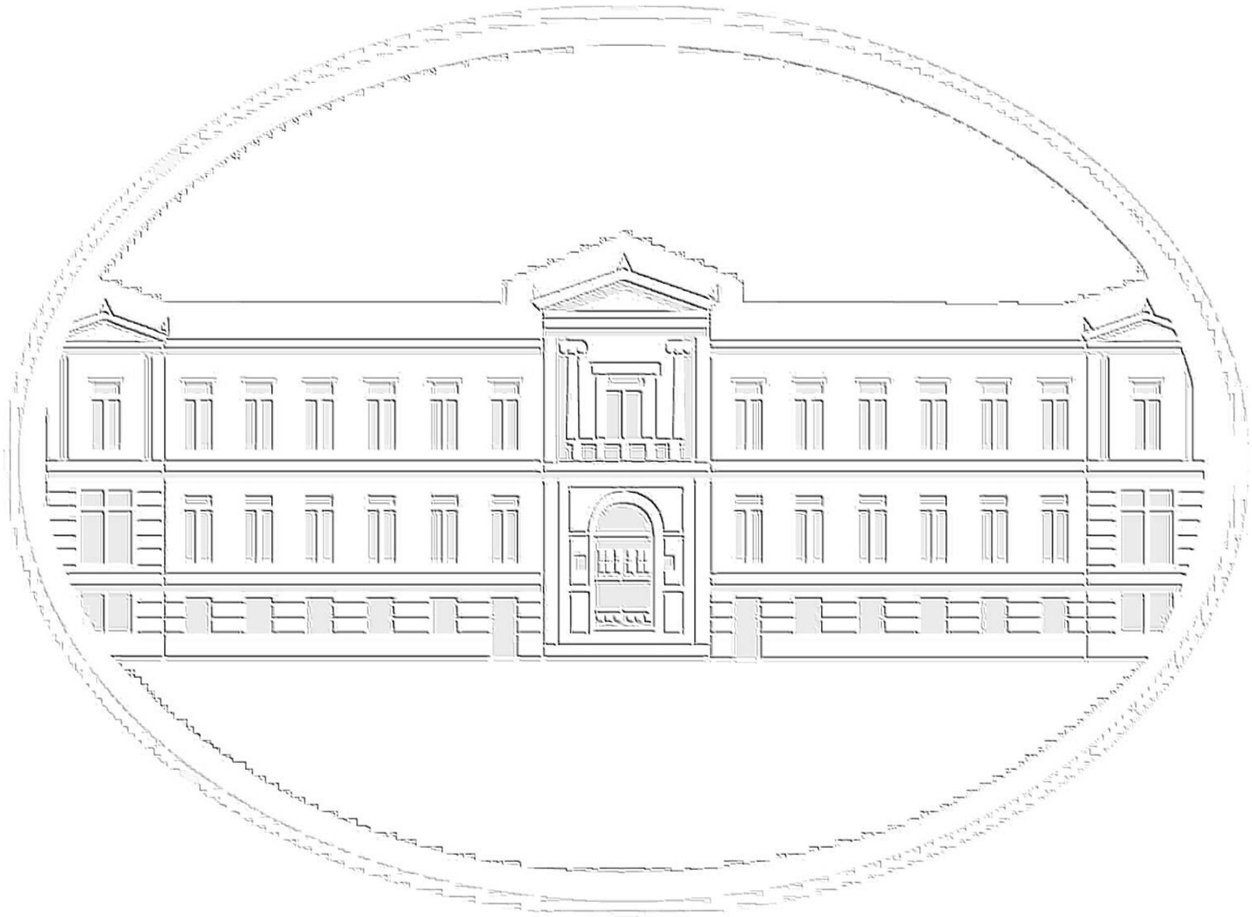
NATIONAL BANK OF GREECE S.A.



Pillar III Disclosures
on a Consolidated Basis

31 December 2016

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

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

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

1.1. Macroeconomic Environment

1.1.1. International background

The global economy continued to steadily recover in 2016, with real Gross Domestic Product ("GDP") increasing by 3.1% year-over-year ("y-o-y") in 2016, from 3.2% y-o-y in 2015.[1] The gradual transition of the Chinese economy toward a more sustainable, and lower, pace of growth continued (6.7% y-o-y in 2016, from 6.9% in 2015), albeit more mildly than expected due to sizeable policy stimulus. In the US, a weak first half, due to inventories consolidation and a significant reduction in business spending in the energy sector, weighed to full-year growth (real GDP decelerated to 1.6% y-o-y in 2016, from 2.6% in 2015). In the euro area, the economy continued to recover gradually as domestic demand found support from robust employment gains and improving bank credit conditions amid expansionary monetary policy by the ECB. For 2016, real GDP advanced by 1.7% y-o-y, from 2.0% y-o-y in 2015. Growth in Japan remained steady, supported by the gradual improvement in labour market, accommodative financial conditions and supportive fiscal policy, with real GDP increasing by 1.0% y-o-y in 2016, from 1.2% y-o-y in 2015.

Financial markets weathered many volatility episodes in the course of 2016 with reassuring resilience. January and February of 2016 saw a sudden surge in risk aversion, as the People's Bank of China allowed the renminbi to depreciate sharply against the USD. Furthermore, the result of the UK referendum in June also caught financial markets by surprise with global equities experiencing losses and government bond nominal yields falling significantly. Nevertheless, global equity prices in many advanced economies ended the year on a positive sign (S&P500: +9.5%, MSCI: 6.8% in 2016, S&P500: +6.7%, MSCI: +8.9% in second half of 2016) and high-rated nominal sovereign bond yields (US Treasury 10-Year Yield: +97 bps to 2.45%, German 10-Year Bund Yield: +34 bps to 0.21%) increased materially in the second half of 2016 due to higher expectations linked with probable fiscal stimulus under the new US Administration and accommodative central bank policies. Global corporate credit spreads, both Investment Grade and High Yield, narrowed compared with end-2015 as global recession risks have subsidised and investors' search for yield continued. Since the beginning of 2017, global equities have increased further (MSCI: +5.5%), while nominal government bond yields in major advanced economies have risen (US Treasury 10-Year Yield: +5 bps to 2.49%, German 10-Year Bund Yield: +21 bps to 0.42%).

Monetary policies in advanced economies remain accommodative. The US Federal Reserve increased the target for the federal funds interest rate by 25 bps to 0.50%-0.75% in December 2016 and by another 25 bps to 0.75%-1.00% in March 2017, communicating a gradual and data-dependent tightening path going forward and expecting (as of March 2017) two additional rate increases by end-2017 to 1.50%. Moreover, the Fed will continue, at least in the first half of 2017, the policy of reinvesting principal payments and to roll-over maturing Treasuries ($1.7 tn) and agency mortgage backed securities ($1.7 tn) thus maintaining an accommodative monetary policy stance. The ECB, amid heightened deflationary pressures, cut its main refinancing rate by 5 bps to 0.0%, its marginal lending facility rate by 5 bps to 0.25% and its deposit rate by 10 bps to -0.4% in March 2016. At the same time, the ECB announced a new series of four targeted long-term refinancing operations ("TLTROs") conducted quarterly between June 2016 and March 2017 with a 4-year maturity in order to revive bank lending toward the private sector (excluding mortgages). In addition, the ECB decided to expand its monthly purchases under the asset purchase program by €20 bn to €80 bn, until March 2017, and to include in its purchases investment grade euro denominated bonds issued by non-bank corporations. In December 2016, the ECB extended its asset purchase program by another 9 months (until at least December 2017), albeit at a reduced monthly pace of €60 bn effectively from April 2017, as deflationary concerns have subsided. In March 2017, the ECB announced that the targeted long-term refinancing operations ("TLTROs") were to expire, as scheduled, at the end of the month. Finally, the Bank of Japan, in January 2016, cut interest rates into negative territory and continues the aggressive expansion of its balance sheet mainly through purchases of Japanese Government bonds at an annual pace of JPY 80tn and equity exchange-traded funds' purchases of JPY6 tn per annum.

[1] IMF World Economic Outlook, January 2017.

1.1.2. South Eastern Europe

The fundamentals and performance of the economies and the banking sectors of SEE-5 improved on a large scale in 2016. Indeed, economic activity gained momentum, inflation retreated, fiscal consolidation continued and banking sector profitability strengthened, while the current account deteriorated yet to still manageable levels.

Real GDP growth accelerated to a post-global crisis high of 4.1% in 2016 from 3.3% a year earlier,[2] despite a tighter fiscal stance (the fiscal deficit narrowed to 1.6% of GDP in 2016 from 2.2% a year earlier)[3]. The acceleration was supported by private consumption and exports. Stronger real disposable income, reflecting, *inter alia*, large VAT cuts in Romania (the largest economy in SEE-5, accounting for ca. 62.0% of GDP), improving labour market conditions, deepening deflation (average inflation declined to -0.9% in 2016 from -0.1% a year earlier),[4] combined with a more accommodative monetary policy and favourable global oil prices, boosted private consumption. Strong external demand, mainly from the recovering economies of the European Union – SEE-5's major trading partner – underpinned exports.

On a negative note, despite favourable global oil prices (the average price of the Brent Barrel declined by 15.7% to €40.7 in 2016[5]), the current account deficit widened slightly to 2.0% of GDP in 2016 from 1.8% a year earlier, reflecting the rebound in domestic demand. This negative development is not, however, a cause for concern, as the deficit remained at manageable levels – well below the pre-global financial crisis range of 15%-17% of GDP – and the quality of its financing was sound. Indeed, non-debt generating foreign direct investments continued to more than cover the current account deficit for the third year in a row (144.0% in 2016).

Amid a favourable operating environment, the fundamentals and the performance of the SEE-5 banking sector also improved in 2016. Indeed, the bottom line is estimated to have increased to around €2.0 bn in 2016 from €1.8 bn a year earlier.[4] This performance was underpinned by lower provisions for bad loans, in line with the moderation of the ratio of problematic loans to total gross loans (ranging between 6.6% in FYROM and 18.3% in Albania in December 2016 versus 10.8% in FYROM and 21.6% in Serbia in the same month a year earlier).[6] Moreover, the capital adequacy ratio improved further (ranging between 15.2% in FYROM and 22.2% in Bulgaria in December 2016 versus 15.5% in FYROM and 22.2% in Bulgaria in the same month a year ago).[5] The improved asset quality and solvency bode well for a strong rebound in lending activity in the near future, in view of the region's low penetration rate (loan-to-GDP ratios ranged between 28.3% in Romania and 53.0% in Bulgaria in December 2016)[5], especially in the retail segment (retail lending-to-GDP ratios ranged between 11.2% in Albania and 22.1% in FYROM in December 2016)[4] and adequate liquidity (the SEE-5 average loan-to-deposit ratio eased further to 84.0% in December 2016 from 89.9% in the same month a year earlier – well below its pre-global financial crisis high of 133.7%).[7]

For 2017, despite strong external headwinds, the fundamentals and performance of the economies and the banking sectors of SEE-5 are expected to remain strong. There are, however, downside risks to this positive outlook, stemming from: (i) tighter-than-expected global liquidity conditions, as further policy rate adjustment by the Fed might be on the agenda if growth and inflation pick up in response to the fiscal policies under Trump administration; (ii) weaker-than-expected economic activity in the region's main trading, investing and financing partner – the euro area – in the event of increased protectionism by the new US administration and/or protracting political uncertainty following this year's elections in the Netherlands (March), France (May and June) and Germany (September); and (iii) renewed domestic political uncertainty and subsequently policy slippage, due to a heavy election calendar (legislative elections in Albania, Bulgaria and FYROM and presidential elections in Albania and Serbia will take place in the first half of this year).

1.1.3. Greece

The Greek economy showed remarkable resilience to a combination of adverse shocks in 2015 and stabilised in 2016 (annual changes in GDP of -0.3% and 0.0%, respectively, in constant prices according to the 2nd estimate of GDP data for 2016 by ELSTAT, March 2017).

In FY2016, it performed significantly better than the official and private forecasts published in 9M:2016 (projections of an annual change in GDP of -0.3%), despite the still challenging macroeconomic conditions that included:

i. a negative carry of -0.3pcp on GDP growth in 2016;

ii. a higher-than-expected fiscal drag of about -1.5% of GDP related to a prospective fiscal overperformance in 2016. EU Commission projects a primary surplus in general government budget of, at least, 2% of GDP in FY2016, versus a program target of 0.5% of GDP.

iii. a slower-than-initially-estimated improvement in liquidity conditions reflecting, inter alia, the delayed completion of the 1st Program review (June 2016), the deferral of the 2nd review for 2017 and a continuing shrinkage in private capital and liquidity inflows to the economy (partly reflecting an under invoicing of Greek-firms' incomes generated abroad, due to capital controls). Moreover, headline tourism figures (obtained from balance of payments and arrivals data derived from the BoG's border survey) suggest that the support to economic growth from this sector in 2016 was relatively lower than in 2015. However, these data are likely to underestimate the effective economic contribution of this sector due to structural changes in external demand, and

[2] Source: National Statistical Agencies of the related countries, processed by NBG

[3] Source: Ministries of Finance of the related countries, processed by NBG

[4] Source: Central Banks of the related countries, processed by NBG

[5] Source: Reuters.

[6] Source: Central Banks of the related countries

[7] Source: Central Banks of the related countries, processed by NBG

payment/booking methods (e.g. on-line hiring of private residences, prepayment of tourism services packages). The negative impact of capital controls on capital inflows is estimated to have been offset – in macroeconomic terms -- by a positive impact of increasing cashless payments on registered activity in the formal sector of the economy and a concomitant increase in government revenue.

The completion of the first review of the Third program in June 2016 contributed to a significant improvement in business sentiment, which was supported by the inflows of the Third Program funding of €10.3 bn between June and October 2016, of which €3.5 bn have been used for the clearance of government arrears to the private sector.[8] Moreover, increasing cashless payments supported a further shift of previously unregistered economic activity to the official economy and along with increasing employment and stabilising wages supported consumer spending (+1.4% y-o-y in FY2016). The Greek labor market showed remarkable resilience to the relatively weak GDP trends, with employment expanding by a solid +2.0% y-o-y, on average, in 2015 and by +2.1% y-o-y, on average, in 2016 and the unemployment rate declining to a four-year low of 23.1% in December 2016 from 24.9% in June 2015 and 24.1% in December 2015.[9]

Gross fixed capital formation also stabilised following a cumulative contraction of 63.1% in 2008-2015 (+0.0% y-o-y in FY2016), with non-residential investment increasing slightly by +0.9% y-o-y in FY2016 and residential construction declining further.[10] Notably, manufacturing production increased by 4.2% y-o-y in FY:2016, the largest expansion since 2007, on the back of solid production growth in export-oriented sectors. In this vein, conjunctural and forward-looking indicators of business activity recorded a significant improvement over the course of 2016 that continued in the first months of 2017. Similarly, deflation pressures receded, with the GDP deflator increasing by 0.1% y-o-y in FY:2016 following an annual average decline of 1.5% y-o-y in 2012-2015.[11] Finally, downside pressures on house prices eased considerably during 2016[12] and prices for retail & office space stabilized in the first semester of 2016 (latest available data).

1.1.4. Competitive environment

The Greek banking system remained in deleveraging mode during 2016, with lending to private sector contracting further, albeit, at a slightly slower pace compared with end-2015 (-1.4% y-o-y in December 2016 opposed to -2.0% y-o-y in December 2015), with loans to households declining by 2.8% y-o-y in December 2016 (compared with -3.1% y-o-y in December 2015). Corporate credit has shown signs of stabilisation in 2016 (+0.1% y-o-y in December 2016 compared with a decline of -0.7% y-o-y in June 2016 and of -1.2% y-o-y in December 2015). The pace, however, of deleveraging re-accelerated in January 2017 (-1.6% y-o-y), mainly due to a deterioration in credit provision to corporations (-0.4% y-o-y).

Private sector deposits increased by €4.2 bn, cumulatively in 2016, with household deposits increasing by €2.6 bn and corporate deposits by €1.6 bn, reflecting, *inter alia*, the improvement of the economic sentiment and concomitant decline in private sector's holdings of euro notes from the historical highs of 2015. Private sector deposits, however, declined by €1.7 bn in January 2017, mainly due to withdrawals of the once-off grant disbursed to low-income pensioners in end of December 2016, as well as due to negative seasonality concerning mainly corporate deposits.[13]

Accordingly, the Greek banking system's financing from the Eurosystem decreased to €61.9 bn in February 2017 and by €64.7 bn cumulatively since June 2015, with the Emergency Liquidity Assistance ("ELA") dependence contracting by €43.6 bn in this period,[13] also assisted by the reinstatement by the ECB of the waiver on minimum credit rating requirements for marketable instruments issued or guaranteed by the Hellenic Republic, since June 2016.[14] It should be noted, however, that the ELA dependence increased by €0.3 bn on a monthly basis between January and February 2017[13] for the first time since April 2016 possibly indicating a considerable slowing in the pace of improvement of Greek banks' gross funding position in the first months of 2017.

1.2. Recent Regulatory Developments

1.2.1. Banking Union

The Main Pillars

During 2016, several steps were made towards the European Banking Union (mandatory for all euro area states). The following are the Banking Union's constituent elements:

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

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[8] Source: ESM, June 2016 and October 2016.

[9] Source: EL.STAT

[10] -12.6% y-o-y in FY2016 according to the relevant national accounts data. Source: EL.STAT

[11] Source: EL.STAT

[12] -0.6% y-o-y in 4Q2016 vs -1.5% y-o-y in 3Q2016, with the FY2016 decline at -2.3%. Source: Bank of Greece

[13] Source: Bank of Greece

[14] Source: ECB

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 of "*establishing a framework for the recovery and resolution of credit institutions and investment firms*", transposed into Greek legislation by virtue of article 2 of Law 4335/2015.

These three documents are complemented by numerous Implementing Technical Standards (ITS), Regulatory Technical Standards (RTS), Guidelines (GL) and Recommendations issued by the European Banking Authority (EBA), which specify particular aspects of the CRD IV, the CRR and the BRRD and aim at ensuring consistent 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 CRR constitute the "Basel III" regulatory framework in the EU.

D. ***Deposit Guarantee Schemes (DGSD)***: Directive 2014/49/EU of the European Parliament and Council "*on deposit guarantee schemes*", transposed into Greek legislation by virtue of Law 4370/2016. Additionally, as a further step to a fully-fledged Banking Union, the European Commission put forward in November 2015 a proposal to the European Parliament and the Council for a ***European Deposit Insurance Scheme (EDIS)***, which would provide a stronger and more uniform degree of insurance cover for all retail depositors. This proposal is still being debated.

The Single Resolution Mechanism

The SRM became fully operational on 1 January 2016. The full resolution powers of the SRB also apply as of this date. The SRM works as follows:

- The SSM, as the supervisor, would signal when a bank in the euro area or established in a Member State participating in the Banking Union is in severe financial difficulties and needs to be resolved.
- The SRB, consisting of representatives from the relevant national authorities, the SSM and the EC, will carry out specific tasks to prepare for and carry out the resolution of a bank that is failing or likely to fail. The SRB decides whether and when to place a bank into resolution and sets out, in the resolution scheme, a framework for the use of resolution tools and the Single Resolution Fund (SRF).
- The resolution scheme can then be approved or rejected by the EC or, in certain circumstances, by the Council within 24 hours.
- Under the supervision of the SRB, national resolution authorities will be in charge of the execution of the resolution scheme.
- The SRB oversees the resolution. It monitors the execution at national level by the national resolution authorities and, should a national resolution authority not comply with its decision, directly addresses executive orders to the troubled banks.
- An SRF is set up under the control of the SRB to ensure the availability of funding support while the bank is resolved. It is funded by contributions from the banking sector. The SRF can only contribute to resolution if at least 8% of the total liabilities of the bank have already been bailed-in.

EU authorities believe that the SRM will bolster the resilience of the financial system and help avoid future crises by providing for the timely and effective resolution of cross-border and domestic banks.

The European Commission proposals: CRR2/CRD5/BRRD2

On 23 November 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 as the first step in the EU legislative process. A negotiation period of approximately one year is expected before a final text is agreed.

According to the EC, the proposals will increase the resilience of EU institutions and enhance financial stability, improve banks' lending capacity to support the EU economy and further facilitate the role of banks in achieving deeper and more liquid EU capital markets to support the creation of a Capital Markets Union.

The proposals include the following:

- Implementation of the Total Loss Absorption Capacity standard (TLAC), a requirement for Global Systemically Important Institutions (G-SIIs) to hold minimum levels of capital and other instruments which bear losses in resolution. This requirement will be integrated into the existing Minimum Requirement for own funds and Eligible Liabilities system (MREL – see next section), applicable to all EU banks.
- A binding Leverage Ratio requirement of 3% of Tier 1 capital to prevent institutions from excessive leverage.
- A binding Net Stable Funding Ratio (NSFR) to address the excessive reliance on short-term wholesale funding and to reduce long-term funding risk.
- The capital taken into account to calculate the already existing Large Exposures limit is limited to Tier 1 capital.
- Implementation of new Basel Committee on Banking Supervision (BCBS) standards regarding the treatment of Market Risk, known as "the Fundamental Review of the Trading Book" (FRTB – see relevant paragraphs in Section 1.2.7) . The revised market risk framework is proposed to apply two years after publication of the new Regulation and to be phased-in afterwards.
- Implementation of new Basel standards (a) on the treatment of equity investments in funds, (b) for the Standardised Approach for Counterparty Credit Risk and (c) on the treatment of exposures to central counterparties.
- Phasing in the new incremental provisioning requirements for credit risk under IFRS9 standard over a period starting on 1/1/2019 and ending on 31/12/2023 to mitigate the financial impact on institutions (see Section 1.2.6).
- Capital requirement reduction for SMEs with exposures exceeding €1.5mio.
- Preferential treatment to Specialised Lending exposures aiming at funding safe and sound infrastructure projects.
- Institution-specific Pillar 2 additional capital requirements are divided into two parts, Pillar 2 Requirement (P2R) and Pillar 2 Guidance (P2G), and the relevant conditions and consequences are clarified.
- A common standardised approach for interest rate risk in the banking book (IRRBB) is introduced, that institutions might use or that competent authorities may require the institution to use when the systems developed by the institution to capture these risks are deemed unsatisfactory.

Minimum Requirement for own funds and Eligible Liabilities

The BRRD requires that relevant resolution authorities, namely the SRB and the National Resolution Authorities, draft resolution plans for banks, outlining options for applying resolution tools and powers. The resolution plans should also include a minimum requirement for own funds and eligible liabilities (MREL). The purpose of MREL is to ensure that banks hold sufficient amounts of regulatory capital instruments and high-quality 'bail-in-able' liabilities that could be readily used to absorb losses and to recapitalise the bank once it emerges from a resolution. This helps to ensure that, once banks get into financial difficulties, the costs of their rescue are shouldered by their owners and creditors rather than tax payers.

MREL is not a common regulatory standard but more a Pillar 2 instrument, driven by the risk and resolvability profiles of each institution. As specified in the BRRD, resolution authorities consider a list of criteria when determining MREL, such as bank's size, funding model, risk profile and the need to ensure that the bank is recapitalised appropriately post-resolution, but they have discretion on the minimum level on MREL and, to a lesser degree, on the composition of MREL that is appropriate for each bank.

Although a final MREL methodology was not available in 2016, the SRM Regulation (Regulation (EU) No 806/2014) required the SRB to determine MREL for entities and groups that are under the direct supervision of the ECB. Therefore, together with the national resolution authorities, the SRB adopted a preliminary approach towards informative MREL targets in 2016. These informative MREL levels were communicated to 65 major banking groups at consolidated level and were (officially) non-binding, non-enforceable and, most importantly, non-challengeable. They aimed to help banks prepare for future targets and gradually adapt their structure and funding plans, where necessary.

The SRB's informative MREL targets were based on the Commission *Delegated Regulation (EU) 2016/1450* default formula:

i. a default loss absorbing amount (LAA) that consists of the higher of:
    a. the aggregate of a bank's minimum capital requirement (Pillar 1), its Pillar 2 requirement and its fully-loaded combined buffer requirement; or
    b. the amount that is required to meet the Basel 1 floor;
ii. a recapitalisation amount (RCA) that consists of the higher of:
    a. a bank's minimum capital requirement (Pillar 1) and Pillar 2 requirement; or
    b. an amount that is required to meet the Basel 1 floor.

The above were complemented by a market confidence charge (MCC) set for 2016 at the level of the fully-loaded combined buffer requirement less 125 basis points.

In addition, the SRB developed a dedicated data template ("Liability Data Template"), including key information on the quantum and the composition of bail-in-able instruments, as well as information on final liability holders, and requested banks to complete it on a best efforts basis. NBG took part in the exercise and produced timely results regarding its eligible liabilities.

During 2017 the SRB intends to develop its MREL policy and set binding MREL targets for the most systemic banking groups in the Banking Union, in combination with appropriate transition periods. During the transition period, once defined, the SRB does not intend to publish its individual decisions on MREL targets, but may require banks to disclose the composition of their MREL eligible instruments. SRB's future MREL targets will consider bank-specific features, departing from the default targets used in 2017.

1.2.2. Basel Committee on Banking Supervision

"Basel 4"

The Group of Central Bank Governors and Heads of Supervision (GHOS), the oversight body of the BCBS, announced on January 3rd, 2017 that more time was needed to conclude the revision of the Basel 3 framework, also known in the industry as "Basel 4", including ensuring the framework's final calibration. More recently (March 2017), the BCBS Chairman stated that further progress was made towards an agreement and differences, where they still remained, had narrowed.

"Basel 4" refers to the review of the current capital framework which the BCBS started in 2013 with the aim of increasing simplicity, risk-sensitivity and comparability of capital ratios across banks and jurisdictions. This review was targeted at both the standardised and internal model approaches for the main risks incurred by banks: credit risk, market risk and operational risk. The BCBS intended to finish this revision by end-2016 and have it endorsed by the GHOS on early January this year.

The main items that were expected to be approved by the GHOS include:

- A ***revised standardised approach (SA) for credit risk*** ("*BCBS: Revisions to the SA for credit risk*", 2nd consultative document, December 2015), aimed at increasing risk sensitivity of risk-weighted exposure amounts (RWAs). The industry welcomed the initiative although concerns remain regarding calibration and risk sensitivity, given that the new SA will be the base for the capital output floor (see relevant point in the next paragraphs).
- A ***revised internal models approach for credit risk*** ("*BCBS: Reducing variation in credit risk-weighted assets – constraints on the use of internal model approaches*", consultative document, March 2016). Internal models are seen as one of the main sources of variability in RWAs and the BCBS is searching to limit their use. It proposes altering the Internal Ratings Based approach (IRB) in two ways: (a) restricting the use of internal models for certain exposures that would necessarily need to migrate to less advanced methods, and (b) setting floors to risk parameters, with many scenarios being examined.
- A ***new framework for operational risk*** ("*BCBS: Standardised Measurement Approach for Operational Risk*", consultative document, March 2016). The proposed approach aims at combining in one single method the simplicity and comparability that is associated with the standard approaches with the risk-sensitivity that comes with the use of internal models. This new "SMA" is designed to substitute all current methods, including the Advanced Measurement Approach (AMA). Despite the efforts of the BCBS to combine comparability and simplicity with risk sensitivity, the latter is still a key issue for the industry together with the transitional period toward the new SMA.
- A ***capital output floor*** ("*BCBS: Standards - Capital Floors: The design of a framework based on standardised approaches*", consultative document, December 2014). This capital floor, aimed at increasing the comparability of capital ratios and mitigating model risk, would be based on the revised SA for credit risk and substitute the current Basel I floor. The floor would set a lower bound for the capital requirements stemming from internal models for credit risk, thereby limiting the risk-sensitivity of these models and also the capital savings that banks can achieve with their use. The introduction of this measure has been extensively criticised by the industry, especially in Europe, given that European banks traditionally rely more on internal models to calculate their capital requirements than their foreign counterparts.

During 2016, the BCBS conducted two Quantitative Impact Studies (QIS) – one accompanying its regular "Basel III monitoring exercise" and the other "ad-hoc" – in order to monitor the impact of its proposed changes in the SA and in the IRB approach for credit risk. NBG participated in both exercises and produced timely results regarding its SA and its IRB portfolios.

Leverage Ratio

At its meeting in January 2016, the GHOS discussed the final design and calibration of the leverage ratio (LR), adopting important decisions:

i. the LR should be based on a Tier 1 definition of capital (discarding the use of CET1),
ii. it should comprise a **minimum level of 3%**,
iii. additional requirements for G-SIBs were discussed, and
iv. the calibration would be finalised in 2016 to allow sufficient time for the leverage ratio to be implemented as a Pillar 1 measure by 1 January 2018.

Following the January decision of the GHOS, in April 2016 the Committee released a consultation document ("*Consultative Document: Revisions to the Basel III leverage ratio framework*", April 2016) with proposed revisions to the Basel III leverage ratio framework informed by the monitoring process, by market feedback and by the ongoing Q&As process. Among the issues subject to revision are the measurement of derivative exposures, the treatment of unsettled purchases/sales of financial assets, revision of credit-conversion factors for off-balance sheet items and additional requirements for G-SIBs. However, current disclosures of the LR, which are based on the 2014 standards, are not going to be affected until 2018 when the new framework enters into force.

Sovereign Risk

A significant review of the prudential treatment of sovereign risk has started at a global level, as a result of which it may lose its preferential treatment of zero risk weight under certain conditions. In 2012, the BCBS highlighted sovereign exposures as a cause for variability in risk weights across banks. Lately, the Committee has included in its work programme for 2015 and 2016 the review of the regulatory treatment of sovereign exposures and, though it is working on the issue for over two years, no formal outcome has yet been presented.

The current regulatory framework grants sovereign exposures a beneficial treatment both for credit risk (with a 0% risk weight in the standardised approach for sovereigns meeting certain requirements and, in the EU, also through the so called "permanent partial use" when using internal models) and for Large Exposure limits, exempting those sovereigns assigned a 0% risk weight.

Given that relevant discussions in the BCBS are still ongoing, the EU Council announced last June it will await the outcomes before considering possible next steps in the European context ("*Council Conclusions on a roadmap to complete the Banking Union*", 17 June 2016).

Interest Rate Risk in the Banking Book (IRRBB)

In April 2016, the BCBS published its new standards for IRRBB, revising the Committee's 2004 Principles for the management and supervision of interest rate risk, which set out supervisory expectations for banks' identification, measurement, monitoring and control of IRRBB as well as its supervision.

The key enhancements include:

- More extensive guidance on the expectations for a bank's IRRBB management process in areas such as the development of shock and stress scenarios as well as key behavioural and modelling assumptions to be considered by banks in their measurement of IRRBB;
- Enhanced disclosure requirements to promote greater consistency, transparency and comparability in the measurement and management of IRRBB; this includes quantitative disclosure requirements based on common interest rate shock scenarios.
- An updated standardised framework, which supervisors *could mandate* their banks to follow or banks *could choose* to adopt; and
- A stricter threshold for identifying outlier banks (down from 20% of a bank's total capital to 15% of the bank's Tier 1 capital). In addition, interest rate risk exposure is measured by the maximum change in the economic value of equity under the prescribed interest rate shock scenarios.

The revised standards, published for consultation in June 2015, are expected to be implemented by 2018.

1.2.3. ECB Banking Supervision

Options and Discretions

One purpose of the CRR and the CRD IV was to address the issue of national options and discretions in prudential regulation inherited from the previous frameworks so as to achieve a "single rulebook" for all banks in the EU. However CRR and CRD IV still contain a large number of national options and discretions (over 150, according to the ECB assessment).

In March 2016, the ECB published Regulation (EU) 2016/445 of the European Central Bank on the *Exercise of Options and Discretions Available in Union Law* (ECB/2016/4). Therein, ECB specifies certain of the options and discretions conferred on competent authorities under CRR/CRD IV that the ECB is exercising, i.e. with regard to those institutions of the eurozone classified as significant. For NBG Group, the most important requirement of this Regulation was the application of the "**more than 90 days past due**" standard for the default definition on the mortgage portfolio under the IRB approach, instead of the "*more than 180 days past due*" applied previously (Article 4). NBG applied the "more than 90 days past due" standard for each IRB mortgage portfolio on 31 December 2016 in accordance with the regulation.

At the same time, the ECB published its *Guide on options and discretions available in Union Law*, and later on (August 2016) an Addendum to this Guide. The Guide sets out the general aspects which will be taken into account by the ECB in determining the prudential requirements for significant institutions and will be used as a guidance by the Joint Supervisory Teams (JSTs) when assessing individual requests and/or decisions that would involve the exercise of an option or discretion.

ECB guidance on NPLs

In September 2016, the ECB launched for public consultation its *Draft guidance to banks on non-performing loans* (NPLs) with the final version published on March 20th, 2017. Though, this guidance is officially non-binding in nature, banks should explain and substantiate any deviations upon supervisory request.

The guidance recommends that banks with a high level of NPLs establish a clear strategy aligned with their business plan and risk management framework to effectively manage and ultimately reduce their NPL stock in a credible, feasible and timely manner. The strategy should include the setting of quantitative targets by portfolio and a detailed implementation plan. The guidance urges banks to put in place appropriate governance and operations structures to deliver effective NPL workouts.

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

Targeted Review of Internal Models (TRIM)

In recent years the use of internal models to determine regulatory capital requirements has become more and more controversial as internal models have become increasingly complex, but also because a number of benchmarking studies have highlighted inconsistencies as well as high variability in the capital requirements calculated by different banks' models.

Considering the above, the ECB has decided to perform a TRIM for credit risk, market risk and counterparty credit risk. The objective is twofold: (a) to reduce the unwarranted variability in RWAs by harmonising practices and (b) to check compliance with the regulatory requirements related to Pillar 1 internal models. The review will cover a number of qualitative and quantitative criteria.[15] TRIM was launched in late 2015 and is expected to be finalised in 2019. All 68 significant institutions of the eurozone with approved Pillar 1 internal models are in scope.

During 2016, TRIM was in its preparatory phase: NBG participated by filling detailed ECB questionnaires with qualitative and quantitative questions regarding its credit risk and market risk models, accompanied with evidence in the form of specific documentation to support every answer. A two day on-site supervisory visit followed in early 2017.

In 2017, the TRIM enters its execution phase with on-site investigations of selected models and follow up processes. NBG models to be investigated in 2017 are: (a) the **internal model for market risk** and (b) the **internal model for credit risk of** the exposure class "**Retail – Secured by real estate non-SME**" (mortgage portfolio).

Directly after the TRIM investigations, institutions will be asked to address compliance gaps with respect to regulatory requirements and, as a second step, they may also be asked to address additional shortcomings versus supervisory expectations. Finally, decisions asking banks to address any remaining shortcomings will be sent based on results of peer reviews (level playing field). ECB has stated that sufficient time will be granted to institutions to adjust, especially if expectations differ from past national standards.

Pillar 2: ICAAP / ILAAP

Supervisory authorities review Internal Capital Adequacy assessment Process (ICAAP) and the Internal Liquidity Adequacy Assessment Process (ILAAP) as part of the supervisory review and evaluation process (SREP) performed in accordance with Article 97 of Directive 2013/36/EU and in accordance with the relevant EBA Guidelines on common procedures and methodologies (*SREP Guidelines, EBA/GL/2014/13*).

Regarding ICAAP and ILAAP:

- In November 2016, after public consultation, the EBA published its *Final Report on the guidelines on ICAAP and ILAAP information collected for SREP purposes (EBA/GL/2016/10)* that apply from 1 January 2017. These refrain from setting specific ICAAP/ILAAP requirements, recognising that **it is the institution's responsibility to determine and apply appropriate approaches to ICAAP and ILAAP** that are in accordance with the requirements set out in CRD IV. Rather, they facilitate a consistent approach to the assessment of institutions' ICAAP and ILAAP under the SREP by specifying what information regarding ICAAP and ILAAP competent authorities should collect from the institutions in order to perform their assessments.
- In January 2016, the ECB communicated to the management of significant banks its ***Supervisory expectations on ICAAP and ILAAP and harmonised information collection on ICAAP and ILAAP***. The document aims to encourage institutions to develop and maintain high-quality ICAAPs and ILAAPs, and to clarify the type of information they should share with the SSM on these, given that the experience of 2015 revealed that the information submitted by significant institutions on their ICAAPs and ILAAPs was often not in line with SSM expectations (partly reflecting a wide range of practices within SSM countries so far, according to the ECB).
- In February 2017, the ECB took a further step in guiding banks, as far as possible, in the areas it will focus during its SREP: it issued a *Multi-year plan on SSM Guides on ICAAP and ILAAP*, asking for banks' feedback. The necessity for this multi-year plan arose because of the fundamental importance ICAAP and ILAAP play in managing capital and liquidity in significant institutions. Moreover, the 2016 SREP experience showed there are still several areas in which improvements are necessary across banks and it will take time to arrive at an adequate level.

Pillar 2: Supervisory Review and Evaluation Process

The SREP[16] 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. Supervisors can use the SREP to decide that additional Pillar 2 required capital is needed, as a new minimum, where Pillar 1 does not capture the risks adequately. In addition, supervisors review whether banks are able to meet relevant capital requirements also in adverse economic circumstances. Stress tests are a key component of this latter assessment.

[15] For example, regarding market risk it will mainly focus on the existence of adequate policies and procedures, the reconciliation of the Trading Book's P&L, as calculated by the respective units of the bank, the existence of an independent validation unit for pricing functions and models, etc.

[16] As laid down in Art. 97 et seq. of CRD IV, its main inputs are: (i) the business model assessment, (ii) the governance and risk management assessment, (iii) the assessment of risks to capital (incl. ICAAP) and (iv) the assessment of risks to liquidity and funding (incl. ILAAP).

During 2016 supervisors at ECB and in 19 countries jointly conducted SREP for SSM significant institutions through a common methodology and a common decision-making process for the second time.[17] The aggregate capital demand for 2017 for the (ECB) directly supervised banks remained comparable to 2016 – at an average and median of around 10% Common Equity Tier 1 (CET1).

The most notable SREP development this year has been the breaking up of the capital demand resulting from the SREP in two parts: one is the "Pillar 2 requirement" or **P2R**, which covers risks underestimated or not covered by Pillar 1. The other is the "Pillar 2 guidance" or **P2G**, which indicates the adequate level of capital to be maintained in order to have sufficient capital as a buffer to withstand stressed situations, in particular as assessed on the basis of the adverse scenario in the supervisory stress tests.

According to the EBA[18], the P2G sits on top of the so-called *combined buffer requirements*.[19] This means that if a bank violates P2G, there will be no automatic restrictions imposed on distributions such as dividends and bonuses. Instead, supervisors will carefully consider the reasons and circumstances and may define individually tailored supervisory measures. Should the bank's capital supply not improve and the bank not be able to restore its capital buffer, or even if it declined further, leading to a breach of the combined buffers, automatic restrictions could be imposed on the bank's distributable amount.

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

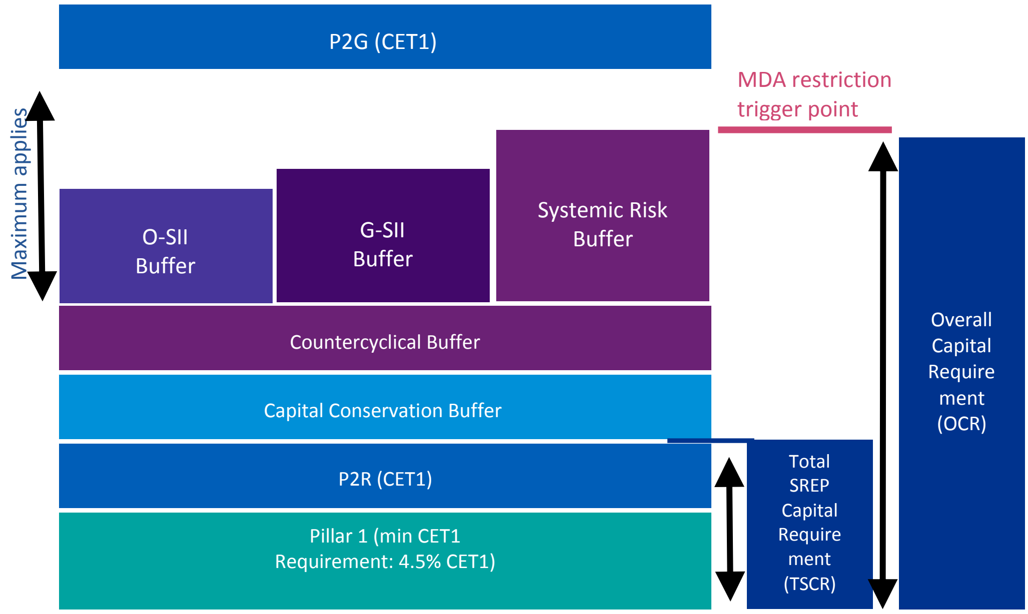

Figure 1: Stacking order of own funds requirements[20]

AnaCredit project

In May 2016, the Governing Council of the ECB adopted Regulation (EU) 2016/867 of the European Central Bank of 18 May 2016 *on the collection of granular credit and credit risk data* (ECB/2016/13), commonly referred to as the "AnaCredit Regulation". AnaCredit is a project to set up a dataset containing detailed information on individual bank loans in the euro area, harmonised across all Member States. To this end, the Regulation stipulates that granular credit data are collected based on harmonised ECB statistical reporting requirements, with a view to establishing a common granular credit database shared between the Eurosystem members and comprising input data for all euro area Member States.

The AnaCredit project is mandatory for all banks in the eurozone. The initial phase includes only debtors that are legal entities. The data required are instrument data, counterparty data and collateral data for commitments equal or more than €25K on an individual basis (intragroup exposures included) to be submitted to the National Central Banks. NBG is currently implementing a relevant project in combination with its project of building an Enterprise Data Warehouse. The first official submission is expected in October 2018.

[17] ECB published in December 2016 its *SSM SREP Methodology Booklet – 2016 edition* describing the common framework for the SSM and the National Competent Authorities to conduct SREP, as well as the outcome of SREP 2016.

[18] "*Information update on the 2016 EUwide stress test*", July 1st, 2016 and "*2016 EU-wide stress test: Frequently Asked Questions*", July 29th, 2016.

[19] Defined as capital conservation buffer plus, as applicable: (a) an institution-specific countercyclical capital buffer; (b) a G-SII buffer; (c) an O-SII buffer; (d) a systemic risk buffer.

[20] MDA = Maximum Distributable Amount as defined in Article 141 of CRD IV.

SSM supervisory priorities 2017

Finally, on December 15th, 2016, the European Central Bank (ECB) published its *2017 priorities for supervising significant banks in the euro area*. They are : (i) Business models and profitability drivers, (ii) credit risk, with a focus on NPLs and concentrations, and (iii) risk management. For each of the priorities, a number of supervisory initiatives will be carried out, and in several cases the full implementation of such initiatives may span more than one year.

The priority affecting mostly NBG Group is, obviously, the focus on credit risk and especially, the assessment of NPLs, the on-site TRIM inspection, the planned thematic review on IFRS9 preparedness and the investigation of excessive concentrations of credit risk in certain asset classes, such as shipping loans.

1.2.4. EU Regulatory Framework

EBA review of IRB Approach

The EBA is conducting a regulatory review of the internal ratings-based (IRB) approach for credit risk. The proposed changes to the regulatory framework aim at addressing the concern about the lack of comparability of capital requirements determined under the IRB approach across EU institutions, and take the form of RTS and GL that are introduced sequentially throughout the years 2015–2017. According to the EBA, the effective implementation of the changes in all areas should be finalised by the end of 2020.

Within this context, a number of Opinions, RTS, Guidelines and QIS results have been published during 2016:

1. Opinion of the EBA on the implementation of the regulatory review of the IRB Approach (EBA/Op/2016/01), supported by the report "*The EBA's regulatory review of the IRB approach: Conclusions from the consultation on the Discussion Paper on the 'Future of the IRB approach'*".
2. Final draft RTS on the specification of the assessment methodology for competent authorities regarding compliance of an institution with the requirements to use the IRB Approach (EBA/RTS/2016/03)
3. Guidelines on the application of the definition of default (EBA/GL/2016/07) along with the Final draft RTS on the materiality threshold for credit obligations past due (EBA/RTS/2016/06).
4. Results from the data collection exercise on the proposed regulatory changes for a common EU approach to the definition of default (published on 28 September 2016)
5. Consultation Paper – Guidelines on PD estimation, LGD estimation and the treatment of defaulted exposures (EBA/CP/2016/21)
6. Qualitative survey on internal ratings-based (IRB) models, launched on 16 December 2016 (NBG participated concerning its mortgage portfolio)

NBG will most probably be concerned by items (3) and (5) above. More specifically, the GL clarify many aspects on the definition of default (incl. the infamous "unlikeliness to pay" criterion), sets materiality thresholds on amounts past due and defines conditions for the return to non-defaulted status. Therefore, it is expected to notably alter policies and procedures concerning credit approval and NPL management and modify, but in a less substantial way, the measurement of exposures in default (flows and stocks).

As for the Consultation Paper on PD and LGD estimation, it is expected these modifications on modeling techniques, data requirements and definitions will lead to material changes in the Bank's rating systems for IRB portfolios. A better view on the extent of these changes will be gained after the respective TRIM inspections in the 3rd quarter of 2017 and the 1st quarter of 2018. Whatever the case may be, the proposed deadline for their implementation is the end of 2020.

EBA annual benchmarking exercise

According to Art. 78 of CRD IV, all institutions permitted to use internal approaches for the calculation of their own fund requirements (except for operational risk) report the results of the calculations of their internal approaches for their exposures included in the *benchmark portfolios* on, at least, an annual basis. The EBA is tasked to assist the competent authorities (CA) in their assessment with regard to supervisory benchmarking.

Starting in 2015, a data collection exercise was put in place, based on technical standards produced by EBA and specifically designed for annual supervisory benchmarking exercises. It covers different breakdowns of portfolios by, for instance, country, type of collateral, LtV ratio or sector to help understand the impact of these factors on the different key risk drivers, such as PD, LGD, CCF and RW estimates. Portfolios used to assess credit risk exposures were divided into (i) Low Default Portfolios (LDP), such as Central Governments, Institutions and Large Corporate, and (ii) High Default ones (HDP), such as Corporate SMEs and Residential Mortgages.

From 2016, the annual submission is mandatory at individual and consolidated level and in 2016, it concerned only HDP; the 2017 exercise will involve only LDP, hypothetical transactions, model characteristics and market risk. From 2018 onwards, data for all portfolios shall be reported annually.

The 2016 HDP benchmarking exercise highlighted several areas in which supervisors should investigate further, such as practices regarding defaulted exposures, the definition of default, country-specificities for exposures with counterparties from different jurisdictions, etc.

Guidelines on disclosure requirements

In mid-December 2016, EBA published its *Final Guidelines on disclosure requirements under Part Eight of Regulation (EU) No 575/2013 (EBA/GL/2016/11)*. They are based on the update of the Pillar 3 requirements by the Basel Committee.[21] EBA stated that the incorporation of the latter's revised Pillar 3 into the CRR would require an update of the disclosure requirements laid down in the CRR, which will however only take place as part of a comprehensive review process of the regulation (see section on CRR2). So, the aim of EBA's GL is to provide guidance to institutions to enable them to *comply with the CRR provisions* while at the same time *implementing the revised BCBS Pillar 3 requirements*.

The guidelines consist of 10 tables and 38 templates with either flexible or fixed formats, each one with its own frequency of disclosure (annually, semi-annually or quarterly). The GL will apply to G-SIIs and O-SIIs from year-end 2017 disclosures.

1.2.5. Changes in Greek Legislation

- New Bankruptcy Code (L. 4446/2016)

The latest revision of the Bankruptcy code contains significant amendments, which are presented below in some detail:

Simplified Pre-Insolvency Rehabilitation procedure

According to the new code, the "Pre-Pack rehabilitation procedure" is significantly simplified, judicial intervention is limited and the formal opening of the procedure with a Court decision is abolished. Creditors are now entitled to submit to the Court for ratification a creditors' driven Rehabilitation Agreement, without the participation of a debtor unless he has reached Cessation of Payments. The pre-pack rehabilitation agreement requires a majority of creditors (60% of the total claims including 40% of secured claims). Preventive measures are automatically stayed from submission of the application until the Court decision issuance. Preventive measures may also be provided before submission of the application in order to facilitate negotiations, provided that at least 20% of the creditors request it. Results of the ratification are binding on all parties. Finally, the Special Liquidation procedure is abolished and expected to be replaced by the existing Special Administration Procedure (L. 4307/2014).

The above amendments are initially assessed to have a favorable effect on the efficiency of the rehabilitation procedure, leading to enhanced results for both creditors and restructured debtors.

Stream-lining ordinary bankruptcy

The amendments on bankruptcy provisions are expected to lead to faster completion of the procedure. The debtor is now entitled to file earlier for bankruptcy, before insolvency is present or imminent, or even in case of "probability of insolvency", and simultaneously submit a reorganization plan proposal. This option is expected to lead to faster remedial actions by the debtor in order to effectively address any problems that may arise in the future.

The new provisions enhance the privilege of new financing to enable creditors to provide necessary credit and ensure the continuation of the business by a formal restructuring/reorganization plan. Furthermore, the new Law offers an earlier second chance to some already bankrupt debtors, provided that at least 2 years after the bankruptcy declaration have passed.

- Revision of Code of Conduct

The revision (L.4224/2014 – BoG Decision 195/2016) is in effect since 3 October 2016. The new Code distinguishes between natural persons, legal entities and very small businesses and provides different processes for each case. Specific exclusions from the scope of the Code are defined in three cases: denounced loans before 31.12.2015, debtors who applied for judicial settlement under L.3869/2010, and debtors who already face legal enforcement actions by other creditors. The timing of communication in writing is altered so that the first letter to the debtor is sent within 30 days after the 60th day of delinquency.

- Law 4389/2016

The Law 4389/2016 introduces significant changes in the framework for non-bank Servicers and Loans' Sales, revising the former L. 4354/2015. Under these, only sales of loans with mortgage on primary residence are not allowed until 31.12.2017. Performing loans may also be sold. The assignment of the transferred portfolio to a servicing company is set as a prerequisite for the acquisition.

1.2.6. International Financial Reporting Standards 9 (IFRS 9)

IFRS 9 is effective for annual periods beginning on or after 1 January 2018. IFRS 9, issued in November 2009, introduced new requirements for the classification and measurement of financial assets. It was subsequently amended (a) in October 2010 to include requirements for the classification and measurement of financial liabilities and (b) in November 2013 to include the new requirements for general hedge accounting.

In July 2014, the final version of IFRS 9, which supersedes all previous versions, was issued mainly to include a) impairment requirements for financial assets and b) limited amendments to the classification and measurement requirements by introducing a "fair value through other comprehensive income" (FVTOCI) measurement category for certain simple debt instruments.

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[21] "*BCBS Standards – Revised Pillar 3 disclosure requirements*", January 2015.

IFRS 9 key requirements 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 solely payments of principal and interest on the principal amount outstanding, are measured at FVTOCI, unless the asset is designated at "fair value through profit or loss" (FVTPL) under the fair value option.
4. All other debt instruments and equity investments are measured at their fair value at the end of subsequent accounting periods. In addition, under IFRS 9, entities may make an irrevocable election to present subsequent changes in the fair value of an equity investment (that is not held for trading) in other comprehensive income, with only dividend income generally recognised in profit or loss.

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

In relation to the impairment of financial assets, IFRS 9 requires an expected credit loss model, as opposed to an incurred credit loss model under IAS 39. The expected credit loss model requires an entity to account for expected credit losses and changes in those expected credit losses 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, expected credit losses are required to be measured through a loss allowance at an amount equal to:

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

A loss allowance for full lifetime expected credit losses is required for a financial instrument if the credit risk of that financial instrument has increased significantly since initial recognition, as well as to contract assets or trade receivables that do not constitute a financing transaction in accordance with IFRS 15. Purchased or originated credit-impaired financial assets are treated differently because the asset is credit-impaired at initial recognition. For these assets, an entity would recognise changes in lifetime expected losses since initial recognition as a loss allowance with any changes recognised in profit or loss. Under the requirements, any favorable changes for such assets are an impairment gain even if the resulting expected cash flows of a financial asset exceed the estimated cash flows on initial recognition.

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

1.2.7. Developments to follow

- IFRS 9

As stated above, IFRS 9 accounting standard will replace IAS 39 standard from January 1st, 2018 and is expected to have a substantial impact on banks, mainly because it requires the measurement of impairment loss provisions to be based on an expected credit loss (ECL) accounting model rather than on an incurred loss accounting model. The new standard will result in both earlier recognition and higher balance sheet allowances in the banking sector. As a result, without adjustments to the current capital treatment of expected losses by 2018, CET1 ratios of European banks are expected to be negatively affected.

Against this background, the following took place during 2016 or shortly after:

- Commission Regulation (EU) No 2016/2067 was published adopting IFRS 9 in the EU, with the same effective date.
- In July 2016, the EBA launched a consultation on *Draft guidelines on credit institutions' credit risk management practices and accounting for expected credit losses* (EBA/CP/2016/10). These should be read as the supervisory approach to support the appropriate application of the IFRS 9 standards.

- In October 2016, the BCBS released a consultative document and a discussion paper[22] on policy considerations related to the regulatory treatment of accounting provisions under the Basel III capital framework. It sets out the Committee's proposal to retain, for an interim period, the current regulatory treatment of provisions under the standardised and the internal ratings-based approaches for credit risk. In addition, the Committee is seeking comments on whether any transitional arrangements are warranted to allow banks time to adjust to the new ECL accounting standards.

Pending the above Basel discussions, the European Commission has proposed in November 2016, a 5-year period to enable banks to amortize the impact of IFRS 9 on regulatory capital ("transitional arrangement").[23] Most of EU member States and the European Banking Federation (EBF) agree on the need for a transitional arrangement but there is still no full agreement on the transitional period between supervisory and regulatory bodies.[24]

- In January 2016, the EBA launched a first impact assessment of the IFRS 9 on a sample of approximately 50 institutions across Europe. Results were published in November 2016 with an average estimated increase of provisions equal to 18% and up to 30% for 86% of respondents. In addition, 75% of the banks in the survey anticipate an increased volatility in profit/loss. CET1 capital ratios were estimated to decrease by up to 59 bps on average and by up to 75 bps for 79% of respondents. Hence, a second impact assessment was launched immediately after, in order for institutions to provide more detailed and accurate insights into their IFRS9 implementation.
- In December 2016, ECB launched a two-year Thematic Review addressed to all significant institutions at the highest level of consolidation, scrutinising banks' preparedness for the high-quality implementation of IFRS 9. It included it in its supervisory priorities for 2017, with the focus on the changes to provisioning practices. The thematic review addresses three key objectives:
  - ✓ evaluation of banks' level of preparedness for the introduction of IFRS 9;
  - ✓ assessment of the potential impact of IFRS 9 on credit institutions' provisioning practices in terms of qualitative characteristics and quantitative impact;
  - ✓ high-quality implementation of IFRS 9 that contributes to the level playing field in terms of effective capital requirements.

<u>Implementation status</u>

Given the implementation timeline for IFRS 9, this fieldwork and data collection is taking place in the first quarter of 2017. This puts a lot of time pressure on many Eurozone banks and certainly on Greek banks, that have to respond simultaneously to a number of other supervisory reviews, assessments and requirements.

NBG Group intends to apply the IFRS 9 for the annual period beginning on 1 January 2018 and is taking all necessary measures to satisfy the "first-run" requirement of calculating loan loss allowances under the new regime in September 2017. The Group has established an IFRS9 implementation program ("the Program") to ensure a timely and high quality implementation, in accordance with the standard and additional regulatory guidance that has been issued.

The Program involves Finance, Risk, Credit, Treasury, MIS, Business Analysis and IT Divisions across the Group and is overseen by a Project Steering Committee. The Committee is comprised of the Deputy CEO (Chair), Group CFO, Group CRO, Group COO, Group Treasurer, Chief Credit Officer and the General Managers of Retail, Corporate Banking, Corporate Special Assets and International Activities Divisions of the Bank. A full-time Project Management Office (PMO) has been setup and a Project Manager assigned. The Program is divided into work streams, for each of which leading Divisions and workgroup teams have been assigned. Subject matter experts have also been appointed to assist in model development of IFRS 9 compliant credit risk parameters. The Board Risk Committee, Audit Committee and Board of Directors are regularly updated by the PMO on the status of the Program.

The Bank is currently in the process of developing a framework which will describe and define criteria and thresholds for significant credit deterioration per portfolio of financial assets. The criteria are expected to be determined based on a combination of quantitative indicators and qualitative considerations, while the differentiation by portfolio, the level of automation, validation and governance is subject to further examination and assessment.

- ➢ BCBS 239

On January 2013, the Bank for International Settlements BCBS published "*Principles for effective risk data aggregation and risk reporting*". The overall objective of the regulation was to strengthen banks' risk data aggregation capabilities and internal risk reporting practices, in turn, enhancing the risk management and decision making processes.

The regulation was supposed to apply for "globally significant banks" (G-SIBs) at the beginning of 2016, or three years after their designation as G-SIBs. The regulation also recommended that it should, by the national supervisors, apply to other banks three years later.

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[22] "*Regulatory treatment of accounting provisions - interim approach and transitional arrangements - consultative document*" and "*Regulatory treatment of accounting provisions - discussion document*".

[23] Included in the new proposed Article 473a of the review of the CRR (CRR2).

[24] EBF and Member States urge the EU authorities to incorporate this particular legislation part into EU Law separately within 2017.

The 14 principles of the document are briefly discussed below:

1. Governance – A bank's risk data aggregation capabilities and risk reporting practices should be subject to strong governance arrangements consistent with other principles and guidance established by the BCBS.
2. Data architecture and IT infrastructure – A bank should design, build and maintain data architecture and IT infrastructure which fully supports its risk data aggregation capabilities and risk reporting practices not only in normal times but also during times of stress or crisis, while still meeting the other Principles.
3. Accuracy and Integrity – A bank should be able to generate accurate and reliable risk data to meet normal and stress/crisis reporting accuracy requirements. Data should be aggregated on a largely automated basis so as to minimise the probability of errors.
4. Completeness – A bank should be able to capture and aggregate all material risk data across the banking group. Data should be available by business line, legal entity, asset type, industry, region and other groupings, as relevant for the risk in question, that permit identifying and reporting risk exposures, concentrations and emerging risks.
5. Timeliness – A bank should be able to generate aggregate and up-to-date risk data in a timely manner while also meeting the principles relating to accuracy and integrity, completeness and adaptability. The precise timing will depend upon the nature and potential volatility of the risk being measured, its criticality to the overall risk profile of the bank and on the frequency requirements for risk management reporting adapted to the overall risk profile of the bank.
6. Adaptability – A bank should be able to generate aggregate risk data to meet a broad range of on-demand, *ad hoc* risk management reporting requests, including requests during stress/crisis situations, requests due to changing internal needs and requests to meet supervisory queries.
7. Accuracy – Risk management reports should be reconciled and validated and should accurately and precisely convey aggregated risk data and reflect risk in an exact manner.
8. Comprehensiveness – Risk management reports should cover all material risk areas within the organisation.
9. Clarity and usefulness – Risk management reports should communicate information in a clear and concise manner and include an appropriate balance between risk data, analysis and interpretation, and qualitative explanations.
10. Frequency – The Board and senior management (or other recipients as appropriate) should set the frequency of risk management report production and distribution, to reflect the needs of the recipients, the nature of the risk reported, and the speed at which the risk can change. The frequency of reports should be increased during times of stress/crisis.
11. Distribution – Risk management reports should be distributed to the relevant parties and while ensuring confidentiality is maintained.
12. Review – Supervisors should periodically review and evaluate a bank's compliance with the eleven Principles above.
13. Remedial actions and supervisory measures – Supervisors should have and use the appropriate tools and resources to require effective and timely remedial action by a bank to address deficiencies in its risk data aggregation capabilities and risk reporting practices.
14. Home/host cooperation – Supervisors should cooperate with relevant supervisors in other jurisdictions regarding the supervision and review of the Principles, and any remedial action if necessary.

The Bank has set up a separate "Data Governance Program" to tackle principles 1 to 7; the Program will also study the rest of bank-specific principles but NBG feels it already satisfies, to a large extent, the requirements on comprehensive, clear, useful, frequent and widely-distributed risk management reporting.

- FRTB

In January 2016, the BCBS concluded its work on the treatment of market risk, and published a new standard, dubbed the Fundamental Review of the Trading Book ("*BCBS Standards – Minimum capital requirements for market risk*"). The standard addressed the design flaws present in the existing market risk framework, including the insufficient identification of the full range of risks to which institutions were exposed to and the uncertainty about the boundary between the trading and the non-trading (i.e. banking) book, which created opportunities for regulatory arbitrage.

The new standard contains revised rules for the use of internal models for calculating own funds for market risk, as well as a new standardised approach, which replaces the existing one. Implementation is scheduled for 2019.

2. STRATEGY AND BUSINESS MODEL

2.1. Completed disposals of subsidiaries and Repayment of the contingent convertible bonds ("CoCos")

2.1.1. Completed disposals of subsidiaries

Sale of Finansbank A.S.

On 15 June 2016, NBG completed the disposal of Finansbank A.Ş. (99.81%) to Qatar National Bank S.A.Q. ("QNB") (the "Transaction"). The consideration was €2,750 mio. The Transaction included the transfer of NBG's 29.87% stake in Finans Finansal Kiralama A.Ş, 0.2% stake in Finans Yatırım Menkul Degerler A.Ş. and 0.02% stake in Finans Portfoy Yonetimi A.Ş. In addition, QNB repaid the $910 mio of subordinated debt that NBG had extended to Finansbank, increasing the liquidity position of the NBG Group by approximately €3.6 bn.

With the successful completion of the Transaction, NBG's CET1 increased by circa 684 bps. This capital enhancement paved the way to the repayment, following approval by the Single Supervisory Mechanism of the ECB ("SSM"), of the €2.0 bn Contingent Convertible Securities ("CoCos") issued by NBG on 9 December 2015 (see below "*Repayment of the contingent convertible bonds ("CoCos") issued in favour of the Hellenic Financial Stability Fund ("HFSF")*").

While maintaining its leading liquidity position among Greek banks with domestic Loan-to-Deposit ratio of 86.1% as of 31 December 2016, NBG utilised the liquidity generated by the Transaction to reduce significantly its cost of funding through the non-renewal of Pillar II bonds and the associated reduction of the Bank's exposure to ELA.

The sale of Finansbank marks the completion of all actions included in NBG's capital plan, as approved by the SSM on 13 November 2015 and underlines NBG management's unequivocal commitment to the successful implementation of the Bank's restructuring plan and its long-term strategy to successfully redeploy capital towards the Greek economy and be the leader in the country's economic recovery.

Sale of NBGI Private Equity Funds

On 21 December 2015, the Bank's Board of Directors approved the plan to proceed with the disposal of its entire stake in eleven Limited Partnerships ("the Funds") located in UK and held directly or indirectly by NBG and managed by NBGI PE Limited. On 2 February 2016 the Bank entered into a definitive agreement to sell the 100% of its interests in Funds to funds managed by Deutsche Bank Private Equity and Goldman Sachs Asset Management. The agreed consideration for the transaction amounted to €288 mio. As a result, the investment in Funds qualified to be classified as a disposal group held for sale on 21 December 2015.

Following the decision to dispose its entire stake to the Funds, the Group, based on the agreed consideration, assessed for impairment the carrying amount of the goodwill recognised in the Group's consolidated financial statements and concluded to recognise an impairment loss of €106 mio during the year ended 31 December 2015. The disposal was completed on 30 September 2016 on which date control of the Funds passed to the Buyers. The disposal is consistent with the Group's capital action plan to address the capital shortfalls identified from the 2015 Comprehensive Assessment carried out by the ECB and satisfies the relevant commitment in the Restructuring Plan approved by the Directorate General for Competition of the European Commission ("DGComp") on 4 December 2015.

Sale of Astir Palace Vouliagmenis S.A. and Astir Marina Vouliagmenis S.A.

On 10 February 2014 JERMYN STREET REAL ESTATE FUND IV L.P. ("JERMYN") was nominated as Preferred Investor pursuant to the international open competitive process for the acquisition of a majority of the share capital of Astir Palace Vouliagmenis S.A (the "Process"). Further to the transaction approval by the Council of Audit on 5 June 2014 the Sale and Purchase Agreement was executed on 17 September, 2014 between NBG, the Hellenic Republic Asset Development Fund S.A. ('HRADF') in their capacity as sellers, Apollo Investment Hold Co in its capacity as the buyer, and JERMYN in its capacity as Guarantor. Apollo Investment Hold Co is an SPV, 100.00% owned by JERMYN. The transaction was intended to close following the fulfilment of relevant conditions precedent. These included, among others, the issuance and publication of the applicable Special Public Real Estate Area Development Plan (the "Plan") in the Government Gazette. In March 2015, the Council of State reached a negative decision regarding the submitted Plan. Following these developments NBG, HRADF and the Preferred Investor initiated consultations within the context of existing competitive process, applying the relevant provisions of the SPA. The relevant Consultation Period (as per the current SPA terms) began on 11 May 2015 and was extended to 31 December 2015 in agreement with the Preferred Investor. The consultations between the Parties resulted in an agreement which was included in an Addendum to the SPA dated 31 December 2015 by means of which the original plan is substituted by a new draft Special Public Real Estate Area Development Plan, which was approved by the Plenary Session of the Council of State by means of its decision no. 152/2016.

The disposal was completed on 27 October 2016 on which date control of Astir Palace Vouliagmenis S.A. and Astir Marina Vouliagmenis S.A. passed to Apollo Investment Hold Co SARL. The consideration received amounted to €299 mio and the gain for the Group amounted to €150 mio.

2.1.2. Repayment of the contingent convertible bonds ("CoCos") issued in favour of the Hellenic Financial Stability Fund ("HFSF")

NBG, on 15 December 2016, following relevant resolution of its Board of Directors and in accordance with the Commitments stemming from NBG's revised Restructuring Plan, as this was approved by the European Commission on 4 December 2015, fully repaid of the CoCos amounting to €2,029 mio, issued in December 2015 and held by the HFSF, following approval by the SSM in accordance with the applicable regulatory framework. It is noted that, following the repayment of the CoCos, the Group's CET1 ratio as of 31 December 2016 stands at CET1 16.3% confirming the Group's strong capital base.

2.2. Strategy

Being the oldest financial institution in the country, NBG enjoys a very strong brand recognition and has deeply rooted customer relationships. NBG had limited participation in the M&A activity during the recent Greek banking sector consolidation. This has safeguarded its identity and its client relationships and has enhanced its service experience. Culture was preserved and service consistently focuses on innovation and is further improved through strong digital channels (20% increase in internet banking users in 2016, over 22 mio electronic transactions, up by more than 25% in one year) and selected premium and digital initiatives (e.g. i-bank stores, first full banking relationship loyalty program).

Strategically positioned with a high customer penetration, NBG aims to capitalize on its superior liquidity position (i.e., loans to deposits ratio of 88%), to increase exposure in business lending in 2017, benefitting its net interest margin. It also plans to utilize its high coverage and capital levels to efficiently decrease NPEs across portfolios through dedicated and independent internal units for retail collections and corporate NPL management.

2.2.1. Business Strategy

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

To achieve this strategic goal, NBG needs to work on resolving its NPEs (so as to re-concentrate its internal resources *and* assist in the reparation and eventual recovery of the Greek economy) while evolving its operating model to ensure significant and sustainable profitability.

To achieve the aforementioned overarching objectives, NBG is working along a number of distinct yet complementary strategic pillars, as follows:

A. **Credit expansion**: NBG shall focus upon extending credit selectively, with a primary focus on Large and Medium enterprises. In doing so, NBG will leverage on its superior capital and liquidity position so as to outperform its rivals in acquiring low-risk clients.

B. **Increasing Net Interest Income (NII)**: increasing net interest income is another key priority for NBG, with two specific axes towards its implementation: for one, the Bank will be focusing upon the generation of additional income in both its Retail and Corporate businesses, fueled by selective expansion in low-risk credits (as described above) as well as by the rationalisation of pricing of existing customer commitments. Second, the Bank will focus in the containment of its funding costs, a task to be achieved through the repricing of deposits and the gradual elimination of ELA dependence.

C. **Fee Income**: Increased fee income is expected to be achieved both from increasing volume of lending activities (which lead to the increase of auxiliary, fee-based businesses) as well as from a number of key initiatives that focus on the rationalisation of the Bank's fee structure and the avoidance of "fee leakage".

D. **Development of an efficient operating model**: in order to return to strong and sustainable profitability, NBG will focus upon evolving its operating model, streamlining its cost base while making its processes leaner and more agile. As a first step, NBG has already executed (according to plan) a Voluntary Exit Scheme (VES), leading to a reduction in its employee headcount by 1,171 persons, and a reduction in its annual operating expenses by ca. 60mio. Additional cost containment initiatives include procurement optimization, 3rd party spending rationalization as well as the simplification (and digitization) of administrative processes.

E. **Funding independence**: last but not least, NBG consistently aims towards reducing its funding dependence from the Eurosystem, especially the ELA mechanism. Capitalizing upon its effectiveness in harnessing deposits and capitalizing its superior brand name as a 'safe harbor' during financial and economic crises, NBG has been able to increase the size and quality of its deposit base, while maintaining a very low cost of deposits.

F. **Maximisation of NPL/NPE proceeds**: the Bank has developed and submitted to the Authorities a medium-term Strategy and specific actions for the significant reduction of its NPL/NPE stock. This Strategy is founded upon four (4) distinct pillars, namely (a) collections & restructurings, (b) settlements, (c) collateral enforcement, and (d) sales.

G. **Capital productivity**: while ensuring compliance with the regulatory framework as well as with supervisory (Pillar 2) capital requirements, NBG is implementing a number of actions / initiatives to ensure robust capital generation through capital accretive asset sales and organic capital generation.

2.2.2. Risk and Capital Strategy

The purpose of the Risk Strategy is to describe the Group's fundamental attitude towards risk as described by risk principles and objectives, as well as the Group's risk governance and organisation and key risk management capabilities. The Strategy was amended to include the Risk Appetite Framework (RAF) and approved by the Board on October 26th, 2016.

For NBG Group, 2016 was a year when two important changes in its composition materialised: first, it successfully strengthened its capital base, raising €717 mio of capital through a Liability Management Exercise and another €758 mio by a Share Capital Increase through International Offering and through a Public Offer in Greece. Secondly, it proceeded with the sale of its entire stake in its subsidiary in Turkey, Finansbank, subject to all regulatory approvals. The transaction was closed in June 2016 and strengthened considerably the capital and liquidity positions of the Bank.

Consequently, NBG is now positioned as a very well capitalised and the most liquid bank in the country, a fact that allows it to execute a well-developed strategy that aims to reduce its NPE ratio, maximise collections from its troubled assets portfolio while redeploying its resources to support the Greek economic recovery. Still, it focuses on maintaining the appropriate balance between risks undertaken and returns achieved both in daily business operations as well as in the strategic management of the Balance Sheet and the Capital of the Group.

In Greece, the center of attention is the containment of NPE formation in retail portfolios, through active collection and restructuring efforts with innovative products aiming at maximizing the probability of repayment. As for new funding, this is limited to secured financing, mainly to Premium Banking retail clients. The objective in Corporate banking is to channel new money towards innovative, strong and export-oriented companies, in growing sectors (e.g. agriculture, tourism and renewable energy) to help the Greek economy get back to a growth path. On the other hand, the Bank will try to resolve delinquency problems in ailing sectors by long-term restructuring solutions and to keep viable firms alive, offering them financial and operating solutions and facilitating their return to performing status. NBG aims at providing no new funding to NPE customers, unless it is absolutely necessary for the success of a long term solution and it is limited to extraordinary cases of viable and systemically important groups.

2.3. Business Model

NBG's Business Model may be understood under ECB's clustering analysis[25] as being one of a "*medium-sized, universal bank, focused on domestic lending*".

More specifically, NBG Group:

- generates most of its income from interest received from loans extended, as well as from fees & commissions charged to (corporate and retail banking) clients for banking services as illustrated below:

NBG Group Income (€ mio, as of 31.12.2016)	
NII	1,782
Net Fees &Commission	192
Insurance Income	76
Trading Income	(115)
Other	129
Total Income	**2,064**

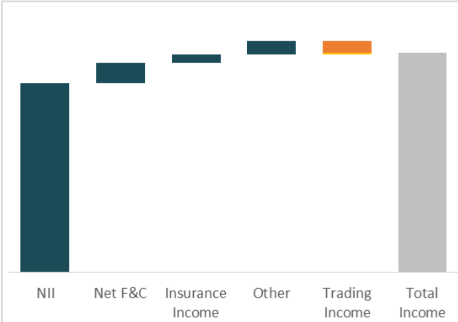


Figure 2: NBG Group Income breakdown by source

- is domestically focused, both in terms of income, as well as in terms of assets and RWA concentration as presented in the tale below:

€mio, as at 31.12.2016	Total Income	Total Assets	RWAs
Group	**2,064**	**78,531**	**41,125**
o/w: Domestic	*1,811*	*68,909*	*34,884*
% Group	*87,7*	*87,7*	*84,8*

[25] See https://www.ecb.europa.eu/pub/pdf/other/sfcfinancialstabilityreview201605.en.pdf, page 13.

- relies to a very large extend on customer rather than interbank or wholesale funding, as presented in the table below:

***Group Liabilities** (€ mio, as of 31.12.2016)*	
Interbank liabilities	18,188
ECB	*6,708*
ELA	*5,600*
Other Interbank	*5,880*
Due to customers	40,459
Debt securities	673
Other	12,305
Equity	6,906
Total Liabilities	**78,531**

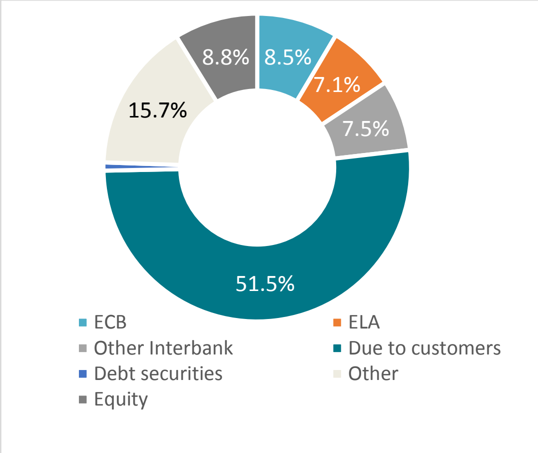


Figure 3: Group – Liabilities breakdown

Nonetheless and from a Business Model perspective, NBG (in comparison to its 'typical' European peer though in line with its domestic peers) needs to address a significant stock of NPEs in Greece, a task which necessitates the commitment of significant resources (human, technical, managerial) to that end. Effectively and, following respective supervisory guidelines as well as international best practices, NBG's domestic operations (and Business Model) must be understood in the context of operational (and to a significant extend executive) separation between the management of NPEs and performing exposures. Albeit necessary, this particular configuration presents unique challenges for NBG (as well as for all Greek banks), primarily in terms of resources planning and prioritization.

Finally, an overarching dimension for Business Model evolution is that of Digital Transformation, i.e., the use of digital technologies for the provision of better products and services, as well as for the enhancement of operational efficiency (including data and analytics), agility and customer experience.

Within the aforementioned context, the Group has identified **Domestic Retail Banking**[26] as well as **Domestic Corporate Banking** as its Core Business Lines (CBL), i.e. *"business lines and associated services which represent material sources of revenue, profit or franchise value for an institution or for a group of which an institution forms part"* (EBA/OP/2015/05). The Group fundamentally believes that, for business development purposes, acknowledgment of domestic retail and corporate banking as discrete yet coherent (in the sense that they cannot be further sub-divided) business lines, reflects the Group's conviction towards comprehensively servicing its clientele's needs.

2.4. NPL Management

The Bank continues to operate in a challenging economic environment which was marked by significant uncertainties in 2015 as a result of the Greek financial crisis. These uncertainties have only partially subsided following the approval and subsequent activation of a new Program of financial support for Greece by its creditors in July 2015. Delays with the completion of the 2nd Program Review and implementation of new demanding fiscal measures have exerted downward pressures on activity during 2016 and are expected to continue at least throughout 1H2017. Against this backdrop, the Bank is executing a well-developed strategy that aims to reduce its NPE ratio and maximise collections from the Bank's troubled assets portfolio. This strategy includes a set of detailed operational targets and a time-bounded action plan for their implementation with a view to reducing NPE stock by almost 40% until the end of 2019.

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

2.4.1. Performance & 2017 Targets

In 2016, the Bank updated its NPE Management Strategy, for both corporate and retail portfolios. The key overarching strategies for the management of the Bank's non-performing portfolio are:

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

To this end, a comprehensive set of Operational Targets and KPIs for the period 2016 – 2019 was identified and calculated. Additionally, in line with SSM requirements, the Bank ran sensitivity analyses on a series of key parameters to demonstrate the effect of different scenarios affected by macroeconomic, judicial and legal conditions (i.e. delays in legal procedures / auctions and investor appetite related to portfolio sales and customer response to forbearance measures offered by the Bank) on its NPE targets.

[26] Including Small Business Lending, i.e., lending towards businesses with annual turnover below €2.5 mio as well as towards independent professionals, but excluding insurance income.

3. 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 have 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 and Regulation (EU) No 575/2013 has been directly applicable to all EU Member States since 1 January 2014, but some changes under CRD IV will be implemented gradually, mainly between 2014 and 2019.

3.1. Structure of own funds

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

CET1 capital includes the Bank's ordinary shareholders' equity, share premium, retained earnings and minority interest allowed in consolidated CET1. The main features of capital instruments issued by the Group categorised as CET1 are disclosed in note 38 of the 2016 Annual Financial Report.

The following items are deducted from the above:

- fair value gains and losses arising from the institution's own credit risk related to derivative liabilities
- prudent valuation adjustment calculated according to article 105 of Regulation (EU) No 575/2013
- 60% of goodwill and intangibles (2016 Transitional Rules)
- 60% of deferred tax assets not arising from temporary differences (2016 Transitional Rules)
- Deferred tax assets arising from temporary differences and significant investments that exceed 10% of CET1 filter (2016 Transitional Rules)

Tier II capital includes the excess between the accounting impairment losses on financial assets and the expected losses as calculated by the Internal Ratings Based approach for credit risk, up to 0.6% of risk weighted IRB exposure amounts.

NBG Group's regulatory capital structure as of 31.12.2016 is presented below:

Group's Own Funds Structure	Ref*	€ mio
Shareholders' Equity per balance sheet	*a*	**6,907**
Non-controlling interests		**167**
Non-controlling interests per balance sheet	*b*	679
Non-controlling interests in deconsolidated subsidiaries		(1)
Non-controlling interests not recognised in CET1		(511)
Regulatory Adjustments		**(194)**
Own credit risk		(182)
Prudent valuation adjustment		(11)
Other		(1)
Deductions		**(192)**
Goodwill and intangibles	*c*	(131)
Significant Investments	*d*	(58)
Deferred tax assets that rely on future profitability (excluding those arising from temporary differences)	*e*	(3)
Common Equity Tier 1 Capital (CET1)		**6,688**
Additional Tier 1 Capital (AT1)		**-**
Total Tier 1 Capital		**6,688**
Credit risk adjustments		**83**
Deductions		**(65)**
Significant Investments	*d*	(15)
Subordinated loans of financial sector entities where the institution has a significant investment in those entities	*f*	(50)
Tier2 Capital		**18**
Total Regulatory Capital		**6,706**

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

3.2. DTC Law

Article 27A of Law 4172/2013, “DTC Law”, as currently in force, allows, under certain conditions, and from 2017 onwards Credit Institutions to convert Deferred Tax Assets (“DTAs”) arising from Private Sector Initiative (“PSI”) losses, accumulated provisions for credit losses recognised on 30 June 2015, losses from final write-off or the disposal of loans and accounting write-offs to a receivable (Tax Credit) from the Greek State (for the last two categories see below the amendments to article 27A). The main condition is the existence of an accounting loss of a respective year, starting from accounting year 2016 and onwards. The Tax Credit is offsetable against income taxes payable. The non-offset part of the Tax Credit is immediately recognized as a receivable from the Greek State. The Bank will issue conversion rights for an amount of 100% of the Tax Credit in favour of the Greek State and create a specific reserve for an equal amount. Common shareholders have pre-emption rights on these rights. The reserve will be capitalised with the issuance of common shares in favour of the Greek State. This new 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 their capital position.

On 29 March 2017 a new law was voted which further amended articles 27 and 27A of Law 4172/2013 as follows:

Amendments to article 27 introduce an amortization period of 20 years for losses due to loan write-offs as part of a settlement or restructuring and losses that crystallize as a result of a disposal of loans.

Amendments to article 27A extend the scope of article 27A to capture, in addition to PSI losses and provisions for loan losses, the following categories of time differences: (i) losses from the final write-off or the disposal of loans and (ii) accounting write-offs, which will ultimately lead to final write-offs and losses from disposals. It is further provided that DTC cannot exceed the tax corresponding on accumulated provisions accounted 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 and (b) the amount of tax corresponding to any subsequent specific tax provisions, which relate to the above accumulated provisions and (c) the amount of the tax corresponding to the annual amortization of the debit difference that corresponds to the above provisions and other losses in general arising due to credit risk.

On 7 November 2014 the Bank convened an extraordinary General Shareholders Meeting which resolved upon the inclusion of 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 2016, the amount of DTA that was eligible for conversion to a receivable from the Greek State subject to the DTC Law was €4.8 bn (2015: €4.9 bn).

3.3. Transitional own funds disclosure template

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

Transitional own funds disclosure template as of 31.12.2016		***€ mio***
Common Equity Tier 1 capital: Instruments and Reserves		
1	Capital instruments and the related share premium accounts	16,609
2	Retained earnings	(14,924)
3	Accumulated other comprehensive income and other reserves	5,206
3a	Funds for general banking risk	15
5	Minority Interests (amount allowed in consolidated CET1)	167
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**7,073**
Common Equity Tier 1 capital: Regulatory Adjustments		
7	Additional Value Adjustments	(11)
8	Intangible assets (net of related tax liability)	(79)
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences	(3)
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	(182)
19	CET1 instruments of financial sector entities where the institution has a significant investment	(43)
27	Qualifying AT1 deductions that exceed the AT1 capital of the institution	(67)
28	**Total regulatory adjustments to Common equity Tier 1 (CET1)**	**(385)**
29	**Common Equity Tier 1 (CET1) capital**	**6,688**
Additional Tier 1 (AT1) capital		
36	Additional Tier 1 (AT1) capital before regulatory adjustments	-
Additional Tier 1 (AT1) capital: regulatory adjustments		
41a	Residual amounts deducted from Additional Tier 1 capital with regard to deduction from Common Equity Tier 1 capital during the transitional period pursuant to article 472 of Regulation (EU) No 575/2013	(67)
	Of which: goodwill and intangibles assets	(52)
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**(67)**
44	Additional Tier 1 (AT1) capital	-
45	**Tier 1 capital (T1 = CET1 + AT1)**	**6,688**
Tier 2 (T2) capital		
50	Credit risk adjustments	83
51	**Tier 2 capital (T2) capital before regulatory adjustments**	**83**
Tier 2 (T2) capital: Regulatory adjustments		
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities	(50)
56a	Residual amounts deducted from Tier 2 capital with regard to deduction from Common Equity Tier 1 capital during the transitional period pursuant to article 472 of Regulation (EU) No 575/2013	(15)
57	**Total regulatory adjustments to Tier 2 (T2) capital**	**(65)**
58	**Tier 2 (T2) capital**	**18**
59	**Total capital (TC = T1 + T2)**	**6,706**
60	**Total Risk Weighted Assets (RWAs)**	**41,125**
Capital Adequacy Ratios		**%**
	Common Equity Tier 1	**16.3%**
	Tier 1	**16.3%**
	TOTAL	**16.3%**

3.4. Capital requirements under Pillar I

The table below presents the capital requirements at Group level under Pillar I as of 31.12.2016. Capital requirements under Pillar I are equal to 8% of Risk Weighted Assets.

Capital Requirements	*€ mio*
Credit & Counterparty Credit Risk (Standardised Approach)	
Exposure Class	
Central Governments or Central Banks	470
Regional Governments or Local Authorities/ Public Sector Entities	12
Institutions	55
Retail	241
Secured by mortgages on immovable property	63
Corporates	142
Exposures in default*	240
Claims in the form of CIU	2
Equity Exposures	144
Other items	198
Items associated with particularly High Risk	10
Multilateral Development Banks	-
International Organisations	-
Total Credit & Counterparty Credit Risk (Standardised Approach)	**1,577**
Credit Risk (Internal Ratings Based Approach)	
Exposure Class	
Mortgages	176
Retail SME- Secured by immovable property	29
Retail SME- Non Secured by immovable property	14
Large Corporates	403
SME Corporates	286
Specialized Lending Exposures (Slotting Criteria)	193
Securitisations	-
Total Credit Risk (Internal Ratings Based Approach)	**1,101**
Total Credit & Counterparty Credit Risk (Standardised and IRB Approaches)	**2,678**
Settlement/Delivery Risk	**-**
Position Risk, FX and Commodities Risk	
Traded Debt Instruments	23
Equities	3
Foreign Exchange	80
Commodities	-
CIUs	2
Internal Model Approach (Value at Risk)	256
Total Market Risk	**364**
Total CVA Risk	**11**
Operational Risk	**236**
Total Capital Requirements	**3,290**

**As defined according to the Capital requirements regulation and directive – CRR/CRD IV and Regulation (EU) No 575/2013*

3.5. 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), while for regulatory purposes, only Group subsidiaries that are classified as banks, financial institutions or supplementary service providers are consolidated.

The NBG Group subsidiaries that are fully consolidated for regulatory purposes as of 31.12.2016 are:

Company	Line of Business
Banca Romaneasca S.A.	Financial Institution
Banka NBG Albania Sh.a.	Financial institution
National Bank of Greece (Cyprus) Ltd	Financial Institution
NBG Bank Malta Ltd	Financial Institution
Stopanska Banka A.D.-Skopje	Financial Institution
The South African Bank of Athens Ltd (S.A.B.A.)**	Financial Institution
United Bulgarian Bank A.D. - Sofia (UBB)**	Financial Institution
Vojvodjanska Banka a.d. Novi Sad	Financial Institution
National Securities S.A.	Capital Markets & Investment Services
UBB Asset Management Inc.**	Capital Markets & Investment Services
National Securities Co (Cyprus) Ltd*	Capital Markets Services
EKTENEPOL Construction Company S.A.	Construction Company
Ethniki Factors S.A.	Factoring Company
UBB Factoring E.O.O.D.**	Factoring Company
Ethniki Leasing S.A.	Financial Leasing
Interlease Auto E.A.D.**	Financial Leasing
Interlease E.A.D., Sofia**	Financial Leasing
NBG Leasing d.o.o. – Belgrade	Financial Leasing
NBG Leasing IFN S.A.	Financial Leasing
Probank Leasing S.A.	Financial Leasing
NBG Finance (Dollar) Plc	Financial Services
NBG Finance (Sterling) Plc	Financial Services
NBG Finance Plc	Financial Services
NBG Funding Ltd	Financial Services
NBG International Ltd	Financial Services
NBG Services d.o.o. – Belgrade	Financial Services
Profinance S.A.*	Financial Services
NBG Greek Fund Ltd	Fund Management
NBG Asset Management Luxembourg S.A.	Holding Company
NBG International Holdings B.V.	Holding Company
NBG Malta Holdings Ltd	Holding Company
FB Insurance Agency Inc*	Insurance Brokerage
NBG Bancassurance S.A.	Insurance Brokerage and Other Services
UBB Insurance Broker A.D.**	Insurance Brokerage and Other Services
NBG Insurance Brokers S.A	Insurance Brokerage and Other Services
Egnatia Properties S.A.	Investment Company
Quadratix Ltd	Investment Company
Fondo Picasso	Investment Company
NBG Management Services Ltd	Management Services
Probank M.F.M.C	Mutual Funds Management
NBG Asset Management Mutual Funds S.A.	Mutual Funds Management
NBGI Private Equity Ltd	Private Equity
NBGI Private Equity S.A.S.	Private Equity
NBG Pangaea Reic	Real Estate Investment Company
DIONYSOS S.A.	Real Estate Services
Ethniki Ktimatikis Ekmetalefsis S.A.	Real Estate Services
Hellenic Touristic Constructions S.A.	Real Estate Services
KADMOS S.A.	Real Estate Services

Nash SRL	Real Estate Services
Mortgage Touristic PROTYPOS S.A.	Real Estate Services
NBG Property Services S.A.	Real Estate Services
Karolou Touristiki S.A.	Real Estate Services
ARC Management One SRL	Real Estate Services
ARC Management Two EAD	Real Estate Services
Autokinito Plc (Special Purpose Entity)*	Special Purpose Entity (Securitisation of auto financing loans)
Titlos Plc (Special Purpose Entity)	Special Purpose Entity (Securitisation of public sector receivables)
Agorazo Plc (Special Purpose Entity)*	Special Purpose Entity (Securitisation of consumer loans)
Spiti Plc (Special Purpose Entity)*	Special Purpose Entity (Securitisation of mortgages loans)
Sinepia Designated Activity Company (Special Purpose Entity)	Special Puprose Entity (Securitisation of commercial loans)
Innovative Ventures S.A. (I-Ven)*	Sundry services
Bankteco EOOD	Information Technology Services
Pronomiouchos S.A. Genikon Apothikon Hellados	Warehouse activities

**Under Liquidation*
*** Companies have been reclassified to Non-current assets held for sale*

The subsidiaries that are not fully consolidated for regulatory purposes and are accounted for by applying the equity method are the following:

Company	Line of Business
Ethniki Hellenic General Insurance S.A.	Insurance Services
Ethniki General Insurance (Cyprus) Ltd	Insurance Services
Ethniki Insurance (Cyprus) Ltd	Insurance Services
S.C. Garanta Asigurari S.A.	Insurance – Reinsurance Services
National Insurance Agents & Consultants Ltd	Insurance Brokerage
National Insurance Brokers S.A.***	Insurance Brokerage
Audatex Hellas S.A.*	Vehicle damages assessment
Grand Hotel Summer Palace S.A.	Hotel Services
Hotel Perun – Bankso EOOD**	Hotel Services
NBG Training Center S.A	Training Services

**Under Liquidation*
*** Companies have been reclassified to Non-current assets held for sale*
**** National Insurance Brokers S.A. was disposed of in January 2017*

Associate companies, are accounted for by applying the equity method, both for accounting and regulatory purposes. The Group's associates are as follows:

Company
Social Securities Funds Management S.A.
Larco S.A.
Eviop Tempo S.A.
Teiresias S.A.
Planet S.A.
Pyrrichos Real Estate S.A.
Sato S.A.
Olganos S.A.
UBB Metlife Life Insurance Company A.D.*
Drujestvo za Kasovi Uslugi AD (Cash Service Company)*

** Companies have been reclassified to Non-current assets held for sale*

In accordance with EU Regulation 575/2013, participations exceeding 20% in the share capital or voting rights in financial sector entities (including insurance and reinsurance companies) are deducted from Common Equity Tier I capital (CET1) if exceeding threshold rules set in Regulation (EU) 575/2013. These companies are:

- Ethniki Hellenic General Insurance S.A. (Group)
- UBB Metlife Life Insurance Company (associate)
- Planet S.A. (associate)
- Social Securities Funds Management S.A. (associate)
- Olganos S.A. (associate)

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

Based on 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.

3.6. Balance sheet reconciliation between financial and regulatory reporting

The table below provides a reconciliation of the balance sheet from the financial reporting to the regulatory scope of consolidation. References in this table link to the corresponding references in table "Own Funds Structure" (Section 3.1), identifying balances relating to own funds calculation.

		31 December 2016		
€ mio	Ref	Accounting Balance Sheet	Deconsolidation of insurance& other entities	Regulatory Balance Sheet
ASSETS				
Cash and balances with central banks		1,501	-	1,501
Due from banks		2,227	(43)	2,184
Financial assets at fair value through profit or loss		1,879	(11)	1,868
Derivative financial instruments		4,482	-	4,482
Loans and advances to customers	*f*	41,643	30	41,673
Investment securities		12,882	(2,021)	10,861
Investment property		869	(84)	785
Investments in subsidiaries		-	-	-
Equity method investments	*d*	7	764	771
Goodwill, software and other intangible assets	*c*	137	(12)	125
Property and equipment		1,286	(146)	1,140
Deferred tax assets		5,078	(164)	4,914
of which: Deferred tax assets that rely on future profitability and arise from temporary differences		*216*	*(118)*	*98*
of which: Deferred tax assets that rely on future profitability and do not arise from temporary differences	*e*	*48*	*(46)*	*2*
of which: Deferred tax assets that do not rely on future profitability		*4,814*	-	*4,814*
Insurance related assets and receivables		515	(515)	-
Current income tax advance		596	(26)	570
Other assets		1,704	(19)	1,685
Non-current assets held for sale*		3,725	(3)	3,722
of which: Goodwill and other intangibles	*c*	*6*	-	*6*
of which: Deferred Tax Assets		*4*	-	*4*
Total assets		**78,531**	**(2,250)**	**76,281**
LIABILITIES				
Due to banks		18,188	-	18,188
Derivative financial instruments		5,169	-	5,169
Due to customers		40,459	37	40,496
Debt securities in issue		536	-	536
Other borrowed funds		137	-	137
Insurance related reserves and liabilities		2,207	(2,207)	-
Deferred tax liabilities		6	(1)	5
Retirement benefit obligations		269	(7)	262
Current income tax liabilities		11	-	11
Other liabilities		963	(71)	892
Liabilities associated with non-current assets held for sale		2,999	-	2,999
Total liabilities		**70,944**	**(2,249)**	**68,695**
SHAREHOLDERS' EQUITY				
Share capital		2,744	-	2,744
Share premium account		13,866	-	13,866
Less: treasury shares		(1)	-	(1)
Reserves and retained earnings		(9,702)	-	(9,702)
Equity attributable to NBG shareholders	*a*	**6,907**	**-**	**6,907**
Non-controlling interests	*b*	680	(1)	679
Total equity		**7,587**	**(1)**	**7,586**
Total equity and liabilities		**78,531**	**(2,250)**	**76,281**

Non-current assets held for sale at 31 December 2016 comprise, The South African Bank of Athens Ltd ("S.A.B.A."), United Bulgarian Bank A.D.-Sofia ("UBB") and Interlease E.A.D.-Sofia.

3.7. Internal Capital Adequacy Assessment Process (ICAAP)

According to the applicable Capital Adequacy Framework (Basel III / CRD IV), Pillar I sets the rules for measuring risk, especially credit, market and operational risk and aims to align capital requirements with risks undertaken. These rules are complemented by Pillar II, which sets the requirements for internally monitoring, assessing and controlling all material risks to which credit institutions are exposed.

Those requirements are associated with the Internal Capital Adequacy Assessment Process (ICAAP) (within the framework of EU Directive 2013/36 as implemented by Law 4261/2014 in Greece) applied by credit institutions. ICAAP's objective is to ensure that the institution has sufficient capital to cover all material risks to which it is exposed during its business activities.

NBG Group has developed substantial resources for the assessment of its capital adequacy, relating to both risk and capital management. These resources are continuously developed and formalized so as to enhance business benefits and support the strategic aspirations of NBG Group.

ICAAP objectives are:

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

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 strategy).

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

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

The ICAAP receives the active involvement and support of the Board and the Executive Committee. The main roles and responsibilities of those involved in the ICAAP are described in detail in the ICAAP Framework document.

A. Board Risk Committee (BRC)

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

B. Audit Committee

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

C. Internal Units

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

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

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

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

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

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

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

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

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

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

For 2016 the Bank implemented the ICAAP by estimating the relevant internal capital for all major risk types at Group level. Calculations were based on methodologies already developed in the ICAAP Framework. Moreover, NBG Group conducted a bank-wide macro Stress Test exercise, relating to the evolution of its CET I Funds under adverse scenarios (so as to ensure relevance and adequacy of the outcome with a realistic and non-catastrophic forward-looking view of downside tail risks).

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

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

3.8. Internal Liquidity Adequacy Assessment Process (ILAAP)

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

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

3.9. Overall Capital Requirement (OCR)

Following the completion of the Supervisory Review and Evaluation Process (SREP) for year 2016, the ECB notified NBG Group of its new total SREP capital requirement (TSCR), which applies from 1 January 2017 (regarding the concepts of TSCR and OCR see Figure 1, section "Recent Regulatory Developments"). According to this decision, the ECB requires National Bank of Greece to maintain, on a 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 TSCR and the combined buffer requirement as defined in point (6) of Article 128 of Directive 2013/36/EU.

The combined buffer requirement is defined as the sum of:

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

The Capital Conservation Buffer stands at 1.25% for 2017 for all banks in the EU.

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

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 2016 and for the first quarter of 2017 (BoG Acts 55/2015, 83/2016, 97/2016, 103/2016 and 107/2016). CCyB is also currently 0% in all other countries in which NBG Group has significant exposures. **Thus, the institution specific Countercyclical Capital Buffer for NBG Group is currently 0%.**

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

	CET1 Capital Requirements	Total Capital Requirements
Pillar 1	4.5%	8.0%
Pillar 2	3.0%	3.0%
Capital Conservation Buffer (2017)	1.25%	1.25%
Total	**8.75%**	**12.25%**

At December 31st 2016, NBG Group's CET1 capital ratio as well as its Total capital ratio stood at 16.3%, far exceeding the regulatory requirements.

3.10. 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 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 2016 Group leverage ratio, according to the transitional definition of Tier I and the EU Regulation 62/2015, amounts to 8.99%, exceeding the minimum threshold of 3% (vs 8.21% as of 31 December 2015). Group capital measure has significantly decreased due to the repayment of the contingent convertible bonds ("CoCos") of €2,029 mio, plus dividend of €168 mio, in December 2016. Group total exposure measure has also significantly decreased due to the disposal of subsidiaries in 2016, the most considerable of which was the sale of Finansbank (see Section 2.1).

The tables below include the summary and detailed disclosures on the Group's leverage ratio with reference date 31.12.2016 (amounts in € mio):

Tier I	6,688
Total Exposure Measure	74,419
Leverage Ratio	**8.99%**

Summary reconciliation of accounting assets and leverage ratio exposures		
		Exposures
1	Total assets as per published financial statements	78,531.5
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	(2,250.1)
3	Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure according to Article 429(13) of Regulation (EU) NO. 575/2013.	-
4	Adjustment for derivative financial instruments	(4,271.6)
5	Adjustments for securities financial transactions (SFTs)	824.5
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	3,042.3
7	Other adjustments	(1,457.6)
8	**Leverage ratio exposure**	**74,419.1**

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)	70,522.8
2	Asset amounts deducted in determing Tier 1 capital	(191.6)
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)**	**70,331.1**
Derivative exposures		
4	Replacement cost associated with all derivatives transactions (i.e net of eligible cash variation margin)	58.0
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	152.6
11	**Total derivatives exposures**	**210.6**
SFT exposures		
16	**Total securities financing transaction exposures**	**835.0**
Other off-balance sheet exposures		
17	Off-balance sheet exposures at gross notional amount	10,201.9
18	Adjustments for conversion to credit equivalent amounts	(7,159.6)
19	**Other off-balance sheet exposures**	**3,042.3**
Capital and total exposure measure		
20	**Tier 1 capital**	**6,687.5**
21	**Leverage ratio total exposure measure**	**74,419.1**
Leverage Ratio		
22	**Leverage ratio**	**8.99%**
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:	**70,522.8**
EU-2	Trading book exposures	**2,431.7**
EU-3	Banking book exposures, of which:	**68,091.0**
EU-4	*Covered bonds*	-
EU-5	*Exposures treated as sovereigns*	18,129.5
EU-6	*Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns*	120.4
EU-7	*Institutions*	1,638.9
EU-8	*Secured by mortgages of immovable properties*	11,820.1
EU-9	*Retail exposures*	4,759.5
EU-10	*Corporate*	11,120.5
EU-11	Exposures in default	7,733.3
EU-12	Other exposures (eg equity, securitisations, and other non-credit obligation assets)	12,769.0

3.11. “Pillar III” Disclosure policy

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

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

The Bank is firmly committed to best practices and recognises that Pillar III provides an additional layer of market information and transparency, hence contributing to financial stability. In this context, the Bank is establishing an active channel of communication with investors and other stakeholders by supplying key information on capital, policies, procedures and risk assessing strategies. Additional information for investors and other stakeholders (regarding e.g. the members of the management body, the Corporate Governance Code etc) could be found in the Bank’s website www.nbg.gr.

The objectives of the Disclosure Policy are:

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

Further, the Policy aims at:

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

4. RISK MANAGEMENT FRAMEWORK

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

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

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

The BRC forms and submits for approval to the Board of Directors the risk appetite and risk strategy of the Bank and 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) and the Group Chief Credit Officer (CCO).

The Committee is composed exclusively of non-executive Board members, at least three in number, without exceeding 40% of total Board members, the majority of whom (at least 1/3, including the Chairman) are independent non-executive members of the Board. The members and the 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 to the Bank's Board should be a member of the BRC.

During 2016 the Board Risk Committee convened 14 times. In January 2017 the Committee Charter was amended, introducing the new dual role of the BRC, namely its operation a) as the Board Risk Management Committee and b) as the Board Committee Responsible for Non-Performing Loans/Exposures (NPLs/NPEs) prescribed by Art. 10 par. 8 of Law 3864/2010 as in force. Detailed information on the responsibilities, composition and modus operandi of the Committee is included in the Charter of the Committee which is available on the Bank's website at www.nbg.gr (section: The Group / Corporate Governance / Board of Directors / Committees).

A central role in the risk management framework, that is to recognize, evaluate, monitor and control risks accepted by the Group, has been assigned to the two Group Risk Management Units: the NBG Group Risk Control and Architecture Division (GRCA) and the NBG Group Market and Operational Risk Management Division (GMORM). The Units identify the risks of different portfolios and activities, and supervise all subsidiaries operating in the financial sector.

The two Group Risk Management Units are supportive to the following:

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

The two Group Risk Management Units also cooperate with the Credit Units, which supervise the credit departments of the financial institutions across the Group and participate in their approval granting bodies. Credit Units' independence ensures an unbiased first level control for risk undertaken. These Units are also responsible for developing and updating specific Credit Policies.

4.2. "Four lines of defence" model in the Group's risk management

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

- First line: the risk taking units (e.g. credit underwriting departments, Treasury) are responsible for assessing and minimizing risks for a given level of expected return by establishing and implementing internal rules to the on-going business.
- Second line: the Credit Units, which are independent of the credit granting departments, are involved in the approving procedure. They perform unbiased control of the undertaken risk by applying the "four eyes principle" and have the right of veto.
- Third line: the two Group Risk Management Units identify, monitor, control and quantify risks at portfolio or entity level. Moreover they assist other units undertaking risks (credit departments and other) and they assert the adoption of appropriate pricing and risk management tools.

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

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

4.3. Group Risk Management Units

All Subsidiaries' risk management Units effectively report to the two Group Risk Management Divisions. Both Divisions are supervised by the Group CRO.

Analytically, the responsibility of the GRCA Division is to:

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

GRCA Division includes a Model Validation Department that is independent of its Subdivisions and is supervised directly by GRCA's Manager.

The responsibility of Group Market and Operational Risk Management Division is to:

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

4.4. Credit Risk

4.4.1. Credit Policy for Corporate Portfolios

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

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

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

The Credit Policy of the Bank is approved and can be amended or revised (if deemed appropriate) in the course of its annual review, by the Board of Directors of the Bank following a recommendation by the Board Risk Committee subsequent to a relative proposal by the Chief Credit Officer (CCO), in cooperation with the Chief Risk Officer (CRO) for issues falling under his responsibility.

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

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

Any exception to the Credit Policies of the Subsidiaries is approved by the CCO or the Head of NBG's Group International Credit Division in co-operation with the CRO or 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.

4.4.2. Credit Policy for Retail Banking

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

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

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

The Credit Policy is approved and can be amended or revised by the Board of Directors of the Bank following an opinion of the Board Risk Committee and after a proposal by the Chief Credit Officer (CCO) of the Bank, in cooperation with the Chief Risk Officer (CRO) for issues falling under the responsibility of the latter, and it is subject to periodical revision.

The Credit Policy of each Subsidiary is approved and can be amended or revised by the competent local Boards/Committees, following a recommendation by the responsible Officers or Subsidiaries' Bodies, according to the Decisions of the Bank and the provisions of the Credit Policies. Each proposal must bear the prior approval of the Chief Credit Officer (CCO) of the Bank, in cooperation with Chief Risk Officer (CRO) for issues falling under the responsibility of the latter. The Credit Policies are subject to periodical revision.

NBG Group Retail Credit Division reports directly to the Chief Credit Officer (CCO) of NBG and its main task is to evaluate, design and approve the credit policy that governs the retail banking products, both locally and abroad. Furthermore, the Division is implored with closely monitoring the consistent implementation of both credit policy provisions and credit granting procedures.

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

4.5. Market Risk

In order to ensure the correct estimation and efficient management and monitoring of Market Risk that derives from the Bank's activities in international and domestic financial markets, NBG's GMORM Division calculates Value-at-Risk (VaR) on a daily basis. This has been implemented through RiskWatch™ by Algorithmics (currently IBM). In particular, due to the predominantly linear nature of its portfolio, the Bank has adopted the variance-covariance (VCV) methodology, with a 99% confidence interval and 1-day holding period (extended to 10-days for regulatory purposes). The VaR is calculated for the Bank's Trading and Available-for-Sale ("AFS") portfolios, along with the VaR per risk type (interest rate, equity and foreign exchange risk). For the calculation of capital requirements, the VaR estimates refer only to the Bank's Trading portfolio, according to the prevailing regulatory framework. The most significant types of Market Risk to which the Bank is exposed are the following:

- Interest Rate Risk
- Equity Risk
- Foreign Exchange (FX) Risk

Interest Rate Risk stems from the Bank's interest rate, over-the-counter (OTC) and exchange traded, derivative transactions, as well as from its trading and available-for-sale (AFS) bond portfolios.

Equity Risk derives from the Bank's holdings in stocks and equity derivatives.

Foreign Exchange Risk arises from the Bank'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.

Market Risk is mitigated through hedging, either on a portfolio or a position/transaction level. Hedging tools are differentiated based on the type of risk and include appropriate OTC and exchange traded derivatives.

The Bank has also established a framework of VaR limits in order to control and manage more efficiently the risks to which it is exposed. These limits have been determined by reference to worldwide best practices and are consistent with the Bank's Risk Appetite as outlined in the Risk Appetite Framework ("RAF"); they refer not only to specific types of market risk, such as interest rate, foreign exchange and equity, but also to the overall market risk of the Bank's trading and available-for-sale portfolios. Furthermore, NBG's GMORM Division prepares a set of VaR reports on a daily basis, so as to inform the senior management about the level of Market Risk and the sustainability of the respective limits.

All key principles that govern the Bank's activities in the financial markets, along with the framework for the estimation, monitoring and management of Market Risk are incorporated in the Bank's Market Risk Policy. The Policy has been approved by the Board Risk Committee and is regularly reviewed.

4.6. Operational Risk

4.6.1. Definition and objectives

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

The Bank's objective in controlling and managing operational risk is to identify, measure, evaluate, monitor, control and mitigate this risk. In 2016 the Bank continued to drive the improvement of its OR management through a range of initiatives fostered through all risk areas. Some of the most significant of these include the persistence on OR training, the decision to shift to a new more advanced software for the management of OR and the constant effort to improve OR loss collection process.

4.6.2. Operational risk management framework

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

In 2016 the ORMF was implemented in the Bank and its subsidiaries for the tenth consecutive year. The basic elements of the Bank's ORMF are the following:

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

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

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

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

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

The Bank fosters awareness and knowledge of operational risk at all levels of the organisation. In 2016 a range of training initiatives were carried out throughout the Group's entities. These included e-learning seminars in a number of foreign subsidiaries, as well as courses for operational risk correspondents.

4.6.3. Other aspects of control and monitoring of operational risk

Due to the specific nature and complexity of operational risk, the Bank considers it necessary to continuously improve operational control procedures and keep them in line with new regulations and best practices in the market. Thus, during 2016, it continued to improve the monitoring of OR, attaching particular importance to the following points:

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

4.6.4. Operational Risk Reporting

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

The key stakeholders of operational risk reporting are:

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

Finally, **Senior Management and the Operational Risk Committee**, jointly with GMORM, determine priorities for corrective actions and decide on cases of increased exposure to risk. Following the Basel framework, the Bank defines operational risk (OR) as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Operational risk is inherent to all products, activities, processes and systems and is generated in all business and support areas. For this reason, all employees are responsible for managing and controlling OR generated in their sphere of action.

The Bank's objective in controlling and managing operational risk is to identify, measure, evaluate, monitor, control and mitigate this risk. In 2016 the Bank continued to drive the improvement of its OR management through a range of initiatives fostered through all risk areas. Some of the most significant of these include the persistence on OR training, the decision to shift to a new more advanced software for the management of OR and the constant effort to improve OR loss collection process.

4.7. Analysis and Reporting

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

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

- Capital requirements and capital adequacy
- Large exposures and large debtors
- Leverage
- Cross border exposures
- Quality and vintage analysis of the Bank's and its subsidiaries portfolios

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

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

5. CREDIT RISK

5.1. Definitions and general information

For accounting purposes, "past due" exposures are those exposures which are past due for at least 1 day.

For accounting purposes, "impaired" exposures are defined as follows:

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

5.2. Impairment loss calculation methodology

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

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

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

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

(a) significant financial difficulty of the issuer or obligor;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The following tables present the analysis of the NBG Group loans by portfolio, by geographical region, by product line and industry and by remaining maturity. The following tables do not include UBB, Interlease E.A.D. and S.A.B.A loans which have been classified as held for sale.

Net loans and advances to customers by portfolio before credit enhancements at Group level		*€ mio*
	Average for 2016	**31.12.2016**
Mortgages	18,361	17,992
Consumer Loans	4,956	4,743
Credit Cards	1,190	1,046
Small Business Lending	4,037	3,948
Retail lending	**28,544**	**27,729**
Corporate and Public Sector lending	**25,720**	**25,371**
Total before allowance for impairment on loans & advances to customers	**54,265**	**53,100**
Less: Allowance for impairment on loans & advances to customers	(11,913)	(11,457)
Total	**42,352**	**41,643**

Net loans and advances to customers by geographical region at Group level		*€ mio*
	31.12.2016	**%**
Greece	48,748	92%
SE Europe	3,315	6%
Other countries	1,037	2%
Total	**53,100**	**100**

Net loans and advances to customers by product line and industry at Group level		*€ mio*
	31.12.2016	**%**
Retail Lending	**27,729**	**52%**
Mortgages	17,992	34%
Consumer loans	4,743	9%
Credit cards	1,046	2%
Small Business Lending	3,948	7%
Corporate Lending	**18,612**	**35%**
Industry & mining	4,160	8%
Small scale industry	814	2%
Trade and services (excl. tourism)	4,907	9%
Construction and real estate development	1,566	3%
Energy	1,323	2%
Tourism	925	2%
Shipping	2,377	4%
Transportation and telecommunications	436	1%
Other	2,104	4%
Public Sector	**6,759**	**13%**
Public sector Greece	6,678	13%
Public sector other countries	81	0%
Total	**53,100**	**100%**

Maturity Analysis of Financial Assets – Group					31.12.2016
€ mio	**Up to 1 month**	**1 to 3 months**	**3 to 12 months**	**Over 1 year**	**Total**
Cash and balances with central banks	1,475	5	-	21	**1,501**
Due from banks	488	33	43	1,620	**2,184**
Financial assets at FV through profit or loss*	1,850	-	-	-	**1,850**
Derivative financial instruments	4,482	-	-	-	**4,482**
Loans and advances to customers	4,069	2,030	5,018	30,556	**41,673**
Debt Securities	105	898	1,085	8,704	**10,792**
Other assets	184	53	670	574	**1,481**
Total	**10,925**	**3,800**	**7,486**	**41,752**	**63,963**

** Excluding Equity Securities and Mutual Funds*

5.3. Provision analysis

The movement in the allowance for impairment for loans and advances, including recoveries, for the year 2016 is as follows:

€ mio	**2016**
Balance on January 1st	**12,843**
Impairment charge for credit losses	716
Loans written off	(1,455)
Amounts recovered	19
Unwind of the discount	(188)
Sale of impaired loans	(11)
Reclassified as held for sale	(475)
Foreign exchange rate differences	8
Balance on December 31st	**11,457**

The way the movement in the allowance for impairment for loans and advances is presented does not provide any information for the current period's provision charges due to the netting of the latter with provision charge includes provisions of previous years not utilized (released) in current period.

The following tables present the breakdown of total, past due and impaired loans and advances to customers of the Group by portfolio and by geographical region (amounts in € mio):

Loans and advances to customers per portfolio						
	Loans and advances to customers	Past due but not impaired 0-90 dpd	Past due but not impaired over 90 dpd	Impaired	Allowance	Impairment charge for credit losses
31.12.2016						
Mortgage loans	17,992	1,312	-	6,601	(2,289)	191
Consumer loans	4,743	316	34	2,377	(1,962)	(11)
Credit cards	1,046	75	-	461	(455)	(2)
Small Business loans	3,948	214	3	2,731	(1,908)	99
Corporate loans and Public Sector Lending	25,371	589	110	7,372	(4,843)	439
TOTAL	**53,100**	**2,506**	**147**	**19,542**	**(11,457)**	**716**

Loans and advances to customers by geographical region						
	Loans and advances to customers	Past due but not impaired 0-90 dpd	Past due but not impaired over 90 dpd	Impaired	Allowance	Impairment charge for credit losses
31.12.2016						
Greece	48,748	2,036	120	18,329	(10,846)	684
SE Europe	3,315	458	3	653	(359)	19
Other	1,037	11	24	560	(252)	13
TOTAL	**53,100**	**2,506**	**147**	**19,542**	**(11,457)**	**716**

5.4. Portfolios under the Standardised Approach

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

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

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

The table below presents the Exposures (net of accounting provisions), before and after Credit Risk Mitigation (CRM), as of 31.12.2016, according to the supervisory exposure classes (amounts are in € mio):

Exposure Class	Exposure amount before CRM	Deductions due to substitution effect*	Additions due to substitution effect*	Eligible financial collaterals**	Exposure amount after CRM
Central Governments or Central Banks	16,722	-	1,452	-	18,174
Regional Governments or Local Authorities/ Public Sector Entities	247	(74)	-	(8)	165
Institutions	8,199	-	55	(4,568)	3,686
Retail	5,705	-	-	(98)	5,607
Secured by mortgages on immovable property	3,064	(1,033)	-	-	2,031
Corporate	2,341	(8)	-	(101)	2,232
Exposures in default	2,847	(7)	-	(3)	2,837
Claims in the form of CIU	22	-	-	-	22
Equity Exposures	785	-	-	-	785
Other items	3,302	-	-	-	3,302
Items associated with particularly High Risk	97	-	-	(1)	96
Multilateral Development Banks	-	-	18	-	18
International Organisations	8,471	-	-	-	8,471
Total	**51,804**	**(1,122)**	**1,526**	**(4,779)**	**47,428**

**Substitution effect refers mainly to guarantees accepted, as described in the articles 201-203 of the EU Regulation 575/2013.*

*** Eligible financial collaterals, including volatility adjustments to the exposure*

5.5. Portfolios under the Internal Ratings Based Approach

The Bank uses:

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

A comprehensive and well-documented roll-out plan has been developed, that enables the Group to gradually implement the Internal Ratings-Based Approach to all of its banking book loan exposures, providing permanent exception for specific classes. In the first year of the roll-out plan application more than 50% of loan exposures were included in the IRB approach and their relative weight has been increasing.

5.5.1. Structure and use of internal ratings systems

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

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

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

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

5.5.2. Credit Risk Mitigation

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

For corporate and retail portfolios, collateral values and related trends in Greece are monitored and updated based on independent appraisals by RICS-certified appraisers, an independent published Greek real property index and official reports prepared by the Bank of Greece. According to valid internal procedures of the Bank, the existence and value of collateral is closely monitored. The frequency and the objective of the appraisals are determined by the competent approval units and do not usually exceed an interval of two years or earlier in case of extreme conditions in the real estate market. The main collateral type is mortgage on real estate; supplementary, it is possible to accept financial collaterals such as pledge on deposits or securities. More specifically for housing loans the Bank preferably requires for each loan contract first lien in mortgage on the financed property or other property suitable for collateral.

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

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

5.5.3. Control mechanisms of Internal Rating Systems

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

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

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

5.5.4. Models and Internal Rating process of the Corporate Portfolio

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

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

In December 2012, the Group Risk Control and Architecture (GRCA) Division recalibrated the 19-grade rating scale of the Corporate Rating System (C.R.S.), assigning higher probabilities of default (PDs) at each grade. During the periodic validation of C.R.S., a comparison was made between the actual default rates and the theoretical PDs (produced by the C.R.S.). The exercise covered the period of 2000 - 2012 and was based on more than 200,000 clients' evaluation snapshots, whose accounts performance regarding the regular repayment of emanating loan obligations, delinquency status and case of restructuring event was examined over a 12-month period after their evaluation. As expected, due to Greece's deep recession and macroeconomic crisis, the observed percentages of "regulatory defaults" were higher than those theoretically estimated by the C.R.S. Therefore, the recalibration of NBG's master scale was considered necessary.

Besides this upward PD readjustment in the C.R.S., the deep economic crisis affected the Bank in terms of its delinquency rates, and impelled the Bank to inaugurate new tools to manage its symptoms. The economic crisis led to a quadrupling of non-performing corporate loans' provisions within 2010 - 2014, while the C.R.S. produced worse ratings which led to higher capital requirements.

Moreover, the Bank continued its intensive restructuring policy applying it to small and large companies aiming to help them overcome temporary problems arising from the 7-year macroeconomic crisis. By making the necessary credit framework adjustments, so as to enhance the required cash flows of its obligors depending on their operating cycle, by strengthening its collateral base and allocating provisions to obligors who do not seem to be capable of recovering, the Bank maximizes the repayment ability of obligors with temporary problems, enhances entrepreneurship and shields its capital position.

In order to attain the best possible results depending on the appliance of the measures mentioned above, the Bank has established, in April 2014, a scheme of Special Asset Units. The main objective of those Units was to manage effectively clients that struggle to cope with their debt obligations, assessing their viability with specific models and discriminating between the optimal outstanding debt rescheduling/restructuring scheme, aiming at ensuring a smooth debt repayment and the maximization of net present value of the capital recovery result.

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

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

The distribution of the Bank IRB exposures per rating model as of 31.12.2016 is given below.

Model	EAD (€ *mio*)	% Total
Customer Level		
CRM	7,589	94.0%
Limited Financial Scorecard	27	0.3%
Expert Judgment Model	371	4.6%
Non-Rated	88	1.1%
In Default	5,906	
Sub-Total	**13,981**	**100.0%**
Exposure Level		
Project Finance	1,177	42.3%
Object Finance	1,605	57.7%
In Default	431	
Sub-Total	**3,214**	**100.0%**
GRAND TOTAL	**17,194**	

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

IRB Corporate credit risk models selected features:

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

I. Corporate Rating Model (CRM)

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

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

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

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

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

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

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

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

II. Expert Judgment Model

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

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

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

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

III. Specialised Lending Slotting Criteria Scorecards

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

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

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

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

IV. Limited Financials Scorecard

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

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

The assessment criteria of the model are presented below:

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

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

5.5.5. Models and internal rating process of Retail SMEs

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

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

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

I. Application Model

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

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

II. Behavioural Model

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

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

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

III. Loss Given Default Model

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

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

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

5.5.6. Corporate model validation

For all corporate models, a validation process adhering to an annual frequency is strictly implemented, to ensure that they keep satisfying all rules and technical constraints posed during their development phase. Key targets of this specific procedure are: a) the measurement of the predictive power of the models which should meet specific quantitative criteria regarding best practices employed and b) the estimation and the statistical correlation of observed default frequencies per each model's rating grade versus respective theoretical probabilities of the latter. Relative results are communicated to the competent committees and management bodies of the Bank, based on approved internal policies and practices.

5.5.7. Applications of internal ratings of corporate portfolio

IRB risk parameters – PD and LGD – are building blocks of credit risk estimation and are used in a variety of applications and internal processes regarding credit risk across the entire portfolio: More specifically their usage is applied to:

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

5.5.8. Models and Internal Rating process of the Mortgage Portfolio

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

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

I. PD Model

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

1. The existence (or not) of an explicit and unconditional Greek Government Guarantee for capital and interest is examined. Claims that satisfy this criterion (usually loans to victims of natural disasters, population minorities, etc.) are treated separately.
2. The origination date of the loan is recorded. For loans that have not yet reached 14 Months on book (MoB), step 3 is followed. Otherwise, step 4 is followed.
3. Loans with up to 13 MoB are scored with a separate model. It uses criteria that refer to the facility (loan maturity, product type), the obligor (application score) and repayment patterns (current delinquent amount, patterns of delinquency in the last 12 months, etc.). This score is stored and step 5 follows.
4. Loans with over 13 MoB are scored using a behavioural model specifically developed for them. This one uses criteria referring to the facility (loan amount, product type) and the repayment patterns (current delinquent amount, patterns of delinquency in the last 12 months, etc.) but not the original application score, since it is shown to be no longer relevant. This behavioural score is also stored and step 5 follows.
5. Based on the score calculated from the applicable model, each loan is placed into one of 10 distinct Risk Pools and assigned with the relevant PD.

The PD estimate for each pool was estimated by tracking each active loan, within the years 2006-2010 (observation), and its corresponding default event one year later (performance tracked in years 2007-2011).

II. LGD Model

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

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

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

All loans that presented material delinquency above 180 days since 1990 and had completed at least one year in default status were used in the development of the LGD model. This increased significantly the robustness and power of results. All relevant cash flows (both revenues and costs) arising after default and until final settlement, were taken into account in recovery estimates. Given the long time period that elapses between default and subsequent cash flows, the time value of money is definitely of importance. Hence, in order to calculate recovery rates, all cash flows were discounted back to the original default date, and their present value was compared to the outstanding debt at the time of default. These calculations were performed on an account basis and not on a customer basis.

As far as the realised losses are concerned, during the last three years it was observed that the recoveries from defaulted mortgages were lower than those that were measured during the calibration process of the mortgages' LGD model. This was expected, since the 6year macroeconomic recession of Greek economy affected the income of the Greek households significantly.

It should be stressed however that a large segment of the non-performing mortgages loans has been restructured since 2013. Therefore, the impact of the restructuring is not fully depicted in the above measurements, as the data sample has larger concentration of non restructured mortgages. Thus, the "lower" recovery ratios can be seen as a result of a "selection bias" in the sample and they are not suitable for comparison to those made in previous years. The Bank closely monitors the behavior of mortgage restructured loans and the growth of new defaults is reduced.

5.5.9. Mortgages model validation

GRCA assesses the models' validity and their predictive power through qualitative and quantitative controls on an annual basis. For validation purposes the most recent available information is used based on all rated loans with outstanding balance during an "observation period". The duration of the observation period for the PD model validation is usually one year while the respective period for the LGD model may be longer. At the end of the validation process, a report is written which is further submitted to the Head of GRCA as well as to internal and external auditors, upon request. The results of the most recent PD model validation illustrated high discriminative power of the PD model.

5.5.10. Applications of internal ratings of mortgage portfolio

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

- the provisioning procedure carried out by the Finance Division
- the ICAAP
- Stress-testing

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

5.5.11. Quantitative information for the portfolios under the IRB approach

The following tables present information regarding the IRB portfolios as per 31.12.2016 (in € mio):

Exposures to Corporates (Foundation IRB)			(€ mio)
PD Band	**Amount to be weighted***	**Weighted Average Risk Weight**	**Provisions**
0,06%-1,00%	2,485	48.8%	(5)
1,01%-3,00%	2,401	102.2%	(18)
3,01%-6,00%	1,977	117.4%	(29)
6,01%-15%	445	130.4%	(13)
Over 15%	1,089	188.2%	(80)
Default**	6,027	0.0%	(3,838)
Total	**14,423**		**(3,982)**

Specialized Lending Exposures (Slotting Criteria)			(€ mio)
Risk Rating	**Amount to be weighted***	**Weighted Average Risk Weight*****	**Provisions**
Strong	1,380	67.29%	(6)
<= 2.5 years	*132*	*48.88%*	-
over 2.5 years	*1,248*	*69.23%*	*(6)*
Good	1,011	86.68%	(9)
<= 2.5 years	*161*	*69.91%*	*(1)*
over 2.5 years	*850*	*89.86%*	*(8)*
Satisfactory	274	114.97%	(8)
Weak	116	249.63%	(10)
In Default**	431	0.00%	(401)
Total	**3,214**		**(434)**

Mortgage Portfolio (Advanced IRB)				(€ mio)
PD Band	**Avg. LGD**	**Amount to be weighted***	**Weighted Average Risk Weight**	**Provisions**
0,18%-1,00%	12.99%	5,403	8.4%	(8)
1,01%-4,50%	13.18%	2,331	27.8%	(24)
4,51%-13,00%	13.27%	908	62.4%	(38)
Over 13%	13.29%	682	77.8%	(70)
Default**	29.41%	4,194	0.0%	(1,858)
Total	18.15%	**13,518**		**(1,997)**

SME Retail (Advanced IRB)					(€ mio)
PD Band	**Avg. LGD**	**Avg. CCF**	**Amount to be weighted***	**Weighted Average Risk Weight**	**Provisions**
2,00%-4,00%	14.6%	3.1%	167	21.0%	-
4,01%-11,00%	14.4%	4.3%	361	30.4%	(2)
11,01%-40%	15.1%	11.4%	628	50.0%	(21)
Over 40%	18.4%	5.8%	163	48.5%	(13)
Default**	67.3%		2,168	0.0%	(1,725)
Total	47.6%		**3,487**		**(1,761)**

** Amount to be weighted is the exposure amount after taking into account credit risk mitigation and credit conversion factors according to the Capital requirements regulation and directive – CRR/CRD IV and Regulation (EU) No 575/2013.*
*** Under the IRB Approach the risk weight for assets in default is zero.*
**** RWAs are reduced through the application of SME-supporting factor.*

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 their coverage ratio
- Provide information to the Branch, the Approval Authority and the Bank in general, regarding each and every obligor's collaterals
- Retrieve necessary data for the estimation of capital requirements per facility
- Monitor automatically the obligor's entire credit risk position

Collateral Management includes registering, searching, altering and deleting information regarding collaterals. Additionally, the system not only provides a large number of control elements, reducing operational risk, but also keeps track of all securities offered to the Bank, both those that are currently active and those that matured. As far as valuation is concerned, 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 Guarantees 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 CRDIV eligible credit risk mitigation instruments (collateral and guarantees) as of 31.12.2016 (in € mio) were as follows:

Exposures to	Eligible financial collaterals *	Other eligible collaterals	Guarantees	Secured by Real Estate	Total
Central Governments or Central Banks	-		-		-
Regional Governments or Local Authorities/ Public Sector Entities	8		74		82
Institutions	4,568		-		4,568
Retail	98				98
Secured by mortgages on immovable property	-		1,033	2,031	3,064
Residential Mortgages (Advanced IRB)			1	16,019	16,021
Corporate (Standardised Approach)	101		8		109
Corporate (Foundation IRB)	263	648	272	3,896	5,079
SME Retail (Advanced IRB)	34		117	1,551	1,701
Items associated with particularly High Risk	1		-		1
Exposures in default	3		7	468	479
Equity Exposures	-		-		-
Other items	-		-		-
Securitisation			13		13
Total	**5,075**	**648**	**1,526**	**23,965**	**31,215**

** Eligible financial collaterals, including volatility adjustments to the exposure*

6. COUNTERPARTY CREDIT RISK

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

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

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

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

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

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

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

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.

The Bank is not using netting for the underlying of the off balance sheet asset items.

For capital requirements calculation purposes, the Group calculates the exposure amount by applying the Mark-to-Market (MtM) methodology. The process followed includes:

- Data gathering from various Risk Management systems
- Performance of quantitative and qualitative checks
- Application of Mark to Market Method according to the EU Regulation 575/2013, article 274, taking into account the provisions of contractual netting as described in articles 295-298

The following table presents the OTC derivatives exposures of the Bank subject to counterparty credit risk as of 30.12.2016 (€ mio):

	Pre-Netting Exposure*	Netting effect**	Post-Netting Exposure	Collateral Received (Paid)	Total exposure after netting & CSA application
Contracts under ISDA and CSA (derivatives)	2,764	3,030	(267)	(372)	105
Contracts under ISDA (derivatives)	19	-	19	-	19
Total	**2,783**	**3,030**	**(248)**	**(372)**	**124**

*The sum of exposures with positive value for the Bank.

**The netting effect is calculated separately for each counterparty.

The Credit Default Swaps of the Group, referring to transactions of the Trading Portfolio against Financial Institutions, as of 30.12.2016 are presented in the table below (€ mio):

Credit Protection	Nominal Value
Credit Default Swaps	25
of which:	
- Credit Protection bought	25
- Credit Protection sold	-

Moreover, wrong way risk (wwr) is 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.

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.

7. MARKET RISK

The regulatory framework permits the use of internal models for the calculation of capital charges against Market Risk of the Trading Book. In this context, the Bank received the initial approval for the use of an internal model by the Bank of Greece in July 2003, after a thorough examination of both the internal model and the results it produced. In 2005, the Bank of Greece re-evaluated the model, due to the replacement of the former risk system by RiskWatch™, created by Algorithmics (currently IBM). The second approval was received in October 2005. Additionally, the Internal Audit Division conducts reassessments of the model on a regular basis. The calculation of the subsidiaries' capital requirements is performed with the Standardised Approach.

The table below presents the market risk capital requirements as of 31.12.2016 (€ mio).

Market & CVA Risk Capital Requirements	
Issuer specific risk on traded debt instruments	10
General risk on traded debt instruments in relation with maturity	12
Duration based approach for general risk on traded debt instruments	-
General risk on equity instruments	1
Issuer specific risk on equity instruments	2
Position risk in CIUs, hedge funds, structured products, Gamma & Vega risks and margin requirements on derivatives	3
Foreign exchange risk	80
Commodity risk - maturity ladder approach	-
Commodity risk - extended maturity ladder approach	-
Commodity risk - simplified approach	0.001
Large exposure excess over limit	-
General and specific risk, foreign exchange risk and commodity risk calculated with the Internal Model (Value at Risk)	256
CVA Risk	11
Total	**375**

Since September 22nd, 2005, following a decision by the Board of Directors, RiskWatch™ has been the official system for the calculation of the Bank's capital requirements against Market Risk of the Trading Book.

The VaR estimates are used both internally as a risk management tool, as well as for regulatory purposes. The GMORM Division calculates for internal use the VaR of the Bank's trading and available-for-sale portfolios, on a daily basis, using the latest 75 exponentially weighted daily observations to construct the VCV matrices, taking into account equity specific risk.

For regulatory purposes, according to the EU Regulation 575/2013, the VaR estimates refer only to the Bank's Trading portfolio, excluding equity specific risk, and are based on 252, equally weighted, daily observations.

The table below presents the Bank's regulatory VaR (99%, 1-day) for the year ended on December 2016 (€ mio):

Daily values	Total VaR	Interest Rate Risk VaR	Equity Risk VaR	Foreign Exchange Risk VaR
31st December 2016	11.4	11.1	1.0	0.3
Average	8.7	8.4	0.8	0.6
Maximum	12.9	12.4	1.3	1.0
Minimum	5.2	4.9	0.4	0.2

Capital charges for specific risk are calculated with the Standardised Approach.

The variance-covariance methodology could be summarized as follows:

1. Collection of transactional data per type of product;
2. Identification of "risk factors" i.e., variables whose price changes could affect the value of the portfolio. The risk factors relevant to the financial products in the Bank's portfolio are interest rates, equity indices, foreign exchange rates and commodity prices;
3. Collection of market data for instruments/positions valuation;
4. Specification of the confidence interval and the holding period for the VaR calculations at 99% and 1-day, respectively;
5. Estimation of the model's parameters:

- the variance of each risk factor, from which respective volatilities are derived;
- the covariance of the risk factors, from which respective correlations are derived;
- the beta of stocks;
- the volatility for the estimation of equity specific risk.

6. Estimation of the VaR per type of risk (interest rate risk, equity risk, foreign exchange risk);
7. Estimation of Total VaR, taking into consideration the correlation matrix among all risk factors.

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

- Returns on individual risk factors follow a normal distribution.
- Investments payout is considered to be linear.

Moreover, the GMORM Division calculates the Stressed VaR (99%, 1-day) of the Bank's Trading book, on a daily basis. The table below presents the Bank's Stressed VaR (99%, 1-day) for the year ended on December 2016 (€ mio):

Daily values	Stressed Total VaR	Stressed Interest Rate Risk VaR	Stressed Equity Risk VaR	Stressed Foreign Exchange Risk VaR
31st December 2016	15.3	14.9	0.9	0.2
Average	13.8	13.5	0.7	0.5
Maximum	18.1	17.5	1.2	0.9
Minimum	10.8	10.5	0.3	0.2

The capital charges for 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).

Lastly, the GMORM Division calculates the VaR of the Bank's portfolios by applying the Historical Simulation approach, for comparative purposes.

7.1. Stress Testing

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

The scenarios used are shown in the following table:

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

7.2. Back testing

In order to verify the predictive power of the VaR model used for the calculation of Market Risk capital requirements, the Bank conducts back-testing on a daily basis.

In accordance with the EU 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 the same 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 losses over the VAR estimate is reported to the regulatory authorities no later than within five (5) business days. During 2016, there were only two cases in which the back-testing result exceeded the respective VaR calculation.

8. OPERATIONAL RISK

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

9. EQUITY EXPOSURES NOT INCLUDED IN THE TRADING BOOK

Investments in shares of stock and mutual funds not included in the trading portfolio are included in the Available for Sale (AFS) portfolio. These investments are held with the intention of achieving capital gains. The AFS investments in shares and mutual funds are initially recognised and subsequently measured at fair value. Initial measurement includes transaction costs. The fair value of AFS investments in shares that are quoted in active markets is determined on the basis of the quoted prices. For those not quoted in an active market, fair value is determined, where possible, using valuation techniques and taking into consideration the particular facts and circumstances of the shares' issuers. The fair value of mutual funds is based on their published price, at each reporting date. The carrying amount of AFS equity instruments listed on a Stock Exchange Market equals their market value. The carrying amount as of 31.12.2016 is presented below:

	€ mio
Listed	37
Not Listed	42
Mutual Funds	18
Total	**97**

The total amount of realized gains from the disposal of AFS equity instruments and mutual funds for the year 2016 was €26 mio. The net amount of unrealized gains of AFS equity instruments and mutual funds as at 31 December 2016 was €27 mio after tax.

The amount of unrealized gains of available-for-sale equity instruments and mutual funds, recognized in reserves as at 31 December 2016 is included in Common Equity Tier 1 capital (CET1).

10. SECURITISATION

Overview

The objectives pursued through a securitisation can vary from funding to the reduction of the credit risk and capital requirements or more sophisticated asset management.

In the past, the Bank had proceeded with securitisations in order to pledge them as collateral for repurchase agreements with the European Central Bank and the Bank of Greece. This process contributed to the enhancement of the Bank's liquidity, as the constraints in accessing the capital markets increased. During 2016, the Bank was able to place senior asset-backed securities with institutional investors, which allowed the Bank to diversify its funding sources.

All the transactions the Bank has carried out were for funding purposes. The Bank has not proceeded with any transactions that a significant credit risk transfer has occurred through a securitisation or a synthetic securitisation. Primary recourse for the securitisation transactions lies with the underlying securitised assets. The related risk is mitigated by credit enhancement, typically in the form of subordination, reserve accounts and other structural mitigants. Additional features may include performance triggers and events of default stipulated in the related legal documentation, which, when breached, provide for the acceleration of repayment or other rights. The investors and the securitisation vehicles have no recourse to the Bank's other assets. The Bank has not derecognized any of the securitised assets and currently consolidates the existing securitisation vehicles.

Roles

A participant in the securitisation market can typically adopt three different roles: the originator, the sponsor or the investor role. An origination is an institution which is involved, either directly or indirectly, in the origination of the securitised assets. In a sponsorship role, an institution establishes and manages a securitisation transaction, but has not originated the securitised assets nor recognized the assets on its balance sheet.

National Bank of Greece as Originator

NBG, as originator, has carried out securitisation transactions related to various asset classes: residential mortgage loans, consumer loans, credit cards, SME and corporate loans and other types of financial assets.

National Bank of Greece as Servicer

In transactions where the Bank is the originator, the Bank continues to service the assets being securitised. Depending upon the transaction this role may be outsourced or assigned to other specialised parties.

National Bank of Greece as Backup Servicer

The Bank may assume a backup servicer role in transactions where the originator is another Greek bank. Depending on the terms of the back-up servicing agreement, the Bank will be required, upon certain trigger events, to assume the role of the servicer for the securitised assets.

National Bank of Greece as Arranger

In transactions where the Bank is the originator, the Bank may act as an arranger. In these instances, the Bank will structure the securitisation transaction and place the corresponding notes with investors.

National Bank of Greece in other Roles

Depending upon the specific details of a transaction, the Bank may undertake other roles in securitisation transactions such as calculation agent, paying agent and account bank. In some cases, the Bank may act as a subordinated loan provider at arm's length market rates.

National Bank of Greece 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, 2016 there was no exposure after credit risk mitigation to securitised positions for investment purposes.

National Bank of Greece Outstanding Securitisations

Titlos plc

Titlos plc is a securitisation transaction involving Hellenic Republic receivables. The transaction was closed on 26 of February 2009 and had an original outstanding balance of €5,100 mio. As of 31/12/2016, there were €4,293 mio notes outstanding.

SINEPIA DAC (SME loans)

SINEPIA DAC is a securitisation transaction involving SME and Corporate loans. The transaction was launched on 8th of August 2016 and had an original outstanding balance of €648 mio. Six floating rate tranches of bonds were issued, 4 senior classes (A1 to A4, rated BB by S&P and B- by Fitch) with an original balance of €324 mio and two junior tranches (M and Z, both unrated) with an original balance of €324 mio. The senior classes were subscribed by the European Investment Bank, the European Investment Fund, the European Bank for Reconstruction and Development and the Bank. The junior notes were fully subscribed by the Bank. As at 31/12/2016, there were €265 mio outstanding from the senior notes. No principal repayments were made to the junior notes.

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

Issuer (SPE)	Asset Type	Issue Date	Final Maturity	Outstanding (€mio)
Titlos Plc	Greek State receivables	26/02/09	20/09/39	4,293
Sinepia Class A1	SME loans	08/08/16	18/07/35	123
Sinepia Class A2	SME loans	08/08/16	18/07/35	28
Sinepia Class A3	SME loans	08/08/16	18/07/35	41
Sinepia Class A4	SME loans	08/08/16	18/07/35	73
Sinepia Class M	SME loans	08/08/16	18/07/35	259
Sinepia Class Z	SME loans	08/08/16	18/07/35	65

11. INTEREST RATE RISK IN THE BANKING BOOK

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

The main sources of IRRBB are the following:

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

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

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

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

- Saving and Current Accounts: for NBG Greece, maturity is estimated taking into account the stickiness of the deposits, while for all other subsidiaries these deposits are mapped in the time bucket "0-1 month". Furthermore, a 0% pass-through rate assumption is used for the calculation of the NII changes;
- Mortgages: prepayment risk options have not been taken into account;
- Non-performing loans: they have been treated as "Non-rate sensitive"

It should be noted that:

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

The following table reflects the effect of a negative or positive interest rate shock, broken down by the main currencies.

As of the end of December 2016, the sensitivity of the Net Interest Income to an instantaneous and parallel rate change of -100 bps is -60.7 € mio.

The sensitivity analysis of Net Interest Income for the Banking Book as of 31.12.2016 is presented below:

Currency	Net Interest Income Sensitivity (change from base scenario)	
(€ mio)	+100 bps	-100 bps
EUR	99.8	(42.9)
USD	17.7	(18)
OTHER	3	0.2
TOTAL	**120.5**	**(60.7)**

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

12. LIQUIDITY RISK

Liquidity risk is defined as the current or prospective risk to earnings and capital arising from the institution's inability to meet its liabilities when they come due without incurring unacceptable losses. It reflects the potential mismatch between incoming and outgoing payments, taking into account unexpected delays in repayments (term liquidity risk) or unexpectedly high outflows (withdrawal/call risk). Liquidity risk involves both the risk of unexpected increases in the cost of funding of the portfolio of assets at appropriate maturities and rates, 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 approved levels. In addition, management receives a liquidity report, which presents a detailed analysis of the Group's funding sources and counterbalancing capacity, on a daily basis. Moreover, the Asset Liability Committee ("ALCO") monitors the gap in maturities between assets and liabilities as well as the Bank's funding requirements based on various assumptions, including conditions that might have an adverse impact on the Bank's ability to liquidate investments and trading positions and its ability to access the capital markets. On a long term perspective, the Loans-to-Deposits ratio is also monitored. This ratio stood at 86.1% and 87.6%, on a domestic (Greece) and on a Group level, respectively, as of December 31st 2016.

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

The Bank's principal sources of liquidity are its deposit base, Eurosystem funding via the Main Refinancing Operations ("MROs") and the Targeted Longer-term Refinancing Operations ("TLTROs"), with ECB, as well as through the Emergency Liquidity Assistance ("ELA") mechanism, with the Bank of Greece, and repurchase agreements (repos), with major foreign Financial Institutions ("FIs"). ECB funding and repos with FIs are collateralised mainly by EFSF / ESM bonds, as well as by Greek government bonds and T-Bills and highly rated corporate loans. ELA funding is collateralised mainly by loans, as well as by covered bonds issued by the Bank. During 2016, the Bank's liquidity profile was significantly improved, mainly due to the Bank's decreasing reliance on Eurosystem funding and in particular on ELA funding. The key areas of improvement, namely the Bank's mixture of funding sources and the respective funding cost, are further analyzed below.

On December 31st 2016, Eurosystem funding stood at €12.3 bn, a decrease of €11.7 bn, when compared to the respective figure as of December 31st 2015. Particularly, ECB funding was €6.7 bn, while ELA funding amounted to €5.6 bn, a decrease of about €5.8 bn and €5.9 bn, respectively. The main drivers for these developments were the divestment of subsidiaries (Finansbank S.A., NBGI and Astir Palace), in the amount of €3.9 bn, as well as the sale of the EFSF recapitalization bonds, in the amount of €3.3 bn. Additionally, the Bank regained access to the secured interbank market, thus replacing Eurosystem funding with repos with FIs, in the amount of €4.7 bn. As far as the Bank's customer deposits are concerned, they stood at €37.2 bn as of December 31st 2016, amounting to a very small increase by €0.5 bn during 2016, due to the existence of the capital controls.

Moreover, the Bank's funding cost sharply decreased by 68 basis points, when compared to the respective figure as of December 31st 2015 and stood at 0.47%, as of December 31st 2016. This development is mainly attributed to the significant reduction of ELA funding, predominantly due to the aforementioned sale of the subsidiaries, and to ECB's decision to reinstate the waiver on accepting notes issued by the Hellenic Republic as collateral for refinancing operations. In addition, the decreased need for ELA funding allowed for the complete cancelation of the most expensive type of collateral, namely the Pillar II and Pillar III notes, in the amount of €11.8 bn. Finally, the funding cost further improved due to the repayment of the Contingent Convertible bonds (CoCos) issued in favor of the Hellenic Financial Stability Fund, in the amount of €2.0 bn.

The Bank's liquidity buffer during this period remained almost unchanged and stood at €9.7 bn on December 31st 2016, of which €0.1 bn was collateral eligible for funding with the ECB and €8.8 bn was collateral that could be posted in order to draw liquidity from ELA, while €0.6 bn was either in the form of Cash or deposited in Nostro accounts and €0.2 bn other collateral.

13. ASSET ENCUMBRANCE

13.1. Information on importance of encumbrance

As at 31 December 2016, the Group and the Bank have the following main types of encumbrance for funding purposes mainly with the Eurosystem, other central banks and financial institutions:

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

In addition to the items presented above, as at 31 December 2016, the Group and the Bank have pledged an amount of €322 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 €340 mio for trade finance purposes.

It should be noted, that as of 31 December 2016, ECB funding (including MRPs/TLTROs) was collateralised mainly by EFSF/ESM bonds, T-bills and Greek government bonds and loans and advances to customers, while ELA funding was collateralised mainly with covered bonds issued by the Bank and loans and advances to customers. The funding from the repurchase agreements (repo) with major foreign financial institutions ("FIs") was collateralised mainly by EFSF/ESM bonds, covered bonds issued by the Bank and Greek T-bills.

The encumbered and unencumbered assets, at Group level, as of 31 December 2016, based on the requirement of CRR and related Guidelines issued by the EBA, are presented out below (amounts in € mio):

- Assets

	31 December 2016	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**	**30,414**		**45,867**	
030	Equity instruments	-	-	88	117
040	Debt securities	11,453	10,928	1,189	1,203
120	Other assets	18,961		44,590	

- Collateral received

	31 December 2016	Fair value of encumbered collateral received or own debt securities issued	Fair value of encumbered collateral received or own debt securities issued available for encumbrance
		010	040
130	**Collateral received by the reporting institution**	**629**	**8**
150	Equity instruments	-	-
160	Debt securities	-	-
230	Other assets	629	8
240	Own debt securities issued other than own covered bonds or ABSs	-	-

- Encumbered assets/collateral received and associated liabilities

	31 December 2016	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**	23,166	31,042

14. REMUNERATION POLICIES AND PRACTICES

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

14.1. The proportionality principle

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

In order to apply the proportionality principle, the following criteria are taken into consideration:

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

14.2. Human Resources and Remuneration Committee

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

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

The Committee is governed by a Functioning Regulation (Charter), which has been reviewed following a proposal by the Corporate Governance and Nomination Committee in order to incorporate Law 4261/2014 (CRD IV). The Charter in force was approved by the Board on November 18, 2014.

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. All members of the Committee are non-executive Directors, while the majority of the members (including the Chairman) are independent Directors, as per the independency definition included in the Corporate Governance Code. 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. One of the HFSF's representatives on the Bank's Board is a member of the Committee. Among the members of the Committee, there are individuals with experience in the financial sector, while at least one member has sufficient expertise, knowledge and professional experience in risk management and audit activities, in order to contribute to the alignment of the remuneration structure to the risk and capital profile of the Bank.

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

The Committee is comprised of the following members:

Human Resources and Remuneration Committee	
Chair	Marianne Økland
Vice Chair	Mike Aynsley
Member	Petros Sabatacakis
Member	Claude Piret
Member	Haris Makkas
Member	Panagiota Iplixian

Ms Panagiota Iplixian was appointed as of end of March 2017 as the new Representative of the Hellenic Financial Stability Fund on the Board of Directors, in replacement of Mr. Panagiotis Leftheris who had been previously appointed on 19/7/16 as Representative of the Hellenic Financial Stability Fund on the Board of Directors, in replacement of Mr. Haris Makkas who submitted his resignation. 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.

- During 2016, the Committee convened eight times. Its members receive compensation for their participation.
- During 2016, the Committee worked on issues concerning the implementation of the NBG Group Remuneration Policy, as well as on human resources issues, within its responsibilities. Indicatively, the HRRC dealt with the contracts, promotions and appointments of General Managers and Assistant General Managers of the Bank while it reviewed the personnel performance evaluation system. Additionally, the committee was informed in detail on a regular basis, concerning the NBG Voluntary Exit Incentive Scheme.
- 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 was adopted by the Board, following the recommendation of the Board's Human Resources and Remuneration Committee (the "HRRC"), in accordance with the BoG GA 2650/19.01.2012. The remuneration policy is consistent with the Bank's business strategy, risk profile and risk appetite and discourages excessive and short-term risk taking. The Policy is also in accordance with the recommendations of European statutory bodies and international best practices. Furthermore, it is noted that following the adoption of Directive 2013/36/EU and Regulation (EU) No 575/2013 of the European Parliament and of the Council (CRD IV and CRR), the EBA issued in December 2015 guidelines on sound remuneration policies which are applicable from January 2017. In that context and taking also other legislative provisions into consideration (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) the remuneration policy of the Bank will be reviewed in 2017.

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

14.4. Other relevant stakeholders/ Units

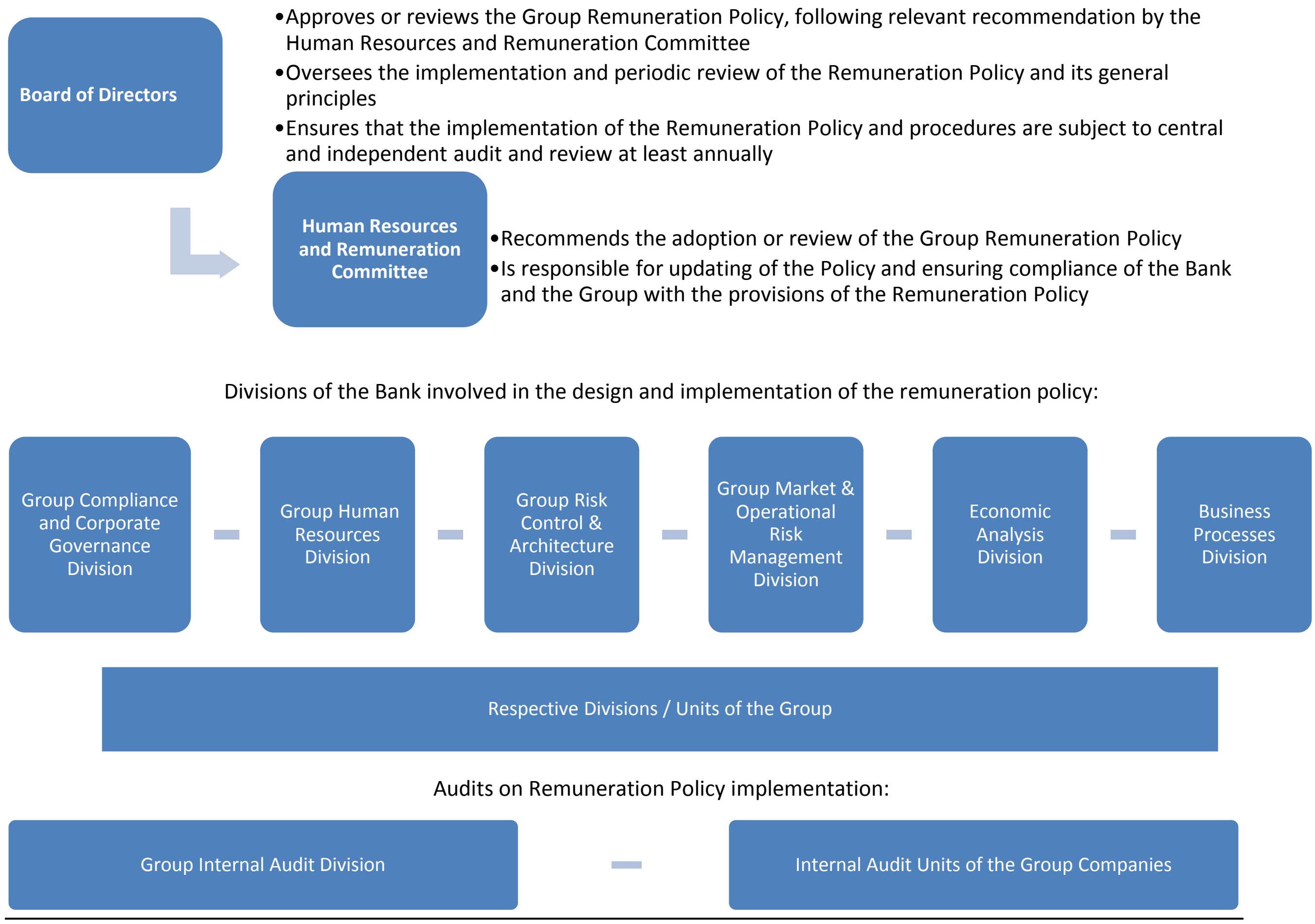
The Remuneration Policy is elaborated with the assistance of the Human Resources, Risk Management and Compliance and Corporate Governance Units, in accordance with their respective responsibilities. With the assistance of the aforementioned Units, the Policy is reassessed and reviewed. The implementation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

The implementation of the Policy is assigned to the Human Resources Unit, while the Group Compliance and Corporate Governance Unit reassures 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 2016 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:



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

Even though the Remuneration Policy provides for the Bank's right to award variable remuneration, during 2016 no variable remuneration was awarded.

Regarding share options in particular, no options were granted in 2016.

Furthermore, pursuant to Law 3864/2010 (article 10 §2b), the representative of the HFSF, who participates in the Bank's Board, also 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.

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).

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 / claw back of variable remuneration

The Bank may defer payment from the approved total bonus pool for as long as it sees fit or may suspend, entirely or in part, the payoff of variable remuneration, if specific ratios (such as capital adequacy, liquidity etc.) are not met or if the financial situation of the Bank/Group has deteriorated significantly.

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

14.8. Payment / vesting

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

14.9. Remuneration of senior management

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

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

14.10. Directors' Remuneration

The Board develops the proposal to the General Meeting of Shareholders on the remuneration of its members for their board services. This proposal is developed based on the proposal of the Human Resources and Remuneration Committee and according to the Bank's Remuneration Policy, the regulations of the HRRC and the Corporate Governance and Nomination Committee of the Bank's Board, the Bank's Corporate Governance Code, as well as industry best practices, in a way that adequately reflects the time and effort they are expected to contribute to the work of the Board, while at the same time promoting efficiency of the Board.

Remuneration of the Board's Chairman and the CEO are determined by non-executive members of the Board.

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

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

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

The remuneration received by the Chairman of the Board, the executive and non-executive Directors for the year 2016, 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, 2016, 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 2016, no variable remuneration has been granted to the Chairman of the Board and the executive Directors, while the remuneration of the non-executive Directors does not include bonuses according to the Bank's Remuneration Policy.