maintains on-going credit administration, measurement and monitoring processes, including in particular:

- Documented credit risk policies,
- Internal risk rating systems,
- Information systems and analytical techniques that enable measurement of credit risk inherent in all relevant activities.

The Group's internal controls that are implemented for the credit risk related processes include:

- Proper management of the credit-granting functions,
- Periodical and timely remedial actions on deteriorating credits,
- Independent, periodic audit of the credit risk management processes by Group Internal Audit Division, covering in particular the credit risk systems/models employed by the Group.

Additionally, the GRCAD measures and monitors credit risk on an on-going basis through documented credit risk policies, internal rating systems, as well as information systems and analytical techniques that enable measurement of credit risk inherent in all relevant activities. Thus, the Group achieves active credit risk management through:

- The application of appropriate limits for exposures to a particular obligor, a group of associated obligors, obligors that belong in the same economic sector, etc,
- The use of credit risk mitigation techniques (such as collaterals and guarantees),
- The estimation of risk adjusted pricing for most products and services,
- A formalised validation process, encompassing all risk rating models, conducted by the Bank's independent Model Validation Unit.

3.2.2. Credit Policy for Corporate Portfolios

The Credit Policies for the Corporate portfolios of the Bank and its Subsidiaries ("the Subsidiaries") present the fundamental policies for the identification, measurement, approval and monitoring of credit risk related to the Corporate Portfolio and ensure equal treatment for all obligors.

The Corporate Credit Policy of the Bank is approved by the Board of Directors (BoD) upon recommendation of the Board Risk Committee (BRC) following proposal by the Group CRO to the BRC and the Executive Committee and is reviewed on an annual basis and revised whenever deemed necessary and in any case every two years.

Exceptions to the Corporate Credit Policy are approved by the BoD upon recommendation of the BRC following proposal by the Group CRO to the BRC and the Executive Committee. All exceptions and their justification are duly recorded and have either an expiry date or a review date.

The Credit Policy of each Subsidiary is approved 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 consent of the Group Chief Credit Officer (CCO) or the Head of NBG's Group International Credit Division in cooperation with the Head of NBG's Group Risk Control and Architecture Division (GRCAD) for issues falling under their responsibility. The subsidiaries' Credit Policies are reviewed on an annual basis and revised whenever deemed necessary and in any case every two years.

Any exception to the Credit Policies of the Subsidiaries is ultimately approved by the Group CCO, 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.

3.2.3. 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 Retail Banking Credit Policy is communicated through the use of respective Credit Policy Manuals. The Credit Policy Manual is 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 Banks's Retail Banking Credit Policy is approved and can be amended or revised by the Board of Directors following a recommendation from the Board Risk Committee (BRC) and it is subject to periodical revision.

The Retail 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 consent of the Group CCO, or the Head of NBG's Group Retail Credit Division in cooperation with the Head of NBG's Group Risk Control and Architecture Division for issues falling under their responsibility. The subsidiaries' Credit Policies are subject to periodical revision.

The NBG Group Retail Credit Division reports directly to the Group CCO. 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 monitors 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 Senior Management is regularly informed on all aspects regarding the Credit Policy. Remedial action plans are set to resolve the issues, whenever necessary, within the risk appetite and strategic orientation of the Bank. The Retail Banking Credit Policy is reviewed on an annual basis and revised whenever deemed necessary and in any case every two years. All approved policy changes are incorporated in the Policy Manual.

3.2.4. Concentration Risk

The Bank manages the extension of credit, controls its exposure to credit risk and ensures its regulatory compliance based on an internal limits system. The GRCAD is responsible for limits setting, limits monitoring and regulatory compliance.

The fundamental instruments for controlling Corporate Portfolio concentration are Obligor Limits reflecting the maximum permitted level of exposure for a specific Obligor given its Risk Rating,, and Sector Limits that set the maximum allowed level of exposure for any specific industry of the economy; industries are classified in groups on the basis of NACE codes. Sector limits constitute part of the Bank's Risk Appetite Framework and are revised at least annually. Excesses of the Industry Concentration Limits should be approved by the Board Risk Committee following a proposal of the General Manager of Group Risk Management (Chief Risk Officer). Any risk exposure in excess of the authorised internal Obligor Limits must be approved by a a higher level Credit Approving Body , based on the Credit Approval Authorities as presented in the Corporate Credit Policy document. Like Sector limits, Obligor Limits are subject to BRC approval on an annual basis.

Credit risk concentration arising from a large exposure to a counterparty or group of connected clients whose probability of default depends on common risk factors is also monitored, through the Large Exposures and Large Debtors reporting framework.

Finally, within the ICAAP, the Bank has adopted a methodology to measure the risk arising from concentration to economic sectors (sectoral concentration) and to individual companies (name concentration). Additional capital requirements are calculated, if necessary, and Pillar 1 capital adequacy is adjusted to ultimately take into account such concentration risks.

3.3. 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 GFLRM 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 recognised 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 GFLRM 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. avoid 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.

3.4. Market Risk

Market risk is the current or prospective risk to earnings and capital arising from adverse movements in interest rates, equity prices, commodity prices and exchange rates or 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 in 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 the held-to-collect-and-sell (HTCS) bond portfolios.

  The most significant entity of the Group contributing to market risk 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 OTC 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 in 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 retains positions in stocks and equity derivatives which are traded on the ATHEX and other European exchanges and are classified in the Trading and the HTCS portfolios. The positions held in the Trading portfolio are mainly used for the 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 subsidiaries of the Group bear minimal foreign exchange risk.

The Bank uses market risk models and dedicated processes to assess and quantify its portfolio market risk, based on best practice and industry-wide accepted risk metrics. More specifically, the Bank estimates the market risk of its Trading and HTCS portfolios, using the Value-at-Risk ("VaR") methodology. The VaR estimates are used both for internal management and regulatory purposes. In order to verify the predictive power of the VaR model, the Bank conducts back-testing on a daily basis.

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 HTCS portfolios taking into account the respective diversification between portfolios. Moreover, the same set of limits are used to monitor and manage risk levels on the Trading book, on an overall basis and per risk type, since this is the aggregation level relevant for the calculation of the own funds requirements for Market Risk under the Internal Model Approach (IMA).

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 ("Policy"). The Policy is established to evidence the Bank's commitment to develop and adhere to the highest standards for assessing, measuring, monitoring and controlling market risk arising from trading and non-trading activities. The Policy has been approved by the Board Risk Committee and is reviewed and updated on a regular basis, or when deemed necessary. Additionally, the VaR model as well as the processes followed by the GFLRM Division for the measurement and monitoring of Market Risk are described in the VaR/sVaR Model Methodology document, which is subordinate to the Market Risk Management Policy and is subject to changes, in accordance with amendments to the Policy.

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. Furthermore, the Group's Internal Audit Division assesses the effectiveness of the relevant internal controls on a periodic basis. Furthermore, 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 by the SSM during the on-site investigation in the context of the TRIM, while no major findings were identified. Based on the TRIM assessment report, ECB concluded in its final Decision that NBG may continue calculating the own funds requirements for general market risk with the internal model approach, which verifies the robustness of NBG's Market Risk management model.

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 GFLRM Division constitutes the second line of defense, and is responsible to monitor and report NBG's market risk exposures and market risk limits utilisation. 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.

3.5. Operational Risk

3.5.1. Introduction

The Bank acknowledges its exposure to operational risk stemming from its day-to-day business activities. It also aknowledges the need for managing this type of risk, as well as the necessity for holding adequate capital in order to deal with any potential exceptional operational risk loss.

The Bank has established and maintains a group-wide, effective framework for the management of operational risk (Operational Risk Management Framework - ORMF). This Framework complies with regulatory requirements and is under a continous development and improvement in order to match the best practices of the banking industry.

3.5.2. Definition and objectives

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. This definition excludes strategic and business risk but takes into consideration the reputational impact of operational risk.

The main subcategories of operational risk are:

- Legal Risk is the risk of loss caused to a business, in this instance the Bank, which is mainly due to one of the following causes: i) irregular transaction, or ii) claim (including defence-claims or counterclaims) raised or any other event that follows and leads to the establishment of legal grounds for liability on the part of the credit institution or another kind of loss (e.g. because of termination of contract), or iii) failure to adopt the necessary measures for the protection of assets owned by the institution, or iv) change in the legislation."
- Compliance risk refers to the risk that NBG, in the course of conducting its business or risk management activities, may be found, in circumstances of a breach of the regulatory framework as defined in certain international, EU and Greek laws and regulations, as well as the risk deriving from legal or regulatory sanctions, material financial loss or loss of reputation the Bank might suffer as a result of such breach. Consequently, the Bank's reputation, business model and financial position are negatively affected.
- Conduct risk as the risk of loss arising from inappropriate supply of financial services including cases of willful or negligent misconduct, e.g. mis-selling, conflicts of interest, pushed cross-selling, automatic renewals of products or exit penalties etc. It also relates to corruption risk, i.e. the risk deriving from abuse of entrusted power by the Group's executives or employees with the purpose of private gain.
- Information & Communication Technology risk, which is the risk of loss due to breach of confidentiality, failure of integrity of systems and data, inappropriateness or unavailability of systems and data or inability to change IT within a reasonable time and costs when the environment or business requirements change. This includes security risks resulting from inadequate or failed internal processes or internal/external cyber-attacks or inadequate physical security.
- Model risk, which is the potential loss that may occur as a consequence of decisions that could be principally based on the output of all models due to errors in the development, implementation or use. A model refers to a quantitative method, system or approach that applies statistical, economic, financial or mathematical theories, techniques and assumptions to convert input data into quantitative estimates.

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. Consequently, managers throughout the Group are accountable for operational risks related to their business area, and responsible for managing these risks within their risk appetite, in accordance with the ORMF.

The Bank's objective is to effectively identify, measure, evaluate, monitor, control and mitigate its operational risk. In 2019 the Bank continued to drive the improvement of its OR management through a range of initiatives. Among these, the most significant are:

- a thorough gap analysis of the existing Operational Risk Management Framework (ORMF) was completed, where all Operational Risk related existing Standards, Programs and Policies were reviewed and the main components were updated;
- an evaluation of the Group's main risks (Top Operational Risks) with the participation of the Bank's Executive and Senior Management was completed and the results were presented to the Board of Directors. This methodology provides a detailed process for the determination of Operational Risk exposure levels and trends, encourages the prioritisation of mitigation plans and enhances communication with Senior Management and Operational Risk Culture;
- a more detailed Operational Risk Taxonomy was developed as part of the ORMF establishing a common language and allowing the effective classification of operational risk;
- the internal loss events collection process was enhanced, as a key to perform a more detailed and accurate information based cross-analysis of the Group's risk profile;

3.5.3. Operational risk management framework

The ORMF has been approved by the Board Risk Committee, in order to effectively address operational risks and meet the regulatory requirements (CRR / CRD IV / Basel III).

In 2019 the ORMF was implemented in the Bank and its subsidiaries. The basic elements of the Bank's ORMF are the following:

- **The Risk and Control Self-Assessment ("RCSA") process**; it is a process that allows for the determination of the risk profile of all Group functions by the risk owners. The goal of the RCSA is to identify and assess operational risks that could prevent business or support units from achieving their objectives. Once they are assessed, mitigation actions are identified where risk exceeds tolerance levels;
- **The Internal Events Collection process**, as well as the maintenance of a sound and consistent internal events database; Operational Risk losses are collected at a Group level. All organisational units of the Bank, as well as all Greek and foreign subsidiaries are responsible for recording operational events and respective losses following specific guidelines, under a standardised methodology;
- **The definition and monitoring of Key Risk Indicators**; these are metrics for the monitoring of risk trends that act as early detection/warning indicators by identifying issues that may increase operational risk exposures;
- **The Scenario Analysis**; a systematic process of obtaining expert opinions, based on reasoned assessments of the likelihood and impact of plausible severe operational losses. The main objective is to identify potential events that could result in very high losses for the Group;
- **The Training Initiatives and Operational Risk Culture /Awareness**; Group Operational Risk Management Division promotes awareness and knowledge on operational risk at all levels of the organisation.

The Bank uses a Group wide information system (IBM OpenPages) that supports the operational risk management tools and facilitates information and reporting functions and needs. This system includes modules for registering loss internal events, assessing risks, monitoring indicators and action plans, preparing reports, and applies to all Group major entities. In 2019 GORMD participated in the selection process of a new Governance Risk and Compliance "GRC" platform for the Group.

3.5.4. Governance

The ORMF is supported by an appropriate organisational structure with well defined roles and responsibilities which is based on the three lines of defence model. The ORM Governance aims to ensure that all Bank's stakeholders, including the Board of Directors, Executive and Senior Management and Staff, manage operational risk within a formalised Framework that is aligned to business objectives and compliant with the regulatory requirements.

Governance responsibility for operational risk management resides in the Board Risk Committee (BRC). The BRC reviews and approves the Bank's operational risk appetite and tolerance, is informed on material risks and exposures and sets the tone and the expectations of the Board.

Operational Risk Committee (an executive committee) bears the responsibility for establishing and monitoring the ORM Framework and policies as well as the aggregate operational risk exposures across the Bank, reporting to the BRC.

The Chief Risk Officer (CRO) promotes the development and implementation of a consistent Group ORMF and provides overall vision and leadership for the function across the Group.

The GORM 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.

The GORM 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.

The Heads of each and every business/function (1st line of defece risk owners) are primarily responsible for the daily management of operational risk arising in their areas of responsibility.

Operational Risk Correspondents are assigned in each business unit acting as liaisons to the GORM Division. They are responsible for disseminating the ORM Policy to their Units, coordinating the internal ORMF implementation, assisting in the development of the culture of operational risk and communicating relevant information throughout to the GORM Division. The newly established role of the Segment Risk and Control Officer (1st line of defence) in the main Business Functions/General Divisions of NBG will further promote a more efficient management of operational risks and controls.

3.6. Analysis and Reporting

NBG places great emphasis on achieving a high level of quality regarding its risk data and reporting. The Bank's continuous improvement in this regard is clearly reflected in the results of the quarterly assessments of its supervisory reporting quality by the ECB, as NBG achieved one of the best performances (1st for Q1 and Q3 and 2nd for Q2) among 33 EU-peers during 2019.

The three Group Risk Management Divisions (GRCAD, GFLRMD, GORMD) 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. Specialised applications are used to produce this analysis, 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 Risk Weighted Assets for the entire Group according to theregulatory approach chosen for each portfolio, in accordance with the current "CRR / CRD IV" (Basel III) regulatory framework.

Among others, the following are analysed and reported:

- Capital requirements for Credit Risk, Market Risk, Operational Risk and Counterparty Risk on a solo and on a Group basis,
- Large exposures on a solo and on a Group basis,
- Leverage exposure measure on a solo and on a Group basis,
- Large debtors,
- Quality and vintage analysis of the Bank's and its subsidiaries portfolios,
- Benchmarking of the Bank's Market Risk internal models,
- 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 Derivatives portfolios on a solo and a Group basis,
- Data regarding Operational Risk losses,
- Exposures to Financial Institutions,
- Cross border exposures.

3.7. Pillar III Disclosures policy

Pillar III complements the minimum regulatory capital requirements (Pillar I) and the Internal Capital and Liquidity Adequacy Assessment Processes (ICAAP/ILAAP, i.e. Pillar II). NBG is committed to publicly disclose information in compliance with EU Regulation 575/2013 of the European Parliament and of the Council, as well as all applicable additional EU Regulations and EBA Guidelines, and to have adequate internal processes and systems in place to meet these disclosure requirements.

The Bank has established a Pillar III Disclosures 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 (inter alia) 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 regarding public disclosures 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 Disclosures 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 Pillar III Disclosures Policy:

- Formulates the disclosure framework, including frequency, location, monitoring and verification process for disclosures,
- Defines the 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 were implemented gradually.

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 6: 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
	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		3,502	3,502	3,502				
Due from banks		2,974	2,974	2,216	(1,031)		(1,088)	
Financial assets at fair value through profit or loss		463	463	24			425	
Derivative financial instruments		4,833	4,833		4,823		4,806	
Loans and advances to customers	*f*	29,181	29,233	29,037				196
Investment securities		8,889	8,889	8,888				1
Investment property		152	152	152				
Investments in subsidiaries								
Equity method investments	*d*	8	8	8				
Goodwill, software and other intangible assets	*c*	201	201					*201*
Property and equipment		1,715	1,718	1,718				
Deferred tax assets (DTAs)		4,911	4,911	4,667				*244*
of which: DTAs that rely on future profitability and arise from temporary differences	*e*	*447*	*447*	*203*				*244*
of which: DTAs that do not rely on future profitability		*4,464*	*4,464*	4,464				
Current income tax advance		366	366	366				
Other assets		2,444	2,451	2,438				*13*
Non-current assets held for sale*		4,609	1,746	1,602			55	*89*
of which: Goodwill and other intangibles	*c*	*1*	*1*					*1*
of which: Deferred tax assets that rely on future profitability and arise from temporary differences	*e*	*42*	*6*	*1*				*5*
of which: Deferred tax assets that rely on future profitability and do not arise from temporary differences	*e*	*1*	*1*	0				*1*
of which: Equity Method Investments	*d*		*579*	*497*				*82*
Total assets		**64,248**	**61,447**	**54,618**	**3,792**		**4,198**	**743**

€ 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		4,449	4,449		500			4,449
Derivative financial instruments		2,870	2,870		2,866		2,545	
Due to customers		43,648	43,682					43,682
Debt securities in issue		1,365	1,365					1,365
Other borrowed funds		5	5					5
Deferred tax liabilities		12	12					12
Retirement benefit obligations		267	267					267
Current income tax liabilities		1	1					1
Other liabilities		2,761	2,762					2,762
Liabilities associated with non-current assets held for sale		3,593	757					757
Total liabilities		**58,971**	**56,170**		**3,366**		**2,545**	**53,300**
SHAREHOLDERS' EQUITY								
Share capital		2,744	2,744					2,744
Share premium account		13,866	13,866					13,866
Less: treasury shares		-1	-1					-1
Reserves and retained earnings		-11,350	-11,350					-11,350
Equity attributable to NBG shareholders	***a***	**5,259**	**5,259**					**5,259**
Non-controlling interests	***b***	18	18					18
Total equity		**5,277**	**5,277**					**5,277**
Total equity and liabilities		**64,248**	**61,447**					**58,577**

**Non-current assets held for sale at 31 December 2019 comprise, Ethniki Hellenic General Insurance S.A., NBG Cairo branch, NBG Cyprus Ltd and CAC Coral Limited*

Table 7: EU LI2 - Main sources of differences between regulatory exposure amounts and carrying values in financial statements

	€ mio	a **Total**	b Subject to the credit risk framework	c Subject to the CCR framework	d Subject to the securitisation framework	e Subject to the market risk framework
1	**Assets carrying value amount under the scope of regulatory consolidation**	61,447	54,618	3,792		4,198
2	Liabilities carrying value amount under the regulatory scope of consolidation	56,170		3,366		2,546
3	Total net amount under the regulatory scope of consolidation	5,277	54,618	426		1,654
4	Off-balance-sheet amounts	9,503	881			
5	Differences in valuations					
6	*Differences due to different netting values, other than those already included in row 2*					
7	*Differences due to consideration of provisions*		546			
8	*Differences due to prudential filters*					
9	*Other adjustments related to credit risk mitigation techniques*		-397			
10	**Exposure amounts considered for regulatory purposes**		**55,648**			

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 2019 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) 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 8: **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
National Bank of Greece (Cyprus) Ltd (2)	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
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 (1)	Full Consolidation	Full Consolidation	Financial Services
NBG Finance (Sterling) Plc (1)	Full Consolidation	Full Consolidation	Financial Services
NBG Finance Plc	Full Consolidation	Full Consolidation	Financial Services
NBG International Ltd	Full Consolidation	Full Consolidation	Financial Services
I-Bank Direct S.A. .	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
NBG Insurance Brokers S.A	Full Consolidation	Full Consolidation	Insurance Brokerage and Other Services
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
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
Mortgage Touristic PROTYPOS S.A.	Full Consolidation	Full Consolidation	Real Estate Services
NBG Property Services S.A.	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
Sinepia Designated Activity Company (Special Purpose Entity) (1)	Full Consolidation	Full Consolidation	Special Puprose Entity (Securitisation of commercial loans)
Bankteco EOOD	Full Consolidation	Full Consolidation	Information Technology Services
Pronomiouchos S.A. Genikon Apothikon Hellados	Full Consolidation	Full Consolidation	Warehouse activities
Cac Coral Limited (2)	Full Consolidation	Full Consolidation	Debt Collection Company
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

Name of entity	Method of accounting consolidation	Method of regulatory consolidation	Description of the entity
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
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
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.

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.

Sale of Grand Hotel Summer Palace S.A.

On 18 October 2018, the Bank announced the opening of the sale process of its total shareholding in its 100% subsidiary Grand Hotel Summer Pallas S.A. ("Grand Hotel") through an open auction with sealed bids on 10 December 2018. Upon completion of the aforementioned process the Bank on 14 January 2019 entered into a sale agreement with the highest bidder, Mitsis Company S.A., to dispose of its 100% stake in Grand Hotel. The agreed consideration for the sale amounted to €50 million.

The disposal was completed on 5 April 2019 and control of Grand Hotel passed to Mitsis Company S.A.

Sale of NBG Pangaea REIC

On 29 March 2019, the Bank received from Invel Real Estate (Netherlands) II B.V. ("Invel") a call Option Exercise Notice to acquire NBG's shareholding to NBG Pangaea REIC ("Pangaea"), pursuant to the Shareholders Agreement entered into between NBG, Invel, Invel Real Estate Partners Greece L.P, Invel Real Estate Partners Greece SAS, Invel Real Estate Partners Two Limited and Pangaea. According to the relevant terms of the Shareholders Agreement, the entities nominated by Invel, namely "Invel Real Estate B.V." and CL Hermes Opportunities L.P., shall acquire NBG's Shareholding by 30 May 2019 at call option price (€4.684 per share). This transaction was concluded on 23 May 2019 and the total amount received for NBG's Shareholding (comprising 83,438,113 shares of Pangaea) amounted to €391 million.

Sale of Banca Romaneasca S.A.

On 20 June 2019, a Share Sale and Purchase Agreement (the "SPA") was signed between NBG and Banca de Export-Import a Romaniei EximBank S.A. (the "EximBank"), for 371,624,509 shares comprising 99.28% of the issued share capital of Banca Romaneasca ("the Romaneasca").

On 30 December 2019 the Bank lost control of Romaneasca and proceeded with the derecognition of its assets and liabilities, due to the fact that at that date were fulfilled all the conditions agreed between NBG and EximBank. The consideration less costs to sell amounted to €55 million and the amount was settled on 23 January 2020.

4.3. Structure of own funds

Regulatory capital, according to CRR rules falls into two categories: Tier 1 and Tier 2 capital. Tier 1 capital is further divided into Common Equity Tier 1 (CET1) capital and Additional Tier 1 capital.

CET1 capital includes the Bank's ordinary shareholders' equity, share premium, reserves and retained earnings and minority interest allowed in consolidated CET1.

The following items are deducted from the above:

- positive or negative adjustments in the fair value of financial derivatives used for cash flow hedging
- 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
- goodwill and intangibles
- deferred tax assets not arising from temporary differences
- deferred tax assets arising from temporary differences and significant investments that exceed 10%/17.65% of CET1 filter

Tier 2 capital includes the issuance of a Tier 2 note, totalling €397 million.

NBG Group's regulatory capital structure as of 31.12.2019 is presented below.

Table 9: Own Funds Structure

Group's Own Funds Structure	*Ref**	*€ mio*
Shareholders' Equity per balance sheet	*a*	**5,259**
Non-controlling interests		**9**
Non-controlling interests per balance sheet	*b*	*18*
Non-controlling interests not recognised in CET1		*(9)*
Regulatory Adjustments		**1,235**
IFRS9 transitional arrangements		*1,259*
Own credit risk		*(24)*
Prudent valuation adjustment		*(11)*
Cash flow hedging reserve		*24*
Other		*(13)*
Deductions		**(537)**
Goodwill and intangibles	*c*	*(202)*
Significant Investments	*d*	*(83)*
Deferred tax assets that rely on future profitability (excluding those arising from temporary differences)	*e*	*(1)*
Deferred tax assets that rely on future profitability and arise from temporary differences	*e*	*(251)*
Common Equity Tier 1 Capital (CET1)		**5,966**
Additional Tier 1 Capital (AT1)		**-**
Total Tier 1 Capital		**5,966**
Capital instruments and subordinated loans eligible as Tier 2 Capital		**397**
Deductions		**(50)**
Subordinated loans of financial sector entities where the institution has a sign. Inv. in those entities	*f*	*(50)*
Tier 2 Capital		**347**
Total Regulatory Capital		**6,313**

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

The main features of capital instruments issued by the Group are presented in the table below.

Table 10: Capital Instruments main features

	Capital instruments' main features template		*€ mio*
1	Issuer	National Bank of Greece, S. A. (Greece)	National Bank of Greece S.A.
2	Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement	GRS003003035	XS2028846363
3	Governing law(s) of the instrument	Greek	English law, save that subordination provisions applicable to the Notes and provisions on statutory loss absorption powers will be governed by, and construed in accordance with, the laws of the Hellenic Republic

	Regulatory treatment		
4	Transitional CRR rules	Common Equity Tier 1	Tier2
5	Post-transitional CRR rules	Common Equity Tier 1	Tier2
6	Eligible at solo/(sub-)consolidated/solo & (sub-)consolidated	Solo & Consolidated	Solo & Consolidated
7	Instrument type (types to be specified by each jurisdiction)	Ordinary Shares	Tier 2
8	Amount recognised in regulatory capital (currency in million, as of most recent reporting date)	2,744	400
9	Nominal amount of instrument	2,744 (914,715,153 shares @ €3.00 each)	400
9a	Issue price	-	100%
9b	Redemption price	-	100%
10	Accounting classification	Share Capital	Liability
11	Original date of issuance	Various	18/07/2019
12	Perpeptual or dated	Perpetual	Dated
13	Original maturity date	-	18/07/2029
14	Issuer call subject to prior supervisory approval	N/A	Yes
15	Optional call date, contingent call dates, and redemption amount	N/A	18/07/2024
16	Subsequent call dates, if applicable	N/A	No. Call date is one-off
	Coupons / dividends		
17	Fixed or floating dividend/coupon	N/A	Fixed Coupon
18	Coupon rate and any related index	N/A	8.25%. MS (-0.214%) + Reset Margin (+8.464%)
19	Existence of a dividend stopper	N/A	No
20a	Fully discretionary, partially discretionary or mandatory (in terms of timing)	partially discretionary	Mandatory
20b	Fully discretionary, partially discretionary or mandatory (in terms of amount)	partially discretionary	Mandatory
21	Existence of step up or other incentive to redeem	No	No
22	Noncumulative or cumulative	Non cumulative	Non-Cumulative
23	Convertible or non-convertible	Non convertible	Non-Convertible
24	If convertible, conversion trigger (s)	N/A	N/A
25	If convertible, fully or partially	N/A	N/A
26	If convertible, conversion rate	N/A	N/A
27	If convertible, mandatory or optional conversion	N/A	N/A
28	If convertible, specifiy instrument type convertible into	N/A	N/A
29	If convertible, specifiy issuer of instrument it converts into	N/A	N/A
30	Write-down features	No	No
31	If write-down, write-down trigger (s)	N/A	N/A
32	If write-down, full or partial	N/A	N/A
33	If write-down, permanent or temporary	N/A	N/A
34	If temporary write-down, description of write-up mechanism	N/A	N/A
35	Position in subordination hierachy in liquidation (specify instrument type immediately senior to instrument)	Additional Tier 1	The Notes constitute direct, unsecured and subordinated obligations of the Issuer and rank at all times (i) pari passu without any preference among themselves and pari passu with all other present and future subordinated and unsecured obligations of the relevant Issuer which rank or are expressed to rank pari passu with the Subordinated Notes,(ii) junior to present and future obligations of the relevant Issuer in respect of Unsubordinated Notes and Unsubordinated MREL Notes (and all other present and future obligations of the relevant Issuer which rank or are expressed to rank pari passu with Unsubordinated Notes and Unsubordinated MREL Notes) and Senior Non-Preferred Notes (and all other present and future obligations of the relevant Issuer which rank or are expressed to rank pari passu with Senior Non-Preferred Notes) and any other obligations of the relevant Issuer which rank or are expressed to rank senior to the Subordinated Notes, including (where the relevant Issuer is the Bank) deposits of the Bank and (iii) in priority to present and future subordinated and unsecured obligations of the relevant Issuer (A) which rank or are expressed to rank junior to the Subordinated Notes and (B) in respect of the share capital of such Issuer.
36	Non-compliant transitioned features	No	No
37	If yes, specifiy non-compliant features	N/A	N/A

4.4. IFRS 9 impact on own funds

On 12 December 2017 the European Parliament and the Council of the European Union adopted Regulation (EU) 2017/2395 (the "Regulation"), 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.

The percentages of recognition in CET1 of the increased ECL provisions during the 5-year transition period are as follows:

- 0.95 during the period from 01/01/2018-31/12/2018
- 0.85 during the period from 01/01/2019-31/12/2019
- 0.70 during the period from 01/01/2020-31/12/2020
- 0.50 during the period from 01/01/2021-31/12/2021
- 0.25 during the period from 01/01/2022-31/12/2022

The Group has decided to apply the transitional arrangements set out in Article 1 of the aforementioned Regulation, including the provisions of paragraph (4), during the transitional period.

The table below presents a comparison of own funds, capital ratios and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs.

Table 11: IFRS 9 impact

Comparison of own funds, capital ratios and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs					*€ mio*
	31.12.2019	30.09.2019	30.06.2019	31.03.2019	31.12.2018
Available capital (amounts)					
Common Equity Tier 1 (CET1) capital	5,966	5,757	5,658	5,495	5,619
Common Equity Tier 1 (CET1) capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	4,707	4,434	4,305	4,413	4,409
Tier 1 capital	5,966	5,757	5,658	5,495	5,619
Tier 1 capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	4,707	4,434	4,305	4,413	4,409
Total capital	6,313	6,104	5,658	5,537	5,659
Total capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	5,054	4,781	4,305	4,455	4,449
Risk-weighted assets (amounts)					
Total risk-weighted assets	37,354	37,773	38,235	35,110	35,015
Total risk-weighted assets as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	36,815	37,164	37,640	34,720	34,584
Capital ratios					
Common Equity Tier 1 (as percentage of risk exposure amount)	15.97%	15.24%	14.80%	15.65%	16.05%
Common Equity Tier 1 (as percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	12.79%	11.93%	11.44%	12.71%	12.75%
Tier 1 (as percentage of risk exposure amount)	15.97%	15.24%	14.80%	15.65%	16.05%
Tier 1 (as percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	12.79%	11.93%	11.44%	12.71%	12.75%
Total capital (as percentage of risk exposure amount)	16.90%	16.16%	14.80%	15.77%	16.16%
Total capital (as percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	13.73%	12.86%	11.44%	12.83%	12.86%
Leverage ratio					
Leverage ratio total exposure measure	57,853	59,007	59,882	61,089*	66,795*
Leverage ratio	10.31%	9.76%	9.45%	9.00%*	8.41%*
Leverage ratio as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	8.21%	7.59%	7.26%	7.36%*	6.67%*

**Leverage ratio metrics reviewed due to release of EBA Q&A 2018_3995 on 15.02.2019 concerning the recalculation of leverage ratio for exposures under both Standardised and IRB Approach using the same scaling factor as defined in article 473(a) of EU 575/2013.*

4.5. DTC Law

Article 27A of Greek 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 recognised 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 Greek Law 4465/2017 enacted on 29 March 2017. The same Greek 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 amortisation 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 recognised as a receivable from the Greek State. The Bank is obliged to issue conversion rights to the Greek State for an amount of 100% of the Tax Credit in favour of the Greek State and will create a specific reserve for an equal amount. Common shareholders have pre-emption rights on these conversion rights. The reserve will be capitalised 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, Greek Law 4465/2017 amended article 27 "Carry forward losses" by introducing an amortisation period of 20 years for losses due to loan write offs as part of a settlement or restructuring and losses that crystallise 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 2019, the amount of DTAs that were eligible for conversion to a receivable from the Greek State subject to the DTC Law was €4.5 billion (31 December 2018: €4.6 billion). The conditions for conversion rights were not met in the year ended 31 December 2019 and no conversion rights are deliverable in 2020.

4.6. Transitional own funds disclosure template

The table below provides information regarding the amounts and nature of specific items on own funds during the IFRS9 transitional period, in accordance with Annex IV of the Commission Implementing Regulation (EU) No 1423/2013.

Table 12: Transitional Own Funds

Transitional own funds disclosure template as of 31.12.2019		€ mio
Common Equity Tier 1 capital: Instruments and Reserves		
1	Capital instruments and the related share premium accounts	**16,609**
	of which: ordinary shares	*16,609*
2	Retained earnings	(17,340)
3	Accumulated other comprehensive income and other reserves	5,975
3a	Funds for general banking risk	15
5	Minority Interests (amount allowed in consolidated CET1)	9
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**5,268**
Common Equity Tier 1 capital: Regulatory Adjustments		
7	Additional Value Adjustments	(11)
8	Intangible assets (net of related tax liability)	(202)
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences	(1)
11	Fair value reserves related to gain or losses on cash flow hedges	24
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	(24)
19	CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold)	(83)
20	Adjustments due to IFRS 9 transitional arrangements	1,259
22	Amount exceeding the 17.65% threshold	(251)
25	Of which: deferred tax assets arising from temporary differences	(251)
26	Other CET1 capital elements or deductions	(13)
28	**Total regulatory adjustments to Common equity Tier 1 (CET1)**	**698**
29	**Common Equity Tier 1 (CET1) capital**	**5,966**
Additional Tier 1 (AT1) capital--		
36	Additional Tier 1 (AT1) capital before regulatory adjustments	-
Additional Tier 1 (AT1) capital: regulatory adjustments		
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**-**
44	**Additional Tier 1 (AT1) capital**	**-**
45	**Tier 1 capital (T1 = CET1 + AT1)**	**5,966**
Tier 2 (T2) capital		
46	**Capital instruments and the related share premium accounts**	**397**
51	**Tier 2 capital (T2) capital before regulatory adjustments**	**397**
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)
57	**Total regulatory adjustments to Tier 2 (T2) capital**	**(50)**
58	**Tier 2 (T2) capital**	**347**
59	**Total capital (TC = T1 + T2)**	**6,313**
60	**Total Risk Weighted Assets (RWAs)**	**37,354**
Capital Adequacy Ratios		**%**
61	**Common Equity Tier 1**	**15.97%**
62	**Tier 1**	**15.97%**
63	**TOTAL**	**16.90%**
68	**Common Equity Tier 1 available to meet buffers**	**4.97%**
Amounts below the thresholds for deduction (before risk weighting)		
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions	99
73	Direct and indirect holdings by the institution of CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	505
75	Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in 38 (3) are met)	203

4.7. Capital requirements under Pillar I

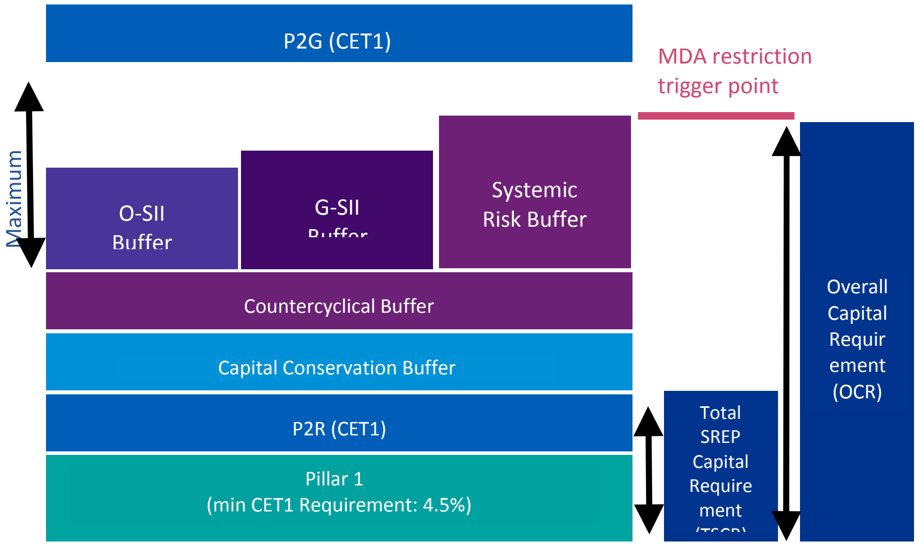
The table below presents the risk exposure amounts (or Risk Weithted Assets - RWAs) and the capital requirements at Group level under Pillar I as of 31.12.2019, according to the CRR/CRD IV regulatory framework. The capital requirements under Pillar I are equal to 8% of the risk exposure amounts.

Table 13: EU OV1 - Overview of RWAs

			RWAs		Minimum Capital Requirements
			31.12.2019	30.09.2019	31.12.2019
	1	Credit risk (excluding CCR)	**33,096**	**33,508**	**2,648**
Article 438(c)(d)	2	*Of which the standardised approach*	33,096	33,508	2,648
Article 438(c)(d)	3	*Of which the foundation IRB (FIRB) approach*			
Article 438(c)(d)	4	*Of which the advanced IRB (AIRB) approach*			
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	**236**	**288**	**19**
Article 438(c)(d)	7	*Of which mark to market*	122	131	10
Article 438(c)(d)	8	*Of which original exposure*			
	9	*Of which the standardised approach*	12	58	1
	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*	102	99	8
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	**1,413**	**1,375**	**113**
	20	*Of which the standardised approach*	531	574	42
	21	*Of which IMA*	882	801	71
Article 438(e)	22	Large exposures			
Article 438(f)	23	Operational risk	**2,609**	**2,602**	**209**
	24	*Of which basic indicator approach*			
	25	*Of which standardised approach*	2,609	2,602	209
	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)	**1,772**	**1,665**	**142**
Article 500	28	Floor adjustment			
	29	**Total**	**37,354**	**37,773**	**2,988**

4.8. 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 5: Stacking order of own funds requirements

Following the completion of the Supervisory Review and Evaluation Process (SREP) for year 2018, the ECB notified NBG Group of its total SREP capital requirement (TSCR), which applies from 1 March 2019. 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 2.5% (from 1 January 2019 and thereinafter) for all banks in the EU.

The systemic risk / systemically important institutions buffer for 2019 is 0.25% for all four systemically important banks in Greece, due to the imposition of such an O-SII buffer by the Bank of Greece (BoG Act 151 / 30.10.18) and will be phased in to 1% until 2022.

In the light of COVID19 outbreak new emergency measures have been taken. For more information refer to the Recent Regulatory Developments section of this document concerning response to COVID19 (Capital and Stress Testing).

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 2018 and 2019. 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%,** as depicted in the following table.

Table 14: Countercyclical Capital Buffer

Country	Risk Exposures	Capital Requirement	CCyB rate
Greece	64,182	1,997	0%
North Macedonia	1,179	63	0%
Marshall Islands	879	70	0%
Cyprus	575	46	0%
Total	**66,815**		**0%**

As a result, the table below summarises the capital requirements for NBG Group for 2019:

Table 15: 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 (2019)	2.5%	2.5%
O-SII buffer (2019)*	0.25%	0.25%
Total	**10.25%**	**13.75%**

** For 2020 the buffer for Other Systemically Important Institutions (O-SII) will increase to 0.5% for both CET1 and Total Capital Requirements driving the two ratios to 10.5% and 14.00% respectively.*

At December 31st 2019, NBG Group's CET1 capital ratio and Total capital ratio stood at 16.0% and 16.9% respectively, exceeding the above regulatory requirements.

4.9. 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 2019 Group leverage ratio, according to the transitional definition of Tier I and the EU Regulation 62/2015, inreased to 10.31% (vs 8.53% as of 31 December 2018) mainly due to CET1 increase during 2019 and total leverage exposures drop as a result of subsidiaries disposals (NBG Pangaea, Banca Romaneasca) and sales of NPE portfolios, exceeding the proposed minimum threshold of 3%.

The tables below include the summary and detailed disclosures on the Group's leverage ratio with reference date 31.12.2019 (amounts in € mio):

Table 16: Leverage ratio

Tier I	5,966
Total Exposure Measure	57,853
Leverage Ratio	**10.31%**

The tables below include the summary and detailed disclosures on the Group's leverage ratio with reference date 31.12.2019 (amounts in € mio):

Table 17: 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	64,248
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	(2,801)
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.	0
4	Adjustment for derivative financial instruments	(3,381)
5	Adjustments for securities financial transactions (SFTs)	24
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	1,576
7	Other adjustments	(1,813)
8	**Leverage ratio exposure**	**57,853**
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)	55,170
2	Asset amounts deducted in determing Tier 1 capital	(544)
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)**	**54,626**
Derivative exposures		
4	Replacement cost associated with all derivatives transactions (i.e net of eligible cash variation margin)	
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	
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**	**1,451**
	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**	**200**
Other off-balance sheet exposures		
17	Off-balance sheet exposures at gross notional amount	9,487
18	Adjustments for conversion to credit equivalent amounts	(7,911)
19	**Other off-balance sheet exposures**	**1,576**
Capital and total exposure measure		
20	**Tier 1 capital**	**5,966**
21	**Leverage ratio total exposure measure**	**57,853**
Leverage Ratio		
22	**Leverage ratio**	**10.31%**
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:	**55,170**
EU-2	Trading book exposures	494
EU-3	Banking book exposures, of which:	54,676
EU-4	*Covered bonds*	0
EU-5	*Exposures treated as sovereigns*	19,355
EU-6	*Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns*	624
EU-7	*Institutions*	1,099
EU-8	*Secured by mortgages of immovable properties*	9,346
EU-9	*Retail exposures*	3,510
EU-10	*Corporate*	10,234
EU-11	*Exposures in default*	6,080
EU-12	*Other exposures (eg equity, securitisations, and other non-credit obligation assets)*	4,428

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. Credit impaired exposures include all past-due exposures more than 90 days.

The Group has aligned the definition of default for financial reporting purposes, with the non performing exposures (NPE) definition used for regulatory purposes, as per EBA Implementing Technical Standards on Supervisory reporting on forbearance and non-performing exposures, as adopted by the Commission Implementing Regulation (EU) 2015/227 of 9 January 2015 amending Implementing Regulation (EU) No 680/2014 laying down implementing technical standards with regard to supervisory reporting of institutions according to Regulation (EU) No 575/2013 of the European Parliament and of the Council ("EBA ITS"). The definition of default for financial reporting purposes is consistent with the one used for internal credit risk management purposes.

A debt security is considered as credit impaired, and is classified into Stage 3, when at least one payment of capital or interest is overdue by the issuer, based on the contractual terms of the instrument, irrespective of the days past due. In addition, a debt security is assessed as credit impaired if there is at least one external credit rating on the security or the issuer corresponding to Default or Selective Default.

5.2. Impairment – Expected Credit Losses

ECL are recognised for all financial assets measured at amortised cost, debt financial assets measured at FVTOCI, lease receivables, financial guarantees and certain loan commitments. ECL represent the difference between contractual cash flows and those that the Group expects to receive, discounted at the EIR. For loan commitments and other credit facilities in scope of ECL, the expected cash shortfalls are determined by considering expected future draw downs.

Recognition of expected credit losses

At initial recognition, an impairment allowance is required for ECL resulting from default events that are possible within the next 12 months (12-month ECL), weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in Stage 1. For instruments with a remaining maturity of less than 12 months, ECL are determined for this shorter period.

In the event of a significant increase in credit risk ("SICR"), an ECL allowance is required, reflecting lifetime cash shortfalls that would result from all possible default events over the expected life of the financial instrument ("lifetime ECL"), weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in Stage 2.

Lifetime ECL are always recognised on financial assets for which there is objective evidence of impairment, that is they are considered to be in default or otherwise credit-impaired. Such instruments are referred to as instruments in Stage 3.

Write-off

A write-off is made when the Group does not have a reasonable expectation to recover all or part of a financial asset. Write-offs reduce the principal amount of a claim and are charged against previously established allowances for credit losses. Recoveries, in part or in full, of amounts previously written off are generally credited to "credit provisions and other impairment charges". Write-offs and partial write-offs represent derecognition or partial derecognition events.

Measurement of expected credit losses

The Group assesses on a forward-looking basis the ECL associated with all financial assets subject to impairment under IFRS 9. The Group recognises an ECL allowance for such losses at each reporting date. The measurement of ECL reflects:

- An unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes. The Group uses three macroeconomic scenarios and estimates the ECL that would arise under each scenario. A weighting is allocated to each scenario, such that the weighted probabilities of all three scenarios are equal to one. The distribution of possible ECL may be non-linear, hence three distinct calculations are performed, where the associated ECLs are multiplied by the weighting allocated to the respective scenario. The sum of the three weighted ECL calculations represents the probability-weighted ECL.
- The time value of money.
- Reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

For the purposes of measuring ECL, the estimate of expected cash shortfalls reflects the cash proceeds expected from collateral liquidation (if any) and other credit enhancements that are part of the contractual terms and are not recognised separately by the Group. The estimate of expected cash shortfalls on a collateralised loan exposure reflects the assumptions used regarding the amount and timing of cash flows that are expected from foreclosure on the collateral less the costs of obtaining and selling the collateral, irrespective of whether the foreclosure is probable.

The ECL calculations are based on Exposure at Default ("EAD"), Credit Conversion Factor ("CCF"), Probability of Default ("PD"), Loss given default ("LGD") and Discount Rate.

The PD and LGD are determined for three different scenarios whereas EAD projections are treated as scenario independent.

The ECL is determined by projecting the PD, LGD and EAD for each time step between future cash flow dates and for each individual exposure or collective segment. These three components are multiplied together and adjusted for the likelihood of survival, if appropriate. This effectively calculates an ECL for each future period, which is then discounted back to the reporting date and summed.

Significant increase of credit risk

A financial asset is considered as non-credit impaired, when the definition for Stage 3 classification is not met. The exposure is classified as Stage 2 if it has suffered a SICR, otherwise it is classified as Stage 1.

At each reporting date, the Group performs the SICR assessment comparing the risk of a default occurring over the remaining expected lifetime of the exposure with the expected risk of a default as estimated at origination.

The Group's process to assess SICR has three main components:

- a quantitative element, i.e. reflecting a quantitative comparison of PD or credit rating at the reporting date versus the respective metric at initial recognition,
- a qualitative element, i.e. all Forborne Performing Exposures (FPE), in accordance with EBA ITS, internal watch list for corporate obligors, and
- "backstop" indicators. The Group applies on all lending exposures the IFRS 9 presumption that a SICR has occurred when the financial asset is more than 30 days past due.

COVID-19 outbreak

For accounting purposes, COVID 19 outbreak is considered as a non –adjusting event. Depending on how the situation develops and the duration of the disruption, there is the potential for any associated economic slowdown to impact our expected credit losses. While our economic scenarios used to calculate ECL capture a range of outcomes, the potential economic impact of the COVID 19 was not considered at the year – end due to the limited information and emergent nature of the outbreak in Greece which occurred in February 2020. The impact on GDP and other key indicators will be considered when determining the severity and likelihood of downside economic scenarios that will be used to estimate ECL under IFRS 9 in 2020, upon assessment of the duration of the disruption caused by the virus. For further information please refer to Note 47 of the 2019 Annual Financial Report.

5.3. General information on Credit Risk

Table 18: EU CRB-B - Total and average net amount of exposures

	a	b
Exposure Class	Net value of exposures at 31.12.2019	Average net exposures * over 2019
Central Governments or Central Banks	18,234	17,763
Regional governments or local authorities	17	22
Public sctor entities	727	696
Multirateral development banks	11	11
International organisations	53	54
Institutions	2,264	2,265
Corporates	17,497	17,357
Of which: SMEs	*7,175*	*7,003*
Retail	5,901	6,205
Of which: SMEs	*1,871*	*1,926*
Secured by mortgages on immovable property	9,432	9,715
Of which: SMEs	*3,528*	*3,501*
Exposures in default	6,325	6,862
Items associated with particularly high risk	147	156
Covered bonds		
Claims on institutions and corporates with a short-term credit assessment		
Collective investments undertakings		
Equity exposures	619	647
Other exposures	3,381	3,217
Total	**64,608**	**64,970**

** The Bank reverted to the use of the Standardised Approach of all formerly IRB exposures as of 30.06.2019. Consequently the average net amount of exposures under IRB is omitted from this table as it corresponds to the amounts of Q1 2019 (€32,058mio). Furthermore, aiming to present a more objective view of the volumes of the average net amount of exposures under Standardised Approach, the three quarters of 2019 (Q2-Q4) are taken into consideration.*

Table 19: EU CRB-C - Geographical breakdown of exposures

Exposure Class	Greece	North Macedonia	United Kingdom	Cyprus	Marshall Islands *	Germany	Spain	Other Countries	**Total**
Central Governments or Central Banks	15,582	382		290		525	606	849	**18,234**
Regional governments or local authorities	16			1					**17**
Public sctor entities	722							5	**727**
Multirateral development banks								11	**11**
International organisations								53	**53**
Institutions	93	1	1,204	1		150	12	803	**2,264**
Corporates	15,020	227	81	467	872			830	**17,497**
Retail	5,171	665	1	52				12	**5,901**
Secured by mortgages on immovable property	8,942	383	26	51				30	**9,432**
Exposures in default	6,028	51	7	119	28	1		91	**6,325**
Items associated with particularly high risk	32	12	1	86				16	**147**
Covered bonds									
Claims on institutions and corporates with a short-term credit assessment									
Collective investments undertakings									
Equity exposures	544	1	33	1		2	7	31	**619**
Other exposures	3,184	63	6	22				106	**3,381**
Total	**55,334**	**1,785**	**1,359**	**1,090**	**900**	**678**	**625**	**2,837**	**64,608**

** Exposures to Marshall Islands are related to ocean shipping*

Table 20: EU CRB-D - Concentration of corporate exposures by industry

	a	b	c	d	e	f	g	h	i	j	v
	Accommodation and food service activities	Construction	Electricity, gas, steam and air conditioning supply	Manufacturing	Personal	Real estate activities	Transport and storage	Wholesale and retail trade	Other Sectors	Not Stated	**Total**
Central Governments or Central Banks									241	17,993	**18,234**
Regional governments or local authorities									16	1	**17**
Public sctor entities			14	24		2	5	72	66	544	**727**
Multirateral development banks									11		**11**
International organisations									53		**53**
Institutions									15	2,249	**2,264**
Corporates	489	1,736	1,708	4,526		782	2,532	2,740	1,569	1,415	**17,497**
Retail					5,890			1	1	9	**5,901**
Secured by mortgages on immovable property	626	42	13	553	6,904	161	22	313	136	662	**9,432**
Exposures in default	127	99	9	453	4,361	120	87	434	282	353	**6,325**
Items associated with particularly high risk		24				16			2	105	**147**
Covered bonds											
Claims on institutions and corporates with a short-term credit assessment											
Collective investments undertakings											
Equity exposures										619	**619**
Other exposures										3,381	**3,381**
Total	**1,242**	**1,901**	**1,744**	**5,556**	**17,155**	**1,081**	**2,646**	**3,559**	**2,392**	**27,331**	**64,608**

Table 21: EU CRB-E – Maturity of exposures

	a	b	c	d	e	f
	Net exposure value					
	On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	**Total**
Central Governments or Central Banks	4,726	1,215	1,092	11,200	581	**18,814**
Regional governments or local authorities		2	5	8		**15**
Public sctor entities	15	21	43	552		**631**
Multirateral development banks	11					**11**
International organisations	20			33		**53**
Institutions	1,571	472	76	701	835	**3,655**
Corporates	213	2,149	4,386	3,562	20	**10,330**
Retail	455	683	886	2,112		**4,136**
Secured by mortgages on immovable property	141	674	1,240	7,291		**9,346**
Exposures in default	49	2,385	1,166	2,600		**6,200**
Items associated with particularly high risk	1	86	30	12	1	**130**
Covered bonds						
Claims on institutions and corporates with a short-term credit assessment						
Collective investments undertakings						
Equity exposures		1			618	**619**
Other exposures	3,243	138				**3,381**
Total	**10,445**	**7,826**	**8,924**	**28,071**	**2,056**	**57,321**

Table 22: EU CR1-A - Credit quality of exposures by exposure class and instrument

	a	b	C*	d	e	G
Exposure Class	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		18,236	2			18,234
Regional governments or local authorities		23	7			17
Public sctor entities		730	3			727
Multirateral development banks		11				11
International organisations		53				53
Institutions		2,264				2,264
Corporates		17,672	175			17,497
Of which: SMEs		7,294	119			7,175
Retail		6,394	493			5,901
Of which: SMEs		2,080	209			1,871
Secured by mortgages on immovable property		9,434	3			9,432
Of which: SMEs		3,531	3			3,528
Exposures in default	11,810		5,484		876	6,325
Items associated with particularly high risk	224	69	146			147
Covered bonds						
Claims on institutions and corporates with a short-term credit assessment						
Collective investments undertakings						
Equity exposures	6	613				619
Other exposures		3,381				3,381
Total standardised approach	**12,040**	**58,881**	**6,313**		**876**	**64,608**
Total	**12,040**	**58,881**	**6,313**		**876**	**64,608**
Of which: Loans**	11,848	24,773	6,264		876	30,360
Of which: Debt securities	17	8,927				8,941
Of which: Off-balance sheet exposures	169	9,318	49			9,438

**Column C refers to loans and is presented after the application of IFRS9 transitional arrangements. Assets held for sale are also included since they are still regulatory consolidated*

*** Loans include deposits to Central Banks and Institutions*

Table 23: EU CR1-B - Credit quality of corporate exposures by industry

Sector	a Gross carrying values of Defaulted exposures	b Non-defaulted exposures	C Specific credit risk adjustments	d General credit risk adjustments	e Accumulated write-offs	G Net values (a+b-c-d)
Accommodation and food service activities	243	1,135	136		18	1,242
Construction	233	1,827	159		14	1,901
Electricity, gas, steam and air conditioning supply	16	1,754	26		1	1,744
Manufacturing	1,095	5,132	671		63	5,556
Personal	7,603	13,238	3,686		604	17,155
Real estate activities	305	963	187		17	1,081
Transport and storage	189	2,570	113		12	2,646
Wholesale and retail trade	921	3,144	505		60	3,559
Other Sectors	629	2,142	379		39	2,392
Not Stated	806	26,976	451		49	27,331
Total	**12,040**	**58,881**	**6,313**		**876**	**64,608**

Table 24: EU CR1-C - Credit quality of exposures by geography

Country	a Gross carrying values of Defaulted exposures	b Non-defaulted exposures	C Specific credit risk adjustments	d General credit risk adjustments	e Accumulated write-offs	G Net values (a+b-c-d)
Greece	11,241	49,915	5,822		840	55,334
North Macedonia	100	1,750	65		-	1,785
United Kingdom	18	1,352	11		-	1,359
Cyprus	385	937	232		0	1,090
Marshall Islands*	61	872	33		22	900
Germany	3	677	2		-	678
Spain	-	625	0		-	625
Other countries	232	2,753	148		15	2,837
Total	**12,040**	**58,881**	**6,313**		**876**	**64,608**

** Exposures to Marshall Islands are related to ocean shipping*

5.4. Provision analysis

Table 25 : EU CR2-A - Changes in the stock of general and specific credit risk adjustments

		a Accumulated specific credit risk adjustment	b Accumulated general credit risk adjustment
1	**Opening balance December 31, 2018**	**(9,552)**	
2	Increases due to amounts set aside for estimated loan losses during the period	(319)	
3	Decreases due to amounts reversed for estimated loan losses during the period		
4	Decreases due to amounts taken against accumulated credit risks adjustments	2,916	
5	Transfers between credit risk adjustments		
6	Impact of exchange rate differences	21	
7	Other adjustments	116	
8	Reclassified as Held for Sale	983	
9	**Closing balance December 31, 2019**	**(5,835)**	
10	Recoveries on credit risk adjustments recorded directly to the statement of profit or loss		

Table 26 : EU CR2-B - Changes in the stock of defaulted and impaired loans and debt securities

		a Gross carrying value defaulted exposures
1	**Opening balance June 30, 2019**	**14,593**
2	Loans and debt securities that have defaulted or impaired since the last reporting period	1,264
3	Returned to non-defaulted status	(580)
4	Amounts written off	(876)
5	Other changes*	(2,536)
6	**Closing balance December 31,2019**	**11,865**

** Other changes include repayments and disposal transactions implemented in the context of NBG's NPE reduction strategy (Symbol 0.9bn, Mirror 1.2bn, Shipping loan portfolio 262mio)*

5.5. Non-performing and forborne exposures

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 Key Performance Indicators as well as 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 Bank's NPE Management actions as well as internal monitoring and modelling mechanisms are built around the Business segmentation criteria and largely operating in a bottom-up approach. The main strategy drivers of the Bank's NPE Management Strategy are:

- Restructurings
- Sale & securitisation of portfolios
- Liquidations
- Real estate collateral repossessions

The execution of the envisaged strategic actions and the related timetables depend on the legal, market and economic conditions and are consequently subject to ongoing re-evaluation.The annual revision of NPE operational targets and submission to SSM (regularly due in March) has been postponed by the ECB due to the COVID-19 pandemic crisis.

Table 27: Credit quality of forborne exposures

		a	b	c	d	e	f	g	h
		Gross carrying amount/ nominal amount of exposures with forbearance measures				**Accumulated impairment**		**Collateral received and financial guarantees received on forborne exposures**	
		Performing forborne	**Non performing forborne**	Of which defaulted	Of which impaired	On performing forborne exposures	On non-performing forborne exposures		Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
1	Loans and advances	**2,692**	**4,726**	**3,875**	**4,671**	**(211)**	**(1,874)**	**4,638**	**2,611**
2	*Central Banks*								
3	*General Governments*	28	*23*	*23*	*23*	*(9)*	*(9)*	*18*	*15*
4	*Credit Institutions*								
5	*Other Financial Corporations*	1	*41*	*29*	*41*		*(26)*	*9*	*8*
6	*Non-Financial Corporations*	*622*	*1,543*	*1,291*	*1,488*	*(72)*	*(786)*	*1,101*	*608*
7	*Households*	*2,042*	*3,119*	*2,532*	*3,119*	*(130)*	*(1,053)*	*3,511*	*1,980*
8	Debt Securities								
9	Loan Commitments given								
10	**Total**	**2,692**	**4,726**	**3,875**	**4,671**	**(211)**	**(1,874)**	**4,638**	**2,611**

Table 28: Quality of forbearance

		a
		Gross carrying amount of forborne exposures
1	Loans and advances that have been forborne more than twice	2,290
2	Non-performing forborne loan and advances that failed to meet the non-performing exit criteria	3,095

Table 29: Credit quality of performing and non-performing exposures by past due days

		a	b	c	d	e	f	g	h	i	j	k	l
		Gross carrying amount/ nominal amount											
		Performing exposures			Non performing exposures								
			Not past due or past due ≤30 days	Past due >30 days ≤90 days		Unlikely to pay that are not past due or are past due ≤90 days	Past due >90 days ≤180 days	Past due >180 days ≤1 year	Past due >1 year ≤2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
1	Loans and advances	**29,923**	**29,601**	**323**	**10,985**	**3,386**	**434**	**464**	**944**	**1,623**	**1,242**	**2,891**	**9,843**
2	*Central Banks*	2,899	2,899	-	-	-	-	-	-	-			-
3	*General Governments*	364	364	1	38	19	-	-	4	8	2	5	37
4	*Credit Institutions*	2,974	2,974	-	0	-	-	-	-	-			-
5	*Other Financial Corporations*	137	137	-	56	40	4	-	-	-	4	7	44
6	*Non-Financial Corporations*	13,271	13,194	77	3,805	1,476	91	153	483	594	328	681	3,333
7	*Of which SMEs*	4,067	4,016	51	2,227	572	57	84	269	331	297	617	1,995
8	*Households*	10,278	10,033	245	7,086	1,851	339	311	456	1,022	908	2,199	6,429
9	Debt Securities	**8,874**	**8,874**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
10	*Central Banks*	-	-	-	-	-	-	-	-	-	-	-	-
11	*General Governments*	8,605	8,605	-	-	-	-	-	-	-	-	-	-
12	*Credit Institutions*	127	127	-	-	-	-	-	-	-	-	-	-
13	*Other Financial Corporations*	4	4	-	-	-	-	-	-	-	-	-	-
14	*Non-Financial Corporations*	138	138	-	-	-	-	-	-	-	-	-	-
15	Off-balance sheet exposures	**9,306**	-	-	**197**								**155**
16	*Central Banks*	-			-								-
17	*General Governments*	88			-								-
18	*Credit Institutions*	2			-								-
19	*Other Financial Corporations*	41			-								-
20	*Non-Financial Corporations*	7,931			191								150
21	*Households*	1,245			6								5
22	**Total**	**48,103**	**38,474**	**323**	**11,181**	**3,358**	**430**	**464**	**944**	**1,623**	**1,274**	**2,891**	**9,999**

Table 30: Performing and non-performing exposures and related provisions

	a	b	c	d	e	f	g	h	i	j	k	l	m	n
	Gross carrying amount/ nominal amount						**Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions**						**Collateral and financial guarantees received**	
	Performing exposures			**Non performing exposures**			**Performing exposures- accumulated impairment and provisions**			**Non-performing exposures- accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions**			On performing exposures	On non-performing exposures
		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3		
Loans and advances	**29,923**	**25,068**	**4,855**	**10,985**		**10,985**	**(474)**	**(149)**	**(325)**	**(5,328)**		**(5,328)**	**14,042**	**5,147**
Central Banks	*2,899*	*2,899*												
General Governments	*364*	*329*	*36*	*38*		*38*	*(12)*	*(3)*	*(9)*	*(22)*		*(22)*	*48*	*15*
Credit Institutions	*2,974*	*2,974*												
Other Financial Corporations	*137*	*112*	*25*	*56*		*56*	*(14)*	*(9)*	*(5)*	*(37)*		*(37)*	*26*	*12*
Non-Financial Corporations	*13,271*	*11,846*	*1,425*	*3,805*		*3,805*	*(211)*	*(81)*	*(130)*	*(2,365)*		*(2,365)*	*6,414*	*1,206*
Of which SMEs	*4,067*	*3,078*	*989*	*2,227*		*2,227*	*(135)*	*(26)*	*(109)*	*(1,345)*		*(1,345)*	*2,332*	*700*
Households	*10,278*	*6,908*	*3,370*	*7,086*		*7,086*	*(237)*	*(57)*	*(181)*	*(2,903)*		*(2,903)*	*7,555*	*3,914*
Debt Securities	**8,874**	**7,574**	**1,300**				**(77)**	**(24)**	**(53)**					
Central Banks														
General Governments	*8,605*	*7,305*	*1,300*				*(77)*	*(23)*	*(53)*					
Credit Institutions	*127*	*127*												
Other Financial Corporations	*4*	*4*												
Non-Financial Corporations	*138*	*138*					*(1)*	*(1)*						
Off-balance sheet exposures	**9,306**	**8,949**	**358**	**197**		**197**	**(7)**	**(2)**	**(4)**	**(45)**		**(45)**		
Central Banks														
General Governments	*88*	*87*	*1*											
Credit Institutions	*2*	*2*												
Other Financial Corporations	*41*	*41*												
Non-Financial Corporations	*7,931*	*7,583*	*347*	*191*		*191*	*(7)*	*(2)*	*(4)*	*(45)*		*(45)*		
Households	*1,245*	*1,235*	*9*	*6*		*6*								
Total	**48,103**	**41,591**	**6,512**	**11,181**		**11,181**	**(558)**	**(176)**	**(382)**	**(5,373)**		**(5,373)**	**14,042**	**5,147**

Table 31: Quality of non-performing exposures by geography

		a	b	c	d	e	f	g
		Gross carrying amount/ nominal amount				Accumulated impairment	Provisions on off-balance-sheet commitments and financial guarantees given	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			Of which non-performing		Of which subject to impairment			
				Of which defaulted				
1	**On-balance-sheet exposures**	**49,782**	**10,985**	**9,843**	**49,586**	**(5,835)**		**(45)**
2	*Greece*	41,369	10,717	9,604	41,196	(5,674)		(45)
3	*Other Countries*	3,161	162	145	3,155	(81)		-
4	*North Macedonia*	1,652	101	91	1,652	(70)		-
5	*Marshall Islands*	882	-	-	882	-		-
6	*United Kingdom*	1,220	1	1	1,220	(1)		-
7	*Cyprus*	277	3	2	277	(8)		-
8	*Germany*	604	-	-	586	-		-
9	*Spain*	617	-	-	617	-		-
10	**Off-balance-sheet-exposures**	**9,503**	**197**	**155**			**(52)**	
11	*Greece*	9,067	197	155			(52)	
12	*North Macedonia*	228	-	-			-	
13	*Cyprus*	142	-	-			-	
14	*United Kingdom*	67	-	-			-	
15	**Total**	**59,284**	**11,181**	**9,999**	**49,586**	**(5,835)**	**(52)**	**(45)**

Table 32: Credit quality of loans and advances by industry

		a	b	c	d	e	f
		Gross carrying amount				**Accumulated impairment**	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			of which non-performing		Of which loans and advances subject to impairment		
				of which defaulted			
1	Agriculture, forestry and fishing	305	76	75	305	(39)	-
2	Mining and quarrying	888	396	394	888	(329)	-
3	Manufacturing	2.580	736	687	2.580	(430)	(21)
4	Electricity, gas, steam and air conditioning supply	2.057	41	27	2.057	(41)	-
5	Water supply	-	-	-	-	-	-
6	Construction	978	221	203	978	(160)	(0)
7	Wholesale and retail trade	3.649	1.232	1.096	3.649	(834)	(3)
8	Transport and storage	2.606	249	197	2.606	(136)	(19)
9	Accomodation and food service activities	1.380	273	245	1.380	(169)	(0)
10	Information and communication	116	12	2	116	(2)	-
11	Financial and insurance activities	-	-	-	-	-	-
12	Real estate activities	1.246	272	176	1.246	(148)	-
13	Professional, scientific, and technical activities	310	139	135	310	(88)	-
14	Administrative and support service activities	8	1	-	8	-	-
15	Public administration and defence, compulsory social security	-	-	-	-	-	-
16	Education	-	-	-	-	-	-
17	Human health services and social work activities	190	47	46	190	(31)	-
18	Arts, entertainment and recreation	3	-	-	3	-	-
19	Other services	759	110	48	587	(124)	(1)
20	**Total**	**17.076**	**3.805**	**3.333**	**16.904**	**(2.532)**	**(45)**

Table 33: Collateral valuation - loans and advances

		a	b	c	d	e	f	g	h	i	j	k	l
		Loans and advances											
			Performing		Non- performing								
						Unlikely to pay that are not past due or are past due ≤90 days	`Past due >90 days						
				of which past due>30 days ≤90 days				of which past due > 90 days ≤180 days	of which past due > 180 days ≤ 1 year	of which past due > 1 year ≤ 2 years	of which past due > 2 years ≤ 5 years	of which past due > 5 years ≤ 7 years	of which past due > 7 years
1	Gross carrying amount	**40,908**	**29,923**	**323**	**10,985**	**3,386**	7,599	434	464	944	1,623	1,242	2,891
2	*Of which secured*	*32,803*	*23,232*	***281***	*9,571*	*3,014*	*6,557*	*379*	*405*	*772*	*1,359*	*1,094*	*2,547*
3	Accumulated impairment for secured assets	(4,556)	(314)	**(23)**	(4,241)	(1,015)	(3,227)	(133)	(175)	(394)	(641)	(540)	(1,344)
4	Collateral												
5	*Of which secured*	*18,129*	*13,071*	***240***	*5,058*	*1,814*	*3,244*	*241*	*206*	*359*	*676*	*582*	*1,180*
6	*Of which immovable property*	*14,249*	*9,551*	***202***	*4,698*	*1,659*	*3,039*	*237*	*199*	*324*	*605*	*564*	*1,109*
7	Financial guarantees receved	1,060	971	**3**	89	51	38	2	3	3	14	4	12

Table 34: Changes in the stock of non-performing loans and advances

		a	b
		Gross carrying amount	Related net accumulated recoveries
1	**Initial stock of non-performing loans and advances**	**16,272**	
2	Inflows to non-performing portfolios	1,785	
3	Outflows from non-performing portfolios	(7,073)	
4	Outflow to performing portfolio	(1,521)	
5	Outflow due to loan repayment, partial or total	(429)	
6	Outflow due to collateral liquidation	(208)	(83)
7	Outflow due to taking possession of collateral	(202)	(80)
8	Outflow due to sale of instruments	(1,855)	(467)
9	Outflow due to risk transfers		
10	Outflow due to write-off	(1,090)	
11	Outflow due to other situations	(283)	
12	Outflow due to reclassification as held for sale	(1,485)	
13	**Final stock of non-performing loans and advances**	**10,985**	

Table 35: Collateral obtained by taking possession and execution processes

		a	b
		Collateral obtained by taking possession	
		Value at initial recognition	Accumulated negative changes
1	Property, plant and equipment (PP&E)		
2	Other than PP&E	564	(100)
3	*Residential immovable property*	*184*	*(17)*
4	*Commercial immovable property*	*363*	*(70)*
5	*Movable propert (auto, shipping, etc.)*		
6	*Equity and debt instruments*	*8*	*(8)*
7	*Other*	*8*	*(4)*
8	**Total**	**564**	**(100)**

Table 36: Collateral obtained by taking possession and execution process - vintage breakdown

a	b	c	d	e	f	g	h	i	j	k	l

		Debt balance reduction		Total collateral obtained by taking possession									
						Foreclosed ≤ 2 years		Foreclosed >2 years and ≤ 5 years		Foreclosed >5 years		of which non-current assets held-for-sale	
		Gross carrying amount	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes
1	Collateral obtained by taking possession classified as PP&E												
2	Collateral obtained by taking possession other than that classified as PP&E			**564**	(100)	348	(15)	13	(4)	203	(81)	382	(51)
3	*Residential immovable property*			***184***	*(17)*	*142*	*(1)*	*1*		*42*	*(16)*	*180*	*(16)*
4	*Commercial immovable property*			***363***	*(70)*	*197*	*(5)*	*9*	*(3)*	*157*	*(63)*	*202*	*(34)*
5	*Movable property (auto, shipping etc.)*												
6	*Equity and debt instruments*			***8***	*(8)*	*8*	*(8)*						
7	*Other*			***8***	*(4)*	*2*	*(1)*	*3*	*(2)*	*4*	*(2)*		
8	**Total**			**564**	**(100)**	**348**	**(15)**	**13**	**(4)**	**203**	**(81)**	**382**	**(51)**

5.6. 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 31.12.2019 (in € mio) were as follows:

Table 37 : 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	7,377	27,729	21,866	5,784	
2	Total debt securities	8,755	41	41	0	
3	**Total exposures**	**16,132**	**27,770**	**21,907**	5,784	
4	*Of which defaulted*	**4,360**	**7,505**	**5,921**	**1,563**	

**Amounts are gross of provisions*

5.7. 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

The table below depicts the mapping of external credit assessments to the corresponding credit quality steps.

Table 38: Mapping of Credit quality steps

Fitch	Standard & Poor's	Moody's	Credit Quality Steps
From AA to AAA	From AA to AAA	From Aa1 to Aaa	1
From A to A+	From A to A+	From A1 to A3	2
From BBB to BBB+	From BBB to BBB+	From Baa1 to Baa3	3
From BB to BB+	From BB to BB+	From Ba1 to Ba3	4
From B to B+	From B to B+	From B1 to B3	5
From C to CCC+	From C to CCC+	From C1 to Caa3	6

The table below presents the Exposures (net of accounting provisions), before and after Credit Risk Mitigation (CRM), as of 31.12.2019, according to the supervisory exposure classes (amounts are in € mio):

Table 39: 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	18,235		18,994		5,433	29%
Regional governments or local authorities	15	1	15		3	20%
Public sector entities	631	95	606	3	210	34%
Multilateral development banks	11		62		0	0%
International organisations	53		53		0	0%
Institutions	2,123	140	2,137	32	290	13%
Corporates	10,291	7,207	9,954	788	10,876	101%
Retail	4,136	1,765	3,436	14	2,390	69%
Secured by mortgages on immovable property	9,346	85	9,346	27	3,446	37%
Exposures in default	6,199	126	6,042	16	6,193	102%
Exposures associated with particularly high risk	129	18	130	2	198	151%
Covered bonds						
Institutions and corporates with a short-term credit assessment						
Collective investment undertakings						
Equity	619		619		1,377	222%
Other items	3,381		3,381		2,681	79%
Total	**55,169**	**9,437**	**54,774**	**882**	**33,097**	**59%**

Counterparty Credit Risk RWAS are not included

Table 40 : EU CR5 - Standardised approach

	Exposure classes	**Risk Weight**							
		0%	2%	4%	10%	20%	35%	50%	70%
1	Central governments or central banks	13,839				6		43	
2	Regional governments or local authorities					15			
3	Public sector entities					499			
4	Multilateral development banks	62							
5	International organisations	53							
6	Institutions	1,487				450		89	
7	Corporates								
8	Retail								
9	Secured by mortgages on immovable property						6,757	2,616	
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	643				71			
17	**Total**	**16,084**				**1,041**	**6,757**	**2,748**	

Table 40 : EU CR5 - Standardised approach *(continued)*

	Exposure classes	Risk Weight								Total*
		75%	100%	150%	250%	370%	1250%	Others	Deducted	
1	Central governments or central banks		4,902		204					**18,994**
2	Regional governments or local authorities									**15**
3	Public sector entities		110							**609**
4	Multilateral development banks									**62**
5	International organisations									**53**
6	Institutions		119	24						**2,169**
7	Corporates		10,148	593						**10,741**
8	Retail	3,448								**3,448**
9	Secured by mortgages on immovable property									**9,373**
10	Exposures in default		5,790	268						**6,058**
11	Exposures associated with particularly high risk			132						**132**
12	Covered bonds									
13	Institutions and corporates with a short-term credit assessment									
14	Collective investment undertakings									
15	Equity		114		505					**619**
16	Other items		2,667							**3,381**
17	**Total**	**3,448**	**23,850**	**1,017**	**709**					**55,654**

**Counterparty Credit Risk exposures are not included*

6. COUNTERPARTY CREDIT RISK

Counterpart Credit Risk (CCR) for regulatory purposes derives from OTC derivative and secured interbank transactions, namely repurchase agreements, and the calculations refer on both the trading portfolio and the banking book. 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 GFLRM 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 standardised 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 31st, 2019.

Table 41: 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		1,981	467			716	92
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)						25	12
10	VaR for SFTs							
11	Total							**105**

Table 42: 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	104	101
EU4	Based on the original exposure method		
5	**Total subject to the CVA capital charge**	**104**	**101**

Table 43: **EU CCR8** – Exposures to CCPs (€ mio)

		EAD psot CRM	RWAs
1	**Exposures to QCCPs (total)**		30
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	**49**	10
3	(i) OTC derivatives		
4	(ii) Exchange-traded derivatives	49	10
5	(iii) SFTs		
6	(iv) Netting sets where cross-product netting has been approved		
7	Segregated initial margin		
8	Non-segregated initial margin	19	4
9	Prefunded default fund contributions	**6**	
10	Alternative calculation of own funds requirements for exposures		16
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 44: 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	581											**581**
2	Regional governments or local authorities												
3	Public sector entities												
4	Multilateral development banks												
5	International organisations												
6	Institutions	6	652			89	108			2	5		**862**
7	Corporates									38	1		**40**
8	Retail												
9	Institutions and corporates with a short-term credit assessment												
10	Other items												
11	**Total**	**587**	**652**	**0**	**0**	**89**	**108**	**0**	**0**	**40**	**7**	**0**	**1,483**

Table 45: EU CCR6 - Credit derivatives exposures (€ mio)

	Credit derivative hedges		Other credit derivatives
	Protection bought	Protection sold	
Notionals			
Single-name credit default swaps	**25**		
Index credit default swaps			
Total return swaps			
Credit options			
Other credit derivatives			
Total notionals	**25**		
Fair values			
Positive fair value (asset)			
Negative fair value (liability)	**2**		

7. MARKET RISK

The Bank uses internally developed and implemented market risk models and systems to assess and quantify the portfolio market risk, based on best practice and industry-wide accepted risk metrics. More specifically, the Bank estimates the market risk of its trading and the held to collect ans sell (HTCS) portfolios using the Value at Risk (VaR) methodology. In particular, the Bank has adopted the Variance-Covariance (VCV) methodology, with a 99% confidence interval and 1-day holding period.

The variance-covariance methodology can be summarised 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 held-to-collect-and-sell (HTCS) 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. More specifically, the GFLRM Division calculates the VaR of the Bank's trading and HTCS portfolios, for internal use, 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 1,435.

Morover, since the Bank has approval to use an internal model approach (IMA) 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 Stansardised Approach (SA).

Additionally, the GFLRM 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

- 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 Standardised Approach.

The components of capital requirements under the standardised approach and the internal model approach for market risk, as of 31st December, 2019, are shown in the tables below.

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

Table 46: EU MR1 – Market risk under the standardised approach (€ mio)

		RWAs	Capital requirements
	Outright products		
1	Interest rate risk (general and specific)	56	4
2	Equity risk (general and specific)	68	5
3	Foreign echange risk	167	13
4	Commodity risk		
	Options		
5	Delta-plus method	241	19
6	**Total**	**532**	**43**

Table 47: EU MR2-A – Market risk under the IMA (€ mio)

		RWAs	Capital requirements
1	**VaR** (higher of values a and b)	**290**	**23**
(a)	Previous day's VaR (Article 365(1) of the CRR (VaRt-1))		6
(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		23
2	**SVaR** (higher of values a and b)	**592**	**47**
(a)	Latest SVaR (Article 365(2) of the CRR (SVaRt-1))		15
(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)		47
6	**Total**	**882**	**71**

Table 48: EU MR2-B – RWA flow statements of market risk expsoures under the IMA (€ mio)

		VaR	SVaR	IRC	Comprehensive risk measure	Other	Total RWAs	Total capital requirements
1	**RWAs as of Septemper 30, 2019**	**264**	**538**	-	-	-	**801**	**64**
1a	*Regulatory adjustment*	141	333	-	-	-	474	38
1b	*RWAs at the previous quarter-end (end of the day)*	122	205	-	-	-	327	26
2	Movement in risk levels	-47	-46	-	-	-		
3	Model updates/changes			-	-	-		
4	Methodology and policy			-	-	-		
5	Acquisitions and disposals			-	-	-		
6	Foreign exchange movements			-	-	-		
7	Interest Rate Volatilities	4	30	-	-	-		
8a	*RWAs at the end of the reporting period (end of the day)*	79	189	-	-	-	268	21
8b	*Regulatory adjustment*	211	403	-	-	-	613	49
8	**RWAs as of December 31, 2019**	**290**	**592**	-	-	-	**882**	**71**

The change in the Bank's capital requirements for Market Risk, under the internal model approach, in the fourth quarter of the year is mainly attributed to the movements of the EUR IRS rates and their volatility.

Finally, the Bank's regulatory VaR/sVaR estmates during the last six months of 2019 are shown in the table below.

Table 49: EU MR3 – IMA values for trading portfolios (€ mio)

	VaR (10 day 99%)	
1	Maximum value	10
2	Average value	7
3	Minimum value	5
4	Period end	6
	SVaR (10 day 99%)	
5	Maximum value	21
6	Average value	15
7	Minimum value	12
8	Period end	15

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 GFLRM 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 HTCS portfolios, as well as separately on the positions of the Trading Book.

The scenarios used are shown in the following table:

Table 50: Stress test 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%/EUR appreciation by 30%			

Additionally, the following volatility stress test scenarios are defined and the Trading and HTCS P&L is assessed, on a daily basis:

Table 51: Volatility stress test Scenarios

Scenario	Description
1	IR: normal +1bp, lognormal +1%, EQT & FX: +1%
2	IR: normal +5bp, lognormal +5%, EQT & FX: +5%
3	IR: normal +10bp, lognormal +10%, EQT & FX: +10%
4	IR: normal -1bp, lognormal -1%, EQT & FX: -1%
5	IR: normal -5bp, lognormal -5%, EQT & FX: -5%
6	IR: normal -10bp, lognormal -10%, EQT & FX: -10%

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 2019, there were two cases, in which the back-testing result exceeded the respective VaR calculation.

The graph below illustrates the regulatory VaR, as well as the hypothetical and the actual P&L, since the beginning of 2019.

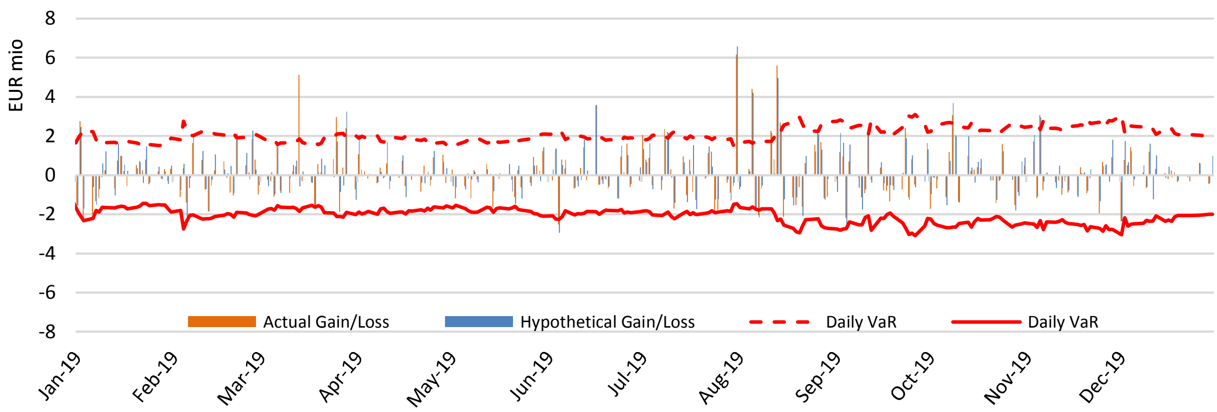


Figure 6: EU MR4 – Comparison of VaR estimates with gains/losses

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. Being conservative and compliant with regulatory reporting requirements, the Bank classifies revenues accrued from activities that cannot be readily mapped into a particular business line (unallocated) to the business line yielding the highest capital risk weight (18%).

9. EQUITY EXPOSURES NOT INCLUDED IN THE TRADING BOOK

Investments in shares of stock not included in the Trading and Fair Value through Profit and Loss (FVTPL) portfolio are included in the Fair Value through Other Comprehensive Income (FVTOCI) portfolio. These investments are held with the intention of achieving capital gains. The FVTOCI investments in shares are initially recognised and subsequently measured at fair value. Initial measurement includes transaction costs. The fair value of FVTOCI 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 carrying amount of FVTOCI equity instruments listed on a Stock Exchange Market equals their market value. The carrying amount as of 31.12.2019 is presented below:

Table 52: FVTOCI Equity instruments

	€ mio
Listed	70
Not Listed	47
Total	**117**

The total amount of realised gains from the disposal of FVTOCI equity instruments for the year 2019 was €2 mio. The net amount of unrealised gains of FVTOCI equity instruments as at 31 December 2019 was €19 mio after tax.

The amount of unrealised gains of FVTOCI equity instruments, recognised in reserves as at 31 December 2019 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 securitisations lies with the underlying securitised financial assets. Hence, the holders of the asset backed securities only have recourse to the securitised financial assets.

Securitisations may be categorised as either: (a) conventional securitisations - 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 securitisations - 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 securitisations, 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 securitisations

As originator, the Bank may securitise 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 securitisation 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 operational 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.

Where the Bank has sold assets to a SPV but retains a servicer role in managing those assets on behalf of the SPV the Bank ensures those securitised assets are effectively ring-fenced from the Bank's own assets in accordance with the applicable legislation.

All of the securitisations that the Bank has concluded to date have been conventional securitisations and were initiated purely for funding and contingent liquidity purposes. The objective of the securitisations 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, securitisations have been an opportunistic source of liquidity rather than a core external funding source. The Bank has not derecognised any of the securitised assets and currently consolidates the existing securitisation vehicles.

Securitisations 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, 2019 there was no exposure after credit risk mitigation to securitised positions for investment purposes.

Securitisation positions

On 12 July 2016, the Special Purpose Entity Sinepia Designated Activity Company (d.a.c.) was established in Ireland, for the purposes of SME loans securitisation, in which the Bank has a beneficial interest. In 2016 Sinepia d.a.c. issued A1, A2, A3 & A4 notes which were placed with the European Investment Bank ("EIB"), the European Investment Fund ("EIF") and the European Bank for Reconstruction and Development ("EBRD"), allowing the Bank to raise €300 million of medium term funding. The Notes were subject to mandatory redemption in whole or in part on each interest payment date (i.e. on a quarterly basis) and only to the extent that the issuer had funds available for such purpose after making payment of any prior ranking liabilities in accordance with the agreement in force.

During 2017, the Bank via Synepia d.a.c. proceeded with the redemption of class A1, A2, A3 and A4 notes held by third parties of €123 million, €29 million, €41 million and €65 million, respectively.

During 2018, NBG via Synepia d.a.c. proceeded with the cancellation part of Class M notes of €96 million.

Sinepia securitisation transaction has been unwound on 18 October 2019. On that date, the Bank proceeded with repurchasing from Sinepia DAC all the outstanding SME loan receivables and Sinepia redeemed all the outstanding Class M and Class Z notes held by NBG.

Therefore, the Bank has no securitised notes in issue as at 31 December 2019. However, the Bank will keep preparing for a large scale securitisation of more than c. €6 billion that will be launched as soon as market conditions permit, driving the YE19 stock of Bank NPEs to low single digit levels.

11. INTEREST RATE RISK IN THE BANKING BOOK

Interest Rate Risk in the Banking Book (IRRBB) concerns potential losses on the Bank's earnings (Net Interest Income – "NII") and on the net present value of assets and liabilities (Economic Value of Equity – "EVE") arising from changes in interest rates.

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 adverse interest rate fluctuations;
- 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 arises 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 effect of adverse movements in interest rates on the Net Interest Income and the Economic Value of Equity measures by applying a number of specified interest rate scenarios (parallel shifts, flattening and steepening of the interest rate curves).

The Bank has recently upgraded its IRRBB measurement capabilities, through the implementation of a new IRRBB framework, under which all relevant risk metrics are calculated using a full revaluation approach, based on the exact repricing and amortisation characteristics of individual positions.

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 based on the average demand deposits' duration figures, provided in a recent ECB review study[2] of IRRBB practices and main Banking Book characteristics of European banking institutions. Furthermore, a 20% 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, assuming a constant balance sheet, i.e., new business assumptions affecting potentially the mix of asset and liabilities are not considered;
- the sensitivity of the Economic Value of Equity is measured across the full maturity spectrum of the bank's assets and liabilities, assuming that matured transactions are not replenished.

The sensitivity of the Group's EVE and NII measures as of December 31st, 2019 under the standard regulatory stress scenarios introduced by EBA's latest IRRBB Management Guidelines (EBA/GL/2018/02 – 19 July 2018) are presented in the following table.

Table 53: Sensitivity of EVE and NII measures

Amounts in € mio	EVE					NII				
Scenario	EUR	USD	GBP	Other Currencies	Total	EUR	USD	GBP	Other Currencies	Total
Parallel up	400	37	32	10	479	125	15	14	-5	149
Parallel down	889	-38	-23	-8	819	-60	-18	-11	4	-85
Steepener	-309	-9	-8	-4	-329					
Flattener	446	14	13	7	479					
Short rates up	450	28	22	10	510					
Short rates down	-102	-34	-23	-8	-167					
Maximum					**-329**					**-85**

The reduction in the economic value under the six regulatory scenarios presented above remained comfortably within the limits set by the prevailing Regulatory provisions (EVE sensitivity does not exceed both 15% CET1 Capital and 20% of the Regulatory Capital).

[2] ECB Working Paper Series –"Who bears interest rate risk", September 2018

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, and 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 the approved levels.

In addition, top management receives, on a daily basis, a liquidity report which presents a detailed analysis of the Group's funding sources, the liquidity buffer, the cost of funding and other liquidity indicators related to the Risk Appetite Framework ("RAF"), the Recovery Plan ("RP") and the Contingency Funding Plan. 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 monitored. This ratio stood at 66.1% and 66.9% as of 31 December 2019, on a domestic (Greece) and on a Group level, respectively.

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 liquidity buffer to ensure the above. In addition to the Bank's liquidity buffer, the rest of the Group's subsidiaries maintain an adequate liquidity buffer, well above 10% of their total deposits, which ensures their funding self-sufficiency in case of a local crisis.

Liquidity Developments within 2019

On 31 December 2019 the Bank's strong liquidity profile is representative of a healthy liability side of the balance sheet. NBG has fully recovered from all the limitations that ensued the previous liquidity crisis. The improved funding structure is marked by the inflow of stable retail deposits, the increase of stable long-term funding, historically low ECB funding and full access to the secured interbank markets. Moreover, LCR and NSFR, as well as the Bank's liquidity buffer currently stand at the highest historical levels. The liquidity state of the Bank at year end is further analysed in the next section.

Complementary to the strong liquidity state, liquidity risk management has completed the most significant IT reform of the recent years. The new in-house IT liquidity platform has been further enhanced to enable risk management to fully automate, integrate and seamlessly produce the full set of internal and regulatory liquidity reporting. This issue is further discussed in the "IT infrastructure and Liquidity Framework Enhancements within 2019" section.

Sources of liquidity

The Bank's principal sources of liquidity are its deposit base, Eurosystem funding currently via the TLTROs with ECB, repurchase agreements (repos) with major foreign Financial Institutions ("FIs") and wholesale funding through the placement of own issued covered bonds and Tier II notes. ECB funding and repos with FIs are collateralised mainly by high quality liquid assets, such as, 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. Due to the COVID19 outbreak new emergency measures have been applied. For more information refer to the Recent Regulatory Developments section of this document concerning response to COVID19 (Monetary Policy and Liquidity/market operations).

Following a milestone year for the Bank's liquidity in 2018, where the Bank was the first Greek systemic bank to fully restore both Basel III liquidity metrics (LCR and NSFR) within the regulatory limits, the Bank's liquidity profile was further enhanced during 2019, marking its strong position on the liquidity front and ensuring its ability to fund the recovering Greek economy. Moreover, NBG was again the first Greek systemic bank to issue and successfully place to investors a Tier II capital subordinated note in the amount of €0.4 billion, in July 2019, receiving another vote of confidence from the global financial markets and confirming its leading position in the Greek market.

On 31 December 2019, the Bank's customer deposit balance stood at €42.6 billion, an increase of €0.7 billion compared to the respective figure as of 30 June 2019. This increase is negatively affected by NBG's decision not to renew the Public Debt Management Agency ("PDMA") deposits that stood at €0.5 billion as of 30 June 2019. Ignoring the effect of PDMA deposits, NBG's customer deposit base increased by €1.2 billion, mainly due to the increase of the stable Savings deposits by €1 billion. Moreover, during the same period, the Bank's exposure to Eurosystem funding was renewed from the TLTRO II to the TLTRO III program and remained unchanged to €2.25 billion, the lowest level since the beginning of the crisis.

Additionally, both the LCR and the NSFR were further improved during the second half of 2019, broadening their distance from their respective minimum regulatory thresholds. Following its restoration in July 2018, the Bank's LCR significantly increased thereafter, reaching the highest level of 190.75% in December 2019. Moreover, NSFR exceeded the minimum regulatory threshold of 100% for the first time in September 2018 and further increased in 2019, mainly driven by the improved funding mix as well as the exchange of the 30 Year IRS with the Hellenic Republic, in February 2019. The Bank's NSFR stood at 113.9% on 31 December 2019.

Moreover, the international secured financing markets continued to be open for NBG, which the Bank tapped for €0.5 billion, a significant decrease when compared to the respective level as of 30 June 2019. This decrease reflects the decision of NBG to reduce its exposure to this source of funding, in order to further increase the stock of unencumbered liquid assets. The Bank's funding cost stood at 41bps as of 31 December 2019 a marginal decrease by 1bp compared to the respective figure as of 30 June 2019, driven by the decrease of the cost of customer deposits by 8bps, as well as the increase of the cost of wholesale funding that was affected by the new Tier II issuance.

Finally, the Bank's liquidity buffer stood at €12.4 billion on 31 December 2019, of which €1.3 billion was collateral eligible for funding with the ECB, €8 billion pertained to the unencumbered Greek Government bonds, T-Bills and other tradable collateral that could be used for secured funding with FIs, and the remaining €3.1 billion was either in the form of Cash, or deposited with the Bank of Greece, as well as in the form of short term unsecured interbank placements and deposited in Nostro accounts, further showing NBG's strong liquidity position.

IT infrastructure and Liquidity Framework Enhancements within 2019

In an effort to continuously improve its Liquidity risk reporting framework, the Bank implemented a number of initiatives and proceeded to an exhaustive list of key enhancements which are presented below:

- The in-house Liquidity IT platform was further developed to support the liquidity monitoring and reporting framework. This platform has enabled risk management to fully automate the full set of internal liquidity reports on a daily basis since 2018. During 2019, this platform has been further enhanced to produce the full set of regulatory reporting, including the periodic supervisory liquidity reporting (i.e. Templates for LCR, NSFR and Additional Liquidity Monitoring Metrics) and the Maturity Ladder templates for LiST 2019.
- The Liqudity framework (Liquidity Risk Policy, Contingency Funding Plan, Asset Encumbrance Policy, ILAAP Framework) was updated as part of the yearly ILAAP process, to reflect the Bank's current strong liquidity profile
- The Risk Appetite Framework has been revised and a new set of liquidity indicators, including the LCR, was introduced to align with the Bank's current business environment that incorporates a strong liquidity profile
- The stress testing framework was enhanced with a new Maturity Ladder stress test that is designed in a similar fashion as the LiST 2019, intended to assess the Bank's survival horizon over a 6-month period

The next table presents the key components of NBG's LCR, as per the respective guidelines on LCR disclosure (EBA/GL/2017/01). It should be noted that the data points used in the calculations below, refer to the period after the restoration of the LCR (i.e. since July 2018).

Table 54: Liquidity Coverage Ratio

€ mio		**Total unweighted value**				**Total weighted value**			
Quarter ending on		31.03.19	30.06.19	30.09.19	31.12.19	31.03.19	30.06.19	30.09.19	31.12.19
Number of data points used in the calculation of averages		9	12	12	12	9	12	12	12
HIGH-QUALITY LIQUID ASSETS									
1	**Total high-quality liquid assets**					**7,774**	**8,357**	**9,590**	**10,952**
CASH-OUTFLOWS									
2	Retail deposits and deposits from small business customers, *of which:*	**24,171**	**24,241**	**24,356**	**24,690**	**1,366**	**1,378**	**1,399**	**1,424**
3	*Stable deposits*	*21,756*	*21,759*	*21,761*	*21,991*	*1,088*	*1,088*	*1,088*	*1,100*
4	*Less stable deposits*	*2,415*	*2,482*	*2,596*	*2,698*	*278*	*287*	*311*	*325*
5	Unsecured wholesale funding	**11,267**	**11,141**	**11,037**	**10,852**	**4,703**	**4,663**	**4,630**	**4,599**
6	*Operational deposits (all counterparties) and deposits in networks of cooperative banks*	*37*	*28*	*16*	*8*	*9*	*7*	*4*	*2*
7	*Non-operational deposits (all counterparties)*	*11,229*	*11,113*	*11,021*	*10,844*	*4,694*	*4,656*	*4,626*	*4,597*
8	*Unsecured Debt*								
9	Secured wholesale funding					**1,256**	**962**	**550**	**202**
10	Additional requirements	**87**	**81**	**102**	**137**	**67**	**76**	**105**	**144**
11	*Outflows related to derivative exposures and other collateral requirements*	*65*	*65*	*94*	*134*	*65*	*74*	*104*	*144*
12	*Outflows related to loss of funding on debt products*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
13	*Credit and liquidity facilities*	*22*	*17*	*8*	*3*	*2*	*1*	*1*	*0*
14	Other contractual funding obligations	321	387	509	603	304	370	493	586
15	Other contingent funding obligations	582	582	2,684	4,787	288	287	343	399
16	**TOTAL CASH OUTFLOWS**					**7,984**	**7,736**	**7,520**	**7,354**
CASH-INFLOWS									
18	Inflows from fully performing exposures	1,438	1,304	1,027	868	1,045	959	769	686
19	Other cash inflows	1,113	901	673	344	1,026	816	611	302
20	**TOTAL CASH INFLOWS**	**2,551**	**2,205**	**1,701**	**1,212**	**2,072**	**1,774**	**1,379**	**988**
EU-20c	***Inflows Subject to 75% Cap***	2,551	2,205	1,701	1,212	2,072	1,774	1,379	988
						TOTAL ADJUSTED VALUE			
21	**LIQUIDITY BUFFER**					**7,774**	**8,357**	**9,590**	**10,952**
22	**TOTAL NET CASH OUTFLOWS**					**5,913**	**5,962**	**6,140**	**6,366**
23	**LIQUIDITY COVERAGE RATIO (%)**					**131.1**	**139.7**	**155.6**	**171.7**

13. ASSET ENCUMBRANCE

13.1. Information on importance of encumbrance

The following is the disclosure for the year ended 31 December 2019, of on-balance sheet encumbered and unencumbered assets, and off-balance sheet collateral (represented by median values of monthly data points in 2019), as required by Part Eight of CRD IV.

Table 55: Encumbered and Unencumbered 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**	**13,487**		**48,549**	
030	Equity instruments			199	
040	Debt securities	1,465	1,508	7,642	7,614
050	of which: covered bonds				
060	of which: asset-backed securities				
070	*of which: issued by general governments*	*1,435*	*1,476*	*7,428*	*7,452*
080	*of which: issued by financial corporations*	*22*	*14*	*55*	*56*
090	*of which: issued by non- financial corporations*	*9*	*10*	*127*	*122*
120	Other assets	12,089		40,873	

Table 56: 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**	1,846	1,913
140	Loans on demand		
150	Equity instruments		
160	Debt securities	**1,006**	**1,913**
170	*of which: covered bonds*	-	-
180	*of which: asset-backed securities*	-	-
190	*of which: issued by general governments*	*443*	*1,912*
200	*of which: issued by financial corporations*	*185*	-
210	*of which: issued by non-financial corporations*	-	-
220	Loans and advances other than loans on demand	-	-
230	Other collateral received	780	-
240	Own debt securities issued other than own covered bonds or ABSs	-	-
241	Own covered bonds and asset-backed securities issued and not yet pledged		448
250	**TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED**	**15,596**	

Table 57: Sources of encumbrance

€ 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	7,861	14,423
011	of which: central banks	2,250	3,899

More specifically, as at 31 December 2019, the Group and the Bank have the following main types of encumbrance for funding purposes mainly with the ECB, other central banks and FIs:

- trading and investment debt instruments,
- loans and advances to customers, and
- covered bonds backed with mortgage loans.

In addition to the items presented above, as at 31 December 2019, the Group and the Bank have pledged an amount of €317 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 €462 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. In the previous years, 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. NBG's dependence on Eurosystem funding at 31 December 2019 was €2.2 billion and remained unchanged from 31 December 2018 (compared to its peak of €27.6 billion in the second quarter of 2015). This funding is comprised of Targeted Long-term Refinancing Operations ("TLTROs") funding from the ECB, with the Bank as of 31 December 2019 enjoying a large liquidity buffer (see also Section 12).

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 organisation, 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 organisation 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 responsibilities of the HRRC include among others the following:

- formulating, reviewing regularly and monitoring the implementation of Group HR policies and practices , including ensuring that the Remuneration Policy is up to date and 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 and propose to the Board any amendments deemed necessary. Where periodic reviews reveal that the remuneration policies do not operate as intended or prescribed or where recommendations are made, the Remuneration Committee shall ensure that a remedial action plan is proposed, approved and timeously implemented,
- 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. To this end, the Committee shall receive and assess the reports submitted regularly by the Internal Audit Division, on the basis of which the Committee shall evaluate the remuneration system. 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,
- submitting proposals to the Board on the Group's aggregate level of bonuses as well as on the adoption of new, or amendment of old, longterm share-related incentive plans,
- reviewing and submitting proposals to the Board on the goals and objectives relevant to the performance evaluation of the CEO and evaluate the CEO performance in light of these goals and objectives, and evaluating the performance of the Bank's Senior Management (including positions from the level of Assistant/Deputy General Manager and above that level), with the exception of the performance evaluation of the Chief Audit Executive and the Chief Compliance Officer whose performance is evaluated by the Audit Committee and the Chief Risk Officer whose performance is evaluated by the Board Risk Committee.,
- submitting proposals to the Board regarding remuneration of Senior Management, upon proposal of the CEO, or of other positions that may be prescribed by the applicable regulatory framework or the Bank's Labor Regulation; and supervising the remuneration of the Chief Compliance Officer and the Chief Risk Officer, whose appointment and performance assessment is overseen by the Audit Committee in the case of the Chief Compliance Officer and by the Risk Committee in the case of the Chief Risk Officer, and being consulted by the Audit Committee as may be necessary in the Audit Committee's responsibility for approving the Chief Audit Executive remuneration.In fulfilling its duties, the Committee should pay particular attention to the impact of its decisions on the risk profile and management.

The Committee is governed by a Functioning Regulation (Charter), which has recently been reviewed. The Charter in force was approved by the Board on July 29th, 2019[3].

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 possesses adequate expertise, expertise and professional experience in risk management and audit activities mainly in alignment of remuneration policy with the risk and capital profile of the Bank. The Members of the Committee have collectively appropriate knowledge, expertise and professional experience concerning remuneration policies and practices, risk management and control activities, namely with regard to the mechanism for aligning the remuneration structure to the Bank's' risk and capital profiles. 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.

The Committee convenes at least four times a year and keeps minutes of its meetings.

Pursuant to Greek Law 3864/2010 and according to the provisions of the Relationship Framework Agreement between the Bank and the HFSF, the HFSF appointedMr. Periklis Drougkas 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 currently comprised of the following members:

Table 58: Board HRRC Members

Human Resources and Remuneration Committee	
Chair	Anne Marion – Bouchacourt
Member	Claude Piret
Member	Aikaterini Beritsi
Member	Elena-Ana Cernat
Member	Periklis Drougkas (HFSF representative)

Mr Periklis Drougkas has been appointed as the Representative of the Hellenic Financial Stability Fund on the Board of Directors as of July 23rd, 2018. 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 2019, the Committee convened twelve times. Its members receive compensation for their participation.
- During 2019, the Committee submitted proposals on contract terms of Bank's Senior Management of the Bank. Furthermore, the Committee's key workings included the renewal of the Bank's Labour Agreement (2019-2022), reviewal of Performance Management System, introduction of Balanced Scorecard Evaluation starting from the level of Chief Executive Officer and with targets cascaded down to C-2 level, oversight of a number of important Transformation Initiatives related to Human Resources issues, concerning the Bank's Human Resources management model and oversight of Voluntary Exit Scheme. The Committee submitted to the Board of Directors an Annual Report of its work, as per the provisions of its Charter.
- 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 covers all staff, including 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

[3] *It is noted that following the recent revisions of Board Committees Charters, as of 01.03.2019 proposals to the Board regarding the remuneration of Board members falls within the competence of the Corporate Governance and Nominations Committee.*

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 Bank of Greece Governor's Act 2577/2006, as amended by the Bank of Greece Executive Committee's Act 158/10.5.2019and 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 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.

The Bank monitors developments in the applicable framework, and in case there are further changes in the relevant EU framework or Bank of Greece Acts, including the developments on the upcoming transposition of Directive 878/2019/EU (CRD V)., as well as the EBA Guidelines and EBA Opinion on the application of the principle of proportionality to the remuneration provisions in Directive 2013/36/EU (EBA-Op-2016-20) and communication which has taken place in this respect among EBA and the EU, the Remuneration Policy shall be further revisited and where deemed appropriate adjusted in accordance with developments in the applicable framework.

14.4. Other relevant stakeholders/ Units

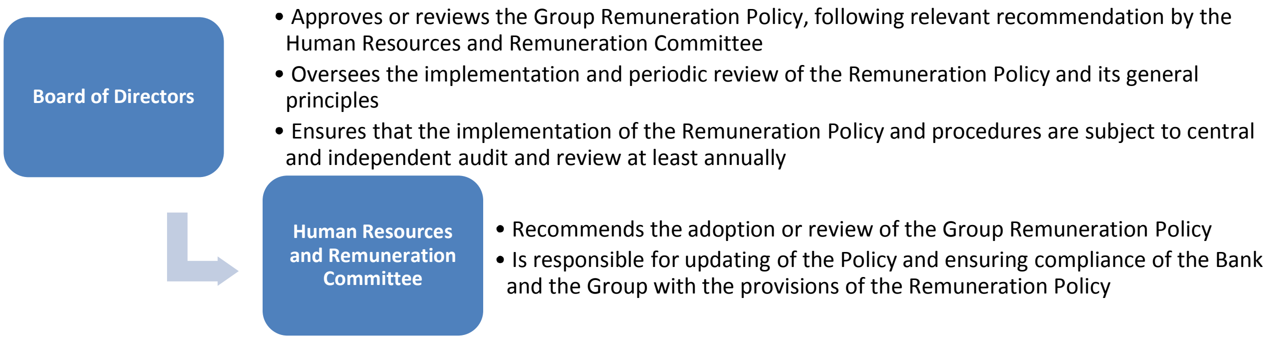
The Remuneration Policy is elaborated with the assistance of the Human Resources, Risk Management, Compliance and Corporate Governance Units, in accordance with their respective responsibilities. With the assistance of the aforementioned Units, the Policy is reassessed and reviewed. The implementation 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 2019 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:



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:

Figure 7: 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 2019.

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. To this end and in cases of ethical or compliance misconduct, the Human Resources and Remuneration Committee in cooperation with the Board Ethics and Culture Committee (established on July 2018), shall assess the need for ex post risk adjustment of remuneration, including the application of malus and clawback arrangements.

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 proposal of the HRRC upon proposal of the CEO, or of other positions that may be prescribed by the applicable regulatory framework or the Bank's Labor Regulation. 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, and within the approved by the Board relevant salary bands. In any case, remuneration of the General Managers and their deputies should not exceed the Bank of Greece Governor's remuneration. Any other type of additional remuneration (bonus) of the aforementioned persons is abolished for the period during which the institution participates in the Recapitalisation Plan of Greek Law 3864/2010.

The Committee shall ensure that the remuneration of internal control functions (e.g. risk management, internal audit, compliance, financial control) personnel should not be linked to the performance of the business units they control. The Committee supervises the remuneration of the Chief Compliance Officer and the Chief Risk Officer, whose appointment and performance assessment is overseen by the Audit Committee in the case of the Chief Compliance Officer and by the Risk Committee in the case of the Chief Risk Officer, and is consulted by the Audit Committee as may be necessary in the Audit Committee's responsibility for approving the Chief Audit Executive remuneration. The Committee shall make recommendations to the Board on the design of the remuneration package and amounts of remuneration to be paid to the senior staff members in the control functions.

14.10. Directors' Remuneration

In accordance with Greek Law 4548/2018 article 110, listed companies are required to establish a remuneration policy as regards directors and shareholders have the right to vote on the remuneration policy at the General Meeting. Within this context, the Board of Directors, following proposal of the Corporate Governance and Nominations Committee, submitted the NBG Directors' Remuneration Policy to the Annual General Meeting of Shareholders, which approved it on July 31st 2019. The Policy shall be applicable for a period of four years, unless revised earlier or in cases of temporary derogations, in alignment with the relevant applicable provisions. This proposal of the Bank's Board of Directors (non-executive members), following recommendation of the Corporate Governance and Nominations Committee, is formulated, in line with the current regulatory framework[4] 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. In any case, remuneration of the Chairman, the CEO as well as other members of the Board of Directors should not exceed the Bank of Greece Governor's remuneration. Any other type of additional remuneration (bonus) of the aforementioned persons is abolished for the period during which the institution participates in the Recapitalisation Plan of Greek Law 3864/2010.

More information on the NBG Directors' Remuneration Policy is available in the Bank's website (www.nbg.gr - section: The Group / Investor Relations/General Assemblies).

Remuneration of the Board's Chairman, the CEO and the Executive Board members is determined based on proposal by non-executive members of the Board[5].

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 is 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 does 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 Executive and non-executive Directors, as well as their remuneration in their capacity as members of the Bank's Board Committees (i.e. the Audit, Corporate Governance & Nominations, Human Resources & Remuneration, Risk Management, Strategy & Transformation, and Ethics & Culture Committees for the previous financial year, pursuant to Law 4548/2018 and determines their respective remuneration through to the next Annual General Meeting. It is noted that, according to the decision of the Annual General Meeting of 30 June 2017 the Chair of the Board of Directors and executives of the Bank do not receive remuneration as members of the Board of Directors and their remuneration is incorporated in their annual gross remuneration.

The remuneration received by the Chairman of the Board, the executive and non-executive Directors for the year 2019, 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, 2019, 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 2019, 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 NBG Directors' Remuneration Policy.

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[4] *It is noted that as of 1 January 2019, Greek Law 4548/2018 has entered into force, which replaces Codified Law 2190/1920.*

[5] *It is noted that following revision of Board Committees Charters, as of 01.03.2019 proposals to the Board regarding the remuneration of Board members falls within the competence of the Corporate Governance and Nominations Committee.*