Pillar 3 Disclosure report

BNG Bank **2018**

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Introduction

The current international prudential regulatory framework for banks consists of a comprehensive set of measures developed by the Basel Committee on Banking Supervision (known as Basel III). Basel III has been implemented in the European Union through the Capital Requirements Directive IV (CRD IV) and is applicable as of 1 January 2014. CRD IV is formed by two legal acts: a Capital Requirements Directive and a Capital Requirements Regulation (CRR).

The Basel framework (and thus CRD IV) is based upon three pillars:
- The first pillar consists of minimum capital requirements for three main categories of risk: credit risk, market risk and operational risk.
- The second pillar provides a framework for banks to review their capital (and liquidity) adequacy for both the risks identified in Pillar 1 as well as all other risks (e.g. concentration risk, strategic risk, etc.). This internal review by banks is known as the Internal Capital/Liquidity Adequacy Assessment Process (ICAAP/ILAAP). Supervisors independently assess these processes in their Supervisory Review and Evaluation Process (SREP).
- Finally, the third pillar aims to introduce market discipline to complement the capital and liquidity requirements from the first and second pillar. Therefore, Basel III (and CRD IV) contains a set of disclosure requirements which will allow market participants to have sufficient understanding of a bank's activities, the risks that are involved and the controls that are implemented to manage these risks.

This report is drafted in response to the last pillar. The Pillar 3 disclosure provides a comprehensive overview of the risk profile of BNG Bank. Central to the Pillar 3 disclosure requirements is to promote the transparency of financial institutions and provide market participants with an adequate and comparable picture of the risks of a financial institution. This contributes to a proper functioning of financial markets, improves efficiency of market discipline and helps in building trust between market participants.

Scope of disclosure (articles 431 and 432 CRR)

The scope of the Pillar 3 disclosure is based on the policy that BNG Bank has adopted to comply with the regulatory requirements involved. This policy describes the rational for a Pillar 3 report, identifies the departments involved and sets out the internal controls and procedures in place for the disclosure of Pillar 3 information. The policy is updated annually.

The scope of this report relates to BNG Bank and does also include the 100% subsidiaries BNG Gebiedsontwikkeling BV and Hypotheekfonds voor Overheidspersoneel BV. BNG Bank aims to disclose a comprehensive overview on its risk profile by including information that is clear, meaningful, consistent and comparable. This information does not fully align with the information that is disclosed in the financial statements which is based on IFRS accounting principles. Therefore, a dedicated Pillar 3 report is published. BNG Bank aims to prevent duplication of information. Therefore, cross-references are included if information is already disclosed and the legibility of the report is not impacted by the cross-reference. Information that is proprietary or confidential will not be published but is disclosed in a more general manner.

Pillar 3 disclosure requirement are to a large extent included in the regulatory prudential framework and this Pillar 3 report is comparable to previous year. As the core business of BNG Bank is aimed at the Netherlands, Pillar 3 requirements are defined by European legislation. Part Eight of the Capital Requirements Directive (CRR) and the guidelines on disclosure requirements[1] prescribe in detail the tables and templates through which the Pillar 3 information needs to be disclosed. Changes in this regulatory framework are monitored within BNG Bank. New developments are assigned to the responsible line management or – if necessary – implementation projects are started.

After identification of the regulatory requirements, the Pillar 3 report has been composed and timelines for this align with the Annual Report. The Pillar 3 report has not been audited by an external auditor. However, Pillar 3 information is subject to the same internal control procedures as the information in the Annual Report and regulatory reports. Final approval of the Pillar 3 report is provided in conjunction with the Annual Report by the Executive and Supervisory Boards.

[1] EBA/GL/2016/11, Guidelines on disclosure requirements under Part Eight of Regulation (EU) No 575/2013.

The report itself can be divided in two parts. The first section provides a comprehensive qualitative overview on the management of risks by BNG Bank. The second part of this report contains all templates for disclosing the relevant quantitative information as provided for by the European Banking Authority (EBA). The order of these different sections has been aligned with those EBA guidelines and standards. For the sake of completeness, the last section includes an overview of the regulatory requirements regarding Pillar 3 disclosure and the location where the information can be found.

Frequency and means of disclosure (articles 433 and 434 CRR)

The Pillar 3 disclosure of BNG Bank is published annually together with the publication of the Annual report. Both reports are available on the website of BNG Bank.

Following relevant EBA guidelines on the frequency of disclosure[2] BNG Bank has assessed the need to publish information more frequently than annually. An annual publication of a comprehensive Pillar 3 disclosure report is deemed sufficient despite the designation of BNG Bank as an other systemically important institution (O-SII). BNG Bank is characterized by a stable business model with a limited range of activities and exposures. The resulting risk profile of BNG Bank is not prone to any rapid changes. And in general, the information, that would qualify for more frequent disclosure, does normally not exhibit any sudden changes either. An annual disclosure suffices therefore.

In addition, BNG Bank does publish an interim report on its website which is reviewed by an external auditor. Any sudden changes in the financial position or in the markets in which BNG Bank operates will be addressed in this interim report. If these circumstances would lead to material changes in the risk profile of BNG Bank an additional disclosure of some or all the Pillar 3 requirements will be contemplated.

[2] EBA/GL/2014/14, Guidelines on materiality, proprietary and confidentiality and on disclosure frequency under Articles 432(1), 432(2) and 433 of the CRR.

Declaration of responsibility

We confirm that the 2018 Pillar 3 Report has been prepared in accordance with the internal control processes as they have been agreed-upon within BNG Bank. The 2018 Pillar 3 Report includes the disclosures as prescribed in Part Eight of the CRR and provides a comprehensive overview on the risk profile of BNG Bank at end-2018.

The 2018 Pillar 3 Report was approved by the Executive Board on 26 February 2019.

Executive board
Ms G.J. Salden, Chair (appointed 1 January 2018)
O.J. Labe
J.C. Reichardt

Risk management objectives and policies (article 435 CRR)

General information

Institutional risk management approach

The process of accepting and controlling risks is inherent to the day-to-day operations of any bank. In order to conduct its operations, a bank must accept a certain amount of credit, market, liquidity and operational risk. On top of this, there is strategic risk. BNG Bank's risk management strategy is aimed at maintaining its safe risk profile, which is expressed in its high external credit ratings. BNG Bank's strict capitalisation policy, the restriction on services and counterparties as laid down in its Articles of Association and the fact that the bank has no trading book, determine the scope, size and sphere of the bank's risk appetite.

Risk acceptance is guided by the following principles:

- BNG Bank aims to provide the best possible services to its stakeholders, now and in the future. The return required by its principal shareholder takes account of the bank's risk profile. This means that the required return should not result in the bank taking risks that jeopardise its ratings and funding position, as a consequence of which it would no longer be able to fulfil its mission in the long term.
- In addition to a reasonable return for shareholders, low prices are a major focus. Apart from assuming the necessary risks for lending to clients, the bank is willing to accept certain additional risks for activities that support lending to clients. Achieving an additional return (based on considerations of risk and return) enables lower prices for clients now and in the future. Again, this must not be at the expense of the external ratings and excellent funding position, which would jeopardise the bank's mission.

- In the public sector, there is a distinction between lending that is not subject to solvency requirements (zero-risk-weighted) and lending that is subject to solvency requirements (non-zero-risk-weighted). The largest share of the bank's lending (loans and advances) is not subject to solvency requirements. In order to facilitate this lending at the lowest possible rates, it is essential that the bank retains its competitive funding position. This in turn is dependent on the high ratings, forcing the bank to impose restrictions on lending subject to solvency requirements in view of the related credit risks.

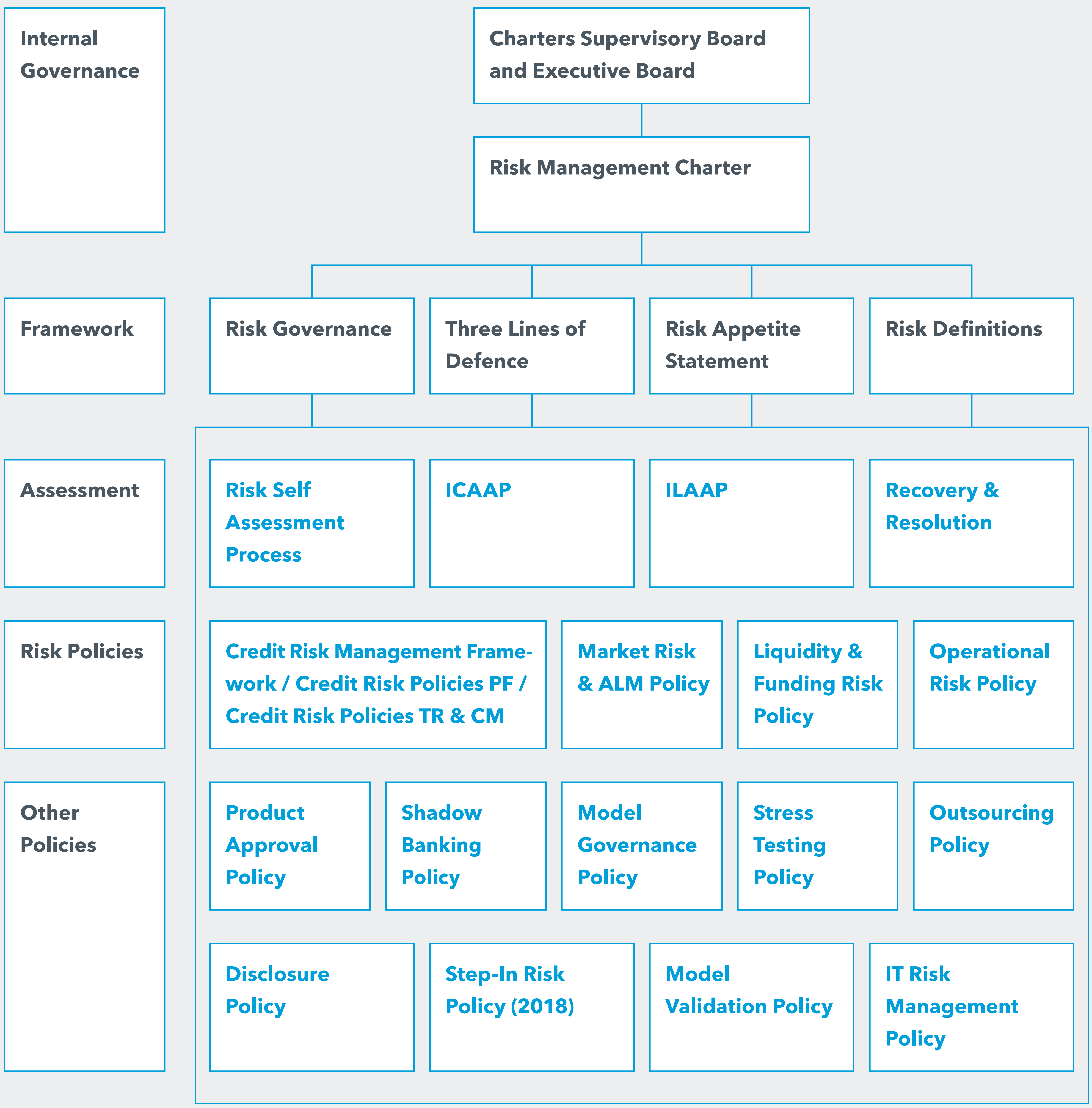
These overarching principles are decisive elements in determining the risk appetite of BNG Bank. To ensure that the risk appetite is embedded in the organisation, several subprocesses are identified.

In this report, an overview is provided of the main elements of the Risk Management Framework, including the Risk Appetite Framework, internal governance and the management of individual risks. Quantitative information is disclosed in tables and templates that correspond to the relevant EBA guidelines on disclosure requirements.

Risk management framework

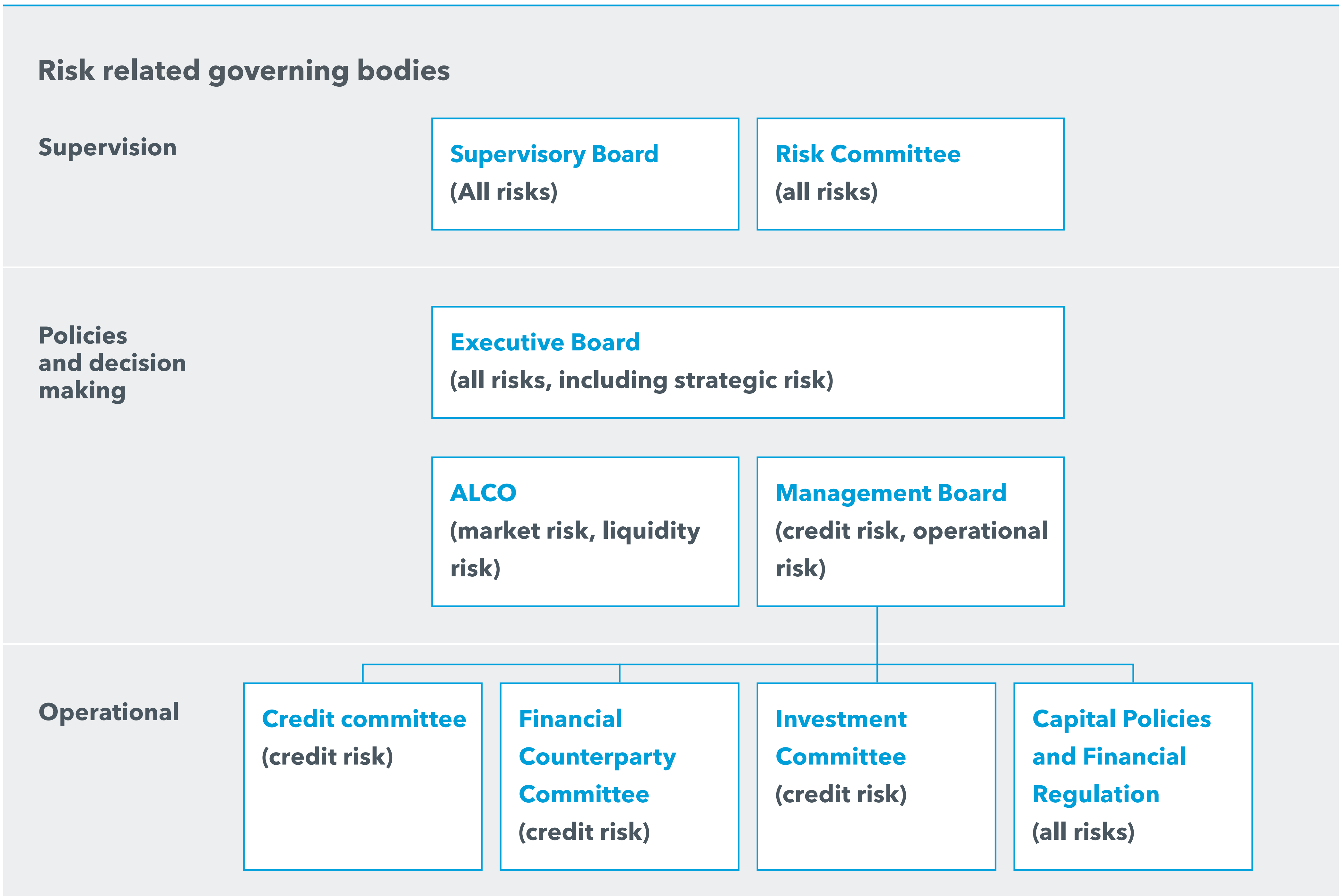
The Risk Management Framework consists of a number of overarching framework documents as well as policies on general and specific risk-related topics. The following figure gives an overview of the Risk Management Framework and the hierarchy between the different parts. This framework identifies and defines the various risk types, defines the risk appetite of the bank, describes the bodies involved in risk governance, sets out the responsibilities, and includes the various documents and policies that describe the acceptance and management of these risks. The Risk Management Framework of the bank aims to do justice to the straightforward business profile based on a strong interconnectedness with the Dutch Public Sector, resulting in a low default credit risk profile and a relatively large balance sheet. We use a standard cycle to identify, assess, measure, monitor, report and steer the various types of risk.

Risk Management Framework (RMF)



Risk governance

Risk management activities are included in all parts of the organisation of BNG Bank in which risks are considered. The following figure provides an overview:



BNG Bank has a two-tier governance structure consisting of a Supervisory Board and an Executive Board. An up-to-date overview of the members of these Boards as well as their subcommittees is available on the website of BNG Bank. Information on the number of directorships, the profiles of board members as well as their duties and responsibilities is also included here. The responsibilities of the Supervisory Board and the Risk Committee relating to risk management are stated in their charters. The responsibilities of the Executive Board are stated in a charter as well. In 2018, the bank evaluated the portfolios of the Executive Board Members and as of 1 October 2018 the responsibilities within the Board are redistributed over the Chief Executive Officer (CEO), Chief Financial Officer (CFO) and Chief Risk Officer (CRO). Risk Management and Compliance now both report to the CRO, while Finance reports to the CFO.

Effectively, the Executive Board is responsible for formulating the Risk Appetite Statement and keeping the bank's activities within its risk appetite through its risk committees, which manage the various risks on the operational level (the operational committees). Apart from the Executive Board, the Supervisory Board approves the Risk Appetite Statement as well and monitors whether the actual risk profile of the bank is within the approved risk appetite. For an overview of the corporate structure as at the end of December 2018 and the corporate governance statement, the Annual Report provides comprehensive information (pages 41-45, 57-58 and 61-74)[3].

In the Management Board and the Asset & Liability Committee (ALCO), all members of the Executive Board are included. For this reason, all decisions made by the Management Board and the ALCO are formal decisions by the Executive Board. Formal decisions are also made in the Executive Board meeting itself. In the context of risk-taking, this is mostly the case if either an escalation by an operational risk committee or a decision of a strategic nature is at hand. The risk committees that act on an operational level are chaired by a member of the Executive Board. These committees test whether the various risk-taking activities of the bank are in line with the policies. They also advise the Management Board and the ALCO on changes in policies. The operational committees have no mandate to approve policy changes themselves.

Further committees that have a relation with risk management are the Audit Committee and the Remuneration Committee of the Supervisory Board.

Although risk management activities are included in all parts of the organisation of BNG Bank, some departments have a more central role in the execution of the risk appetite process. The following departments are especially important in supporting the Executive Board and the committees in implementing risk policies:

- The Risk Management department qualifies, quantifies and monitors risks, and reports to the responsible committees. These risks consist of credit risk, market risk, liquidity risk, operational risk and strategic risk. The department maintains the risk policy documents and the Risk Management Framework. Risk Management participates in the internal risk committees as well as in the Risk Committee of the Supervisory Board.
- The Credit Risk Assessment department provides independent assessments of and advice on risks relating to credit and review proposals for clients and financial counterparties. It also participates in the formulation of policies with respect to credit risk. As part of the operational lending process, it is represented in the bank's Credit Committee, the Financial Counterparties Committee and the Investment Committee. This department is also responsible for the bank's Special Management activities – being the supervision, management and processing of non-performing loans and advances as well as other exposures in the loan portfolio in which a strongly increased credit risk is perceived.
- The Internal Audit Department (IAD) periodically conducts operational audits in order to evaluate the structure and performance of the bank's risk management systems as well as to assess compliance with the applicable legislation. The IAD functions as an independent entity within the bank and reports to the Executive Board. The IAD also has a reporting line to the Supervisory Board.

[3] For the Executive Board.
For the Supervisory Board.
The Annual Report is available at the website.

- Where necessary, the Compliance & Integrity department (CI) is engaged in connection with conduct-related issues. This department monitors compliance with all relevant laws and regulations. The duties, position and authorities of this compliance function are laid down in the BNG Bank Compliance Charter. The Compliance Officer reports to the Executive Board and has a reporting line to the Supervisory Board.

Three lines of defence approach

As risk management activities are included in all parts of the organisation, BNG Bank has taken into account a solid level of segregation of duties and focuses on the robust execution of risk management activities. In 2018, BNG Bank has adopted the 3LoD (three lines of defence) model. The principles of this model were already being applied by BNG Bank, but responsibilities have now been clarified. In addition, since October 2018, both the Risk Management function and the Compliance function report to the CRO.
The 3LoD model distinguishes three groups (or lines) involved in effective internal control and risk management:

- first line, Risk Ownership – Business (Core Business and Support functions);
- second line, Risk Control – Risk Management, Compliance & Integrity, Security, Management Control;
- third line, Risk Assurance – Internal Audit Department.

Each line of defence has a defined role in the internal control and risk management system. The model ensures that there is adequate segregation of duties between direct accountability for risk decisions (first line), independent monitoring and challenge of risk decisions and setting the risk management framework (second line), and independent assurance on the effectiveness of risk management, control and governance processes (third line).

Risk appetite

Part of the Risk Management Framework is the Risk Appetite Framework. This is the overall approach, including policies, processes, controls, and systems through which risk appetite is established, communicated and monitored. It includes a Risk Appetite Statement, risk limits, and an outline of the roles and responsibilities of those overseeing the implementation and monitoring of the Risk Appetite Framework. This framework should consider material risks to the financial institution as well as to the institution's reputation vis-à-vis policyholders, depositors, investors and customers. The Risk Appetite Framework aligns with the institution's strategy.

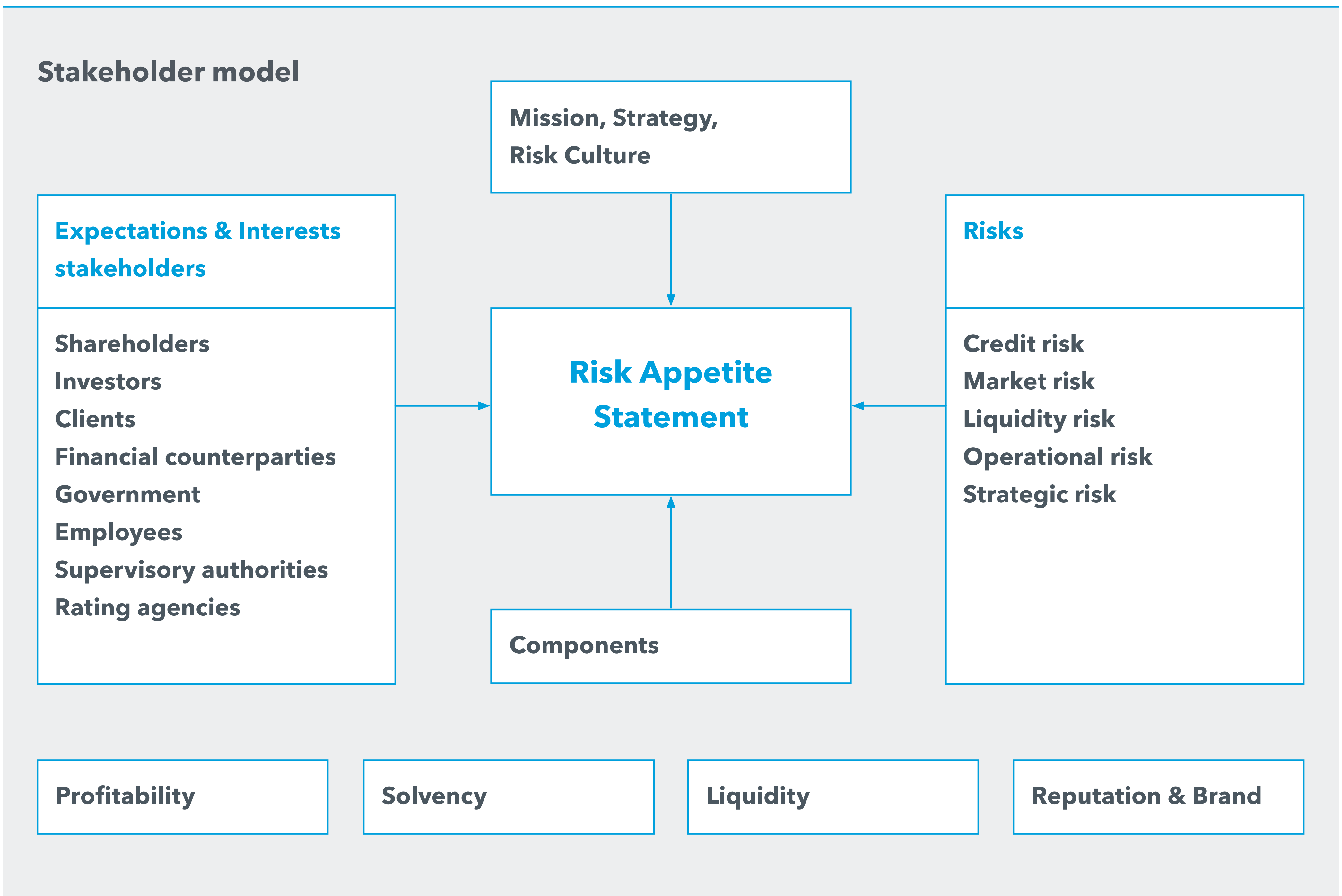
The risk appetite is evaluated annually to remain in line with BNG Bank's strategic objectives:

- being a prominent financier for local authorities and institutions for housing, healthcare, education, energy and infrastructure in the Netherlands;
- delivering a reasonable return for shareholders.

It also satisfies the conditions identified in this context:

- excellent risk profile;
- goal-oriented and efficient organisation.

Each year, the bank prepares a Risk Appetite Statement, which sets out the types and degree of risk that the bank is willing to accept – decided in advance and within its risk capacity – in order to achieve its strategic objectives and business plan. The risk appetite falls within the risk capacity, which is the maximum risk level that the bank is able to assume given its capital base, risk management and control capabilities as well as its regulatory constraints, and at which the bank is still able to meet its obligations towards its clients, investors, shareholders and other stakeholders. The bank balances the interests of the various stakeholders when fulfilling its mission and executing its strategy. To facilitate this, a stakeholder model is used, as represented in the following figure.



Formulating a risk appetite also requires definitions of risks to ensure that everyone speaks the same language. BNG Bank recognises the financial risks of credit risk, market risk and liquidity risk, as well as the non-financial risks of operational risk and strategic risk in this regard. Finally, several components are defined that form the core of the bank's operations and constitute the framework within which the risk appetite is formulated. In the case of a bank, the components of (1) Profitability, (2) Solvency and (3) Liquidity are the most obvious. These are widely used concepts for assessing the security and hence the risk profile of a bank. In addition to those components, BNG Bank has also opted for (4) Reputation and Brand, as BNG Bank has always placed great value on an impeccable reputation.

Profitability

BNG Bank aims to minimise borrowing rates for the public sector and hence does not seek to maximise profits. For its shareholders, the bank's objective is to achieve a reasonable return. Relative stability of the annual results is also important to different stakeholders, including regulatory authorities and rating agencies. 'Relative' in this context refers to a maximum percentage of deviation relative to the previous annual result.

Solvency

BNG Bank aims expressly to stand out in the financial markets in terms of the size and quality of its capital. This is expressed in the desired rating profile: a rating at the same level as that of the Dutch State. To realise this, BNG Bank's capital must be significantly greater than the criteria applied by the regulatory authorities and also greater than the majority of other banks. This relates to domestic Dutch banks as well as foreign banks.

Liquidity

BNG Bank intends to maintain a lasting and stable presence in the market for the Dutch public sector, and continue to meet the demand for lending even in times of stress. It also aims for a prudent liquidity position, with due regard for the principles that it is always able to meet its short-term obligations and that it also adequately mitigates its refinancing risk. In this context, continuous access to funding is crucial and hence continuous maintenance of an attractive, varied issuance programme of sufficient volume for investors is a prerequisite. In addition, it is important to have sufficient collateral lodged with the ECB in order to ensure that short-term funding can be raised with the ECB in times of need.

Reputation & Brand

BNG Bank aims to retain the perception that its stakeholders have of it as a quasi-public-sector body with excellent creditworthiness as well as a fine reputation and integrity profile. The bank also wants to retain the status of promotional bank. The bank is not willing to assume any risks of which it may reasonably be presumed that the risk can harm its integrity and/or reputation. BNG Bank aims to exercise due care in the provision of services and to observe a duty of care towards its clients, and endeavours to provide tailored products and services at competitive rates.

As a result of the foregoing, the bank is prepared to accept the following risks.

Credit risk

- Counterparty (default) risk associated with lending subject to solvency requirements towards clients. Certain non-zero-risk-weighted parties belong to the public sector and are hence covered by the bank's mission. Additionally, the return on lending subject to solvency requirements can support the competitive rates charged for lending not subject to solvency requirements.
- Risks from financial counterparties resulting from activities that support lending, including the hedging of market risks through derivatives.

- Concentration risk in relation to the Dutch public sector, which is inherent in the business model. A sizeable part of the associated exposure relates to public-sector property. For the most part, this risk is mitigated by the guarantee funds in the Social Housing sector and Healthcare sector, resulting ultimately in a risk exposure for the bank to the Dutch State.
- Investments that support lending to clients.
- Loans and investments subject to solvency requirements, which are only assumed in a ratio appropriate for a promotional bank and provided that they do not jeopardise the bank's mission.

Market risk

- BNG Bank hedges the interest rate risks arising from lending (loans and advances) and borrowing. However, the bank is willing to accept a certain degree of interest rate risk. On the one hand, a certain maturity mismatch related to the bank's capital base is a common source of income for banks. Additionally, BNG Bank strives to achieve additional return through an active interest rate position policy. With regard to tenor basis risk, the bank accepts a limited position arising from regular funding and lending.
- Optionality is only accepted where explicitly stated in risk policies or product approval documents.
- The bank accepts the risk to earnings and capital caused by unfavourable spread fluctuations, as long as this risk is covered by a sufficient amount of allocated capital.
- The bank hedges the risk arising from changes in the value of financial instruments that can result from the change in an index.

It should be noted that BNG Bank is not willing to assume any exposures to foreign exchange risk. Foreign exchange risks are therefore hedged, including FX basis risk. Furthermore, BNG Bank has no trading book and consequently does not assume any market risk in connection with trading portfolios.

Liquidity risk

- To be able to meet payment obligations at all times, short-term liquidity risks are only accepted if they are matched by sufficient capital buffers capable of meeting these short-term obligations.
- The public sector consists largely of institutions with a long-term investment horizon. This means that assets frequently have long maturities, which can run for decades. As BNG Bank is unable to raise funding for these maturities, a funding mismatch is accepted, provided that there are sufficient buffers to be able to refinance at acceptable cost with a high degree of probability even in times of stress. The bank is also willing to accept the refinancing risk arising from the liquidity requirement related to activities other than lending to its clients, as is the case with investments. The ensuing additional liquidity requirement must not jeopardise the bank's mission.

Operational risk

- Operational risk is inherent in operating a business. BNG Bank accepts that providing tailored services entails additional inherent operational risks which are non-existent in standard products.
- Operational risks are mitigated by weighing the costs against the economic benefits, except in case of compliance with legal and regulatory requirements as well as integrity, where the risks are minimised.

- In addition to lending, BNG Bank also provides its clients with other products, such as current account and payment transaction services. Clients benefit from this broader range of services, which also promotes client loyalty to the bank. The bank is willing to accept operational risks also for these additional products, provided that they do not jeopardise its mission.

Strategic risk

In the case of strategic risk, it is more difficult to determine the extent to which risks are assumed, since they are driven by external factors in particular and are hence less easily influenced. However, the bank needs to address the risks that emerge from changes in its environment. Given its close ties to the Dutch public sector, its sensitivity to government policy and its status as a promotional bank, political risk and regulatory risk are important elements. To monitor and mitigate these risks, the bank is permanently in close contact with its stakeholders. In addition, it observes and analyses the regulatory processes, and it participates in several banking associations.

Risk appetite cycle and results

In a yearly cycle, the Risk Appetite Statement is updated on the basis of external as well as internal developments. It is subsequently cascaded into limits, targets and information figures for the various types of risks. These are subject to a monitoring programme to determine each quarter whether the bank is within the limits of its risk appetite. The outcomes are reported to the Management Board and Supervisory Board as part of the quarterly Risk Report. The Risk Report provides aggregated information derived from figures that are used for daily limit monitoring and reporting to the various risk committees. As a result, the information conveyed to the Management Board and the Supervisory Board is in line with the information used in the operational processes. Finally, further examples of tools to monitor compliance with the risk appetite of the bank are the yearly In Control Statements by senior management as well as the reports by internal and external auditors.

In 2018, the bank operated within its risk appetite. For market risk, credit risk and liquidity risk, the limits were respected. With regard to capital, the bank satisfied legally binding supervisory requirements as well its additional internal capital targets. With regard to operational risk, the bank remained within the internal norms for operational incidents. For strategic risk, a dedicated risk analysis was performed, which resulted in increased attention to strategical planning in the fields of digitisation, disintermediation, sourcing and execution power.

Credit risk

Definitions

Credit risk is defined as the risk of losses in earnings or capital resulting from the potential risk that a borrower or a counterparty will fail to meet its obligations in accordance with agreed terms. It includes settlement risk, counterparty risk and concentration risk:

- counterparty risk – the risk of losses if a party fails to make payments which result from a financial transaction, at the moment that those payments are due;
- concentration risk – the overall spread of a bank's exposures over the number or variety of debtors to whom the bank has lent money;
- settlement risk – the risk that one party will fail to deliver the terms of a contract (or a group of contracts) with another party at the time of settlement.

Governance

BNG Bank has an internal risk management organisation that serves to control its credit risks. This organisation is in line with the diversity and complexity of the bank's lending activities, and is structured as follows:

- The Executive Board determines the relevant lending parameters and policies, facilitated by the Management Board.
- The Credit Committee or the Credit Officer decides on loans and advances subject to solvency requirements.
- The Financial Counterparties Committee decides on limits for transactions with financial institutions.
- The Capital Policies and Financial Regulations Committee advises on policies regarding the capitalisation of credit risk and stress testing. It also advises on the implementation of new regulations.
- The Investment Committee decides on proposals for investment in interest-bearing securities.
- The Client Acceptance Committee assesses whether potential clients are suitable under the bank's Articles of Association, whether they fit in the bank's commercial policy and whether they constitute an integrity risk.

The Credit Risk Assessment department (on individual client level) and the Risk Management department (on portfolio level) share second-line responsibility for assessing, quantifying and reporting credit risk. These departments operate independently from the Public Finance and Treasury directorates, which are the risk owners and which have first-line responsibilities for credit risk. The Risk Management department is responsible for all Credit Risk policies.

Developments

There has been a slight improvement in the overall credit risk profile of the bank's client portfolio since the end of 2017. Assets under special management have declined in terms of both number and volume. Market developments in some sectors, especially youth care and welfare, led to increased awareness. Late in 2018, two hospitals belonging to the same group went bankrupt. The bank did not suffer any losses because of guarantees provided by the healthcare guarantee fund (WfZ).

Brexit in itself is expected to have a limited impact on the business model of BNG Bank. On the asset side, the bank's exposures are limited to a small number of public-sector exposures of investment-grade quality. In addition, BNG Bank does not provide any material cross-border services in the UK. However, the business volume with financial counterparties is substantial, given the bank's policy to hedge market risks on both sides of the balance with derivatives. Most of these counterparties are based in London and clearing activities take place via London Clearing House. The bank prepared for a hard Brexit by onboarding European entities, both for hedging and for clearing.

The implementation of expected credit loss models for IFRS 9 was finalised, documented and externally validated. Moreover, the models were adapted for use in the 2018 EBA Stress Test. In several cases, credit risk policies have been or will be aligned with adopted and upcoming EBA guidelines. Furthermore, the credit assessment framework for zero-risk-weighted counterparties will be strengthened.

Counterparty risk

The bank is exposed to counterparty risk in relation to public-sector entities (loans and advances), financial counterparties (derivatives) and issuers of interest-bearing securities (IBS) in which the bank has invested. BNG Bank applies the following credit risk mitigation measures:

- Guarantees received from a central or local authority or by the guarantee funds WSW (Social Housing) and WfZ (Healthcare). Because loans subject to solvency requirements are often extended under partial of full guarantees or suretyships, the loan remains partly or fully zero-risk-weighted on balance for BNG Bank (see the section on statutory market parties).
- Other forms of security such as pledges and mortgages are used to minimise possible losses due to credit risks. The potential risk-reducing effect, however, is not used in the calculation of the regulatory capital requirement.
- Bilateral netting and collateral agreements based on a daily collateral exchange with financial counterparties, also see the section on financial counterparties.

Statutory market parties

The bank's Articles of Association restrict lending to parties subject to some form of government involvement. As a result, the credit portfolio is largely comprised of zero-risk-weighted loans and advances provided to or guaranteed by the government. In the case of the guarantee funds WSW and WfZ, the credit risk assessment of guaranteed institutions is carried out expressly by the guarantee fund concerned. Additionally, a quantitative assessment of the guaranteed institutions has been performed by the bank. BNG Bank actively follows the developments within the sectors in which it operates. This also applies to the operation of the institutions issuing the individual guarantees or suretyships. In addition, BNG Bank maintains contacts with relevant parties through a variety of channels, including conferences, seminars and bilateral talks.

Lending subject to solvency requirements is preceded by an extensive creditworthiness analysis. This contains a detailed assessment of the creditworthiness of the client concerned, based in part on the bank's own internal rating model. Additionally, the bank has an internal risk assessment process for tailored transactions that includes operational risk elements. Moreover, the bank uses extensive qualitative product descriptions, in which the appropriateness of the product for different types of clients is made explicit.

- The Credit Risk Assessment department prepares an independent second opinion on the credit proposal.
- The intensity of the decision-making process is determined on the basis of the proposed rating and the size of the loan. The bank's risk appetite also determines the level of maximum credit risk that the bank is prepared to accept for the client in question. The credit proposal must be in accordance with this maximum risk.
- The Credit Committee decides whether the credit can be accepted. The Credit Committee is chaired by a member of the Executive Board, and it includes representation from the Public Finance directorate, the Credit Risk Assessment department and – where applicable – the Treasury department. If the Credit Committee is unable to reach a unanimous decision, the proposal is escalated to the Executive Board. A delegation model applies to loans and advances of limited scale or risk, in which the authority to make decisions lies with the Director of Public Finance and the Head of Credit Risk Assessment.

Following the approval of a credit proposal and the acceptance of the offer by the client, the credit management process starts. This includes the following elements:

- The file is completed with relevant documentation by the Public Finance Teams.
- The Public Finance Teams are responsible for file management, including monitoring securities and covenants.
- The creditworthiness is reviewed at least once a year. This involves an update to the internal rating. The Credit Committee evaluates these reviews. A delegation model applies here as well. Loans and advances whose credit quality (rating) has fallen below a specific level (see the table below) are subject to increased management scrutiny and, if necessary, are transferred to the Special Management group within the Credit Risk Assessment department.

Although credit risk within the zero-risk-weighted portfolio is minimal, the bank has an additional process for the assessment and review of the creditworthiness of parties that have only been granted loans and advances which are directly or indirectly guaranteed by the Dutch State. The bank's internal rating models have been adapted to facilitate these assessments for the housing sector as well as the healthcare sector, thus providing consistency with the existing assessment for non-zero-risk-weighted lending. In 2018, policies and processes were finalised and assessments were performed for larger exposures that are zero-risk-weighted because of a guarantee. In 2019, the threshold for this assessment will be removed, extending the process to all zero-risk-weighted exposures.

Credit risk models

Most of BNG Bank's clients do not have an external rating. The bank has an internally developed rating model to assess creditworthiness. Given the 'low default' character of the loan portfolio, expert models are utilised. The Bank employs a number of market sector specific rating models which are subject to periodic review and validation in accordance with the bank's model governance policy. The models are used for the internal assessment of creditworthiness but not for capital calculations under Pillar I, where the bank uses the Standardised Approach. Models are in use for the following sectors:

- public housing;
- healthcare;
- education;
- DBFMO (Design Build Finance Maintain Operate, project financing);
- area development;
- energy, water, telecoms, transport, logistics and the environment;
- financial institutions.

The significance of the internal ratings is the same for all models.

Internal rating	Description
0	Zero-risk-weighted lending.
1 through 11	The credit risk is deemed acceptable. A regular annual review is performed.
12 through 13	Watch list: there is an increased credit risk. A review takes place at least twice a year.
14 through 17	Special Management: there is a greatly increased credit risk. At least three times a year, a report on these debtors is submitted to the Executive Board.
18 through 19	Special Management: there is a greatly increased credit risk and/or the debtor repeatedly fails to fulfil the payment obligations and/or there is no expectation of continuity. At least three times a year, a report on these debtors is submitted to the Executive Board.

The below table provides an overview of the distribution of the loan portfolio across those ratings. More quantitative details on the credit risk profile and the credit quality are included in the section on credit risk and credit risk mitigation.

	31/12/2018		31/12/2017	
	EXPOSURE TO LOANS AND ADVANCES AND OFF-BALANCE, EXCLUDING INCURRED LOSS PROVISION	% OF TOTAL	EXPOSURE TO LOANS AND ADVANCES AND OFF-BALANCE, EXCLUDING INCURRED LOSS PROVISION	% OF TOTAL
Zero-risk-weighted loans and advances	**87,124**	**88%**	**86,699**	**88%**
Loans and advances, non-zero-risk-weighted				
Internal rating:				
– 1 through 11	11,433	12%	10,567	11%
– 12 through 13	189	0%	363	0%
– 14 through 17	430	0%	507	1%
– 18 through 19	27	0%	38	0%
	12,079	**12%**	**11,475**	**12%**
Total	**99,203**	**100%**	**98,174**	**100%**

External rating

BNG Bank uses the external ratings awarded by rating agencies, specifically S&P, Moody's, Fitch and DBRS. In determining the capital requirement, the bank uses the ratings of these four agencies if such ratings are available. Where possible, this applies to exposures to financial counterparties and investments in listed securities. The ratings relate either to a counterparty or specifically to a security purchased.

Financial counterparties

The market risks associated with loans to clients are mitigated primarily through derivative transactions with financial counterparties. The bank only conducts business with financial counterparties that have been rated by an external agency. Financial counterparties are periodically assessed for creditworthiness. This analysis includes an assessment of the internal rating. A limit is subsequently set or adjusted accordingly.

In order to reduce credit risk, netting agreements are in place with financial counterparties with which BNG Bank actively enters into derivatives transactions. In addition, collateral agreements are concluded. These ensure that market value developments are mitigated on a daily basis by collateral. The agreements are updated where necessary in response to changing market circumstances, market practices and regulatory changes.

Investments in interest-bearing securities (ibs)

BNG Bank's IBS portfolio is held primarily for liquidity management purposes. The portfolio is composed of high-quality bonds, the majority of which are accepted as collateral by the central bank. BNG Bank's total IBS portfolio can be subdivided into a liquidity portfolio and an Asset & Liability Management (ALM) portfolio. The liquidity portfolio consists exclusively of highly negotiable securities and is subdivided according to the various LCR levels. The ALM portfolio is subdivided according to the type of security. Each month, the development of the portfolio is reported to and evaluated by the Investment Committee. Using factors such as external ratings and – in part – internal ratings, the bank monitors the development on an individual basis. The securities qualifying under the liquidity coverage requirement are subjected to a due diligence review process. The assets within these portfolios undergo an impairment analysis twice a year.

Concentration risk

Regarding concentration risk, the bank differentiates between:
- country risk, with a distinction between domestic and foreign risk;
- sector risk;
- risk for individual parties, with a distinction between clients and financial counterparties.

Most of the bank's credit risk for zero-risk-weighted lending is concentrated on the Dutch government. For non-zero-risk-weighted lending, further concentrations exist in the market segments that are serviced by the bank, e.g. university hospitals. Almost all non-zero-risk-weighted exposures to public-sector entities are secured by means of collateral or other securities. The other exposures subject to solvency requirements relate to financial institutions. Regarding concentration risk, three (2017: three) of these financial institutions each represent an exposure of more than 10% of the Tier 1 capital.

Domestic country risk

A considerable degree of concentration risk on the Netherlands is inherent to BNG Bank's mission: financing the Dutch public sector. A considerable portion of the total outstanding is indirectly related to public-sector property. However, these risks are generally mitigated by government guarantees on lending as well as by the WSW and WfZ guarantee funds. These guarantees result in a concentration risk in relation to public authorities and guarantee funds. The guarantee funds are guaranteed by the central government via backstop constructions. What results on balance is therefore a risk in relation to the Dutch State. The concentration of this risk is high, but it is inextricably linked to BNG Bank's business model.

Foreign country risk

The bank is exposed to foreign country risk as a result of transactions with financial counterparties to hedge market risks arising from lending and funding activities, as a result of its liquidity portfolio, and – to a limited extent – in the context of lending and investments in the public sector abroad. The bank invests in foreign securities for its liquidity portfolio, because the vast majority of its loan portfolio already relates to the Netherlands. Foreign lending is in most cases directly or indirectly guaranteed by the relevant governments.

All foreign exposures fall within limits set for each country. These limits mainly depend on the perceived credit quality of the country in question. Moreover, a general limit of 15% of the balance sheet total applies to foreign exposures excluding derivatives and collateral. At the end of 2018, the bank's long term foreign exposure (expressed in balance sheet value) totalled EUR 10.3 billion exposures (2017: EUR 11.6 billion). This represents 7.5% of the balance sheet total (2017: 8.3%).

Because the creditworthiness of certain countries in the eurozone has deteriorated, the bank has gradually reduced its positions in these countries. This was mainly realised by the expiration of exposures. Given the political and economic developments in Italy, the bank's exposure was reduced actively in 2018.

Sector risk

Sector-specific policies and internal targets are used for lending without direct or indirect guarantees from the Dutch State. These sector targets relate to both maximum concentrations on the balance sheet and new transactions according to the bank's Annual Plan. Active portfolio management is positioned within the Public Finance department. Realisation of the risk targets as well as the commercial targets is reported to the Management Board on a quarterly basis by Risk Management. The concentration risk per sector is also part of the Risk Management economic capital model used to assess the capital adequacy allocation.

Individual statutory market parties

For non-zero-risk-weighted parties, the exposures have to adhere to the Large Exposure Regulation under the CRR. The bank has a significantly more conservative approach regarding the maximum size of individual exposures. This further limitation takes into account the degree to which sectors are anchored in the public sector. The party's individual rating is a further criterion for limit-setting.

Individual financial counterparties

Transactions with financial counterparties primarily consist of interest rate and currency swaps undertaken to mitigate market risks. BNG Bank sets requirements for the minimum ratings of the financial counterparties with which it is willing to transact, taking into account the nature of the business conducted with that party. This limits the number of available parties. As a consequence, the number of transactions with approved parties is high. Daily exchange of collateral helps to mitigate the credit risk with respect to derivatives. A bankruptcy of a counterparty would result in market risks, as the market is subject to fluctuations while the derivatives need to be rearranged with another party. The Financial Counterparties Committee limits and monitors positions with financial counterparties. BNG Bank clears parts of its derivatives centrally via London Clearing House. The bank uses five clearing members for this purpose. Since these clearing members are all based in the UK, the bank onboarded a central clearing party in the EU towards the end of 2018 and was in the process of onboarding additional EU-based clearing members. Central clearing has inevitably resulted in a shift in concentration risk from individual financial counterparties to the clearing members and the clearing house.

Settlement risk

Exposure to settlement risk is limited to transactions with financial counterparties. Settlement risk is potentially high for those parties because of the relatively large size of the bank's benchmark issues in foreign currencies. Netting and collateral agreements concluded with those parties serve to limit settlement risk resulting from the mutual offsetting of payments. Settlements with certain counterparties are distributed over time to prevent unnecessary concentrations at one point in time. Control measures throughout the operational process serve to mitigate the settlement risk further. The Bank Recovery and Resolution Directive (BRRD) offers protection for settlement and payment systems in case of the resolution of a bank, effectively reducing the settlement risk in parts of the financial system. Capital allocation for settlement risk is based on an assessment of the likelihood of a possible loss from settlement risk and is updated yearly as part of the ICAAP process.

Market risk

Definitions
Market risk is defined as an existing or future threat to the institution's capital and earnings as a result of market price fluctuations. There are several forms of market risk:
- interest rate risk – the current or prospective risk to capital and earnings arising from adverse movements in interest rates ('outright risk'), basis tenor rates, overnight indexed swap rates and the cross-currency basis spreads;
- foreign exchange risk – the risk to capital and earnings arising from unfavourable exchange rate fluctuations;
- volatility risk – the risk to capital and earnings arising from adverse movements in the implied volatility of market interest rates or currencies. This risk only applies to products with types of optionality, such as caps and floors;
- spread risk – the risk to annual results and capital arising from unfavourable credit risk spread fluctuations and unfavourable CVA/DVA fluctuations;
- index risk – the risk to capital and earnings arising from the sensitivity to a statistical measure that can change over time. This index (for example, inflation risk) acts as a benchmark in terms of a change from a base value.

Governance
The Treasury and Capital Markets directorate is the 'first line of defence' and is responsible for day-to-day market risk management. This department is responsible for hedging the market risks resulting from commercial activities. Additionally, Treasury has a mandate to adopt an interest rate risk position within the limits imposed by the Asset & Liability Committee (ALCO). The mandate for the ALCO to set limits is restricted by the capital that is explicitly allocated for this purpose.

Risk Management is the 'second line of defence' and is responsible for the independent monitoring of market risk. It checks daily whether the risk positions are within the limits set by the ALCO. The department prepares reports for the ALCO and Treasury, challenges the first line, and provides risks analyses and advice, both proactively and on request. Risk Management periodically reviews the assumptions used, maintains the set of policies, frameworks, procedures and reporting, and incorporates new regulations in their revision. By participating in the product approval process, it also plays an important role in decisions to assume new market risks caused by new activities.

The ALCO approves and is responsible for implementing the market risk policy. The ALCO consists of the Executive Board members, the Managing Director of Treasury and Capital

Markets, the Head of Risk Management, the Company Secretary and the Senior Economist, supplemented with other participators, depending on the agenda.

Developments

Because of an expected rise in interest rates, the interest rate position measured in basis point sensitivity was lower throughout the year than the long-term benchmark applied by the bank. The actual interest rate risk position took into account that the likelihood of an additional return in terms of market value due to a stable trend or a further decline in interest rates did not sufficiently compensate for the possibly much larger loss of market value if interest rates would rise.

Regarding its market risk framework, the bank improved the measures for calculating the impact of the active interest rate position such that more insight is gained in the impact of this active position. At the end of 2017, a model validation was done on the Earnings at Risk and interest rate stress-testing tools. Most of the resulting recommendations were solved in 2018. This also resulted in an update of the methodology for determining the interest rate stress-testing parameters used within the framework.

In 2018, Risk Management investigated the volatility risk position of the bank, which confirmed that – apart from a small legacy exposure – the volatility risk resulting from adverse movements in market risks was indeed limited.

Interest rate risk

Framework

The bank's most important interest rate risk is the 'outright risk' to the interest rate swap curve, which is determined excluding the impact of spreads. This means that changes in spreads such as credit spreads, CVA/DVA and cross-currency basis spreads do not influence the interest rate risk position and hedging. There is no material presence of early redemption options in BNG Bank's regular loan portfolio. Likewise, there is no material exposure in mortgages and the bank does not attract savings from private individuals. Consequently, there is no necessity to model client behaviour in its interest rate risk models.

The interest rate position in the banking book is internally managed in the books for Treasury and the ALCO respectively. The interest rate risk within the margin books (containing the lending and funding activities) and the ALCO book (containing the active interest rate position) are transferred to the Treasury book using internal swaps. The net interest rate risk in the Treasury book is hedged with external parties using derivatives[4].

The bank applies stress testing, in which the impact of the interest rate position is assessed based on multiple types of interest rate shocks (parallel and non-parallel) and from different perspectives (e.g. economic value, Earnings at Risk and tenor basis risk).

[4] The accounting treatment of derivatives and hedged items in the balance sheet and income statement is such that they are aligned as much as possible with the actual economic hedging. Details on that accounting treatment are included in the Annual Report (pp. 95-97 and pp. 99-100).

Risk measures and limits

Working on the basis of market forecasts from the Treasury and Capital Markets directorate as well as the Economic Research department, the ALCO periodically determines the bank's interest rate outlook, and defines – within the predetermined framework – the interest rate position as well as the limits within which the Treasury and Capital Markets directorate must operate:

- The ALCO defines the active position by means of a target delta for each maturity interval in the ALCO book.
- Economic value limits are set for the delta per maturity interval and for the interest rate stress-testing outcomes. The latter is calculated for several internal parallel and non-parallel interest rate shocks, and is compared on a daily basis to the capital allocated for interest rate risk. In addition, early warning levels are set for the internal Earnings at Risk scenarios such that a balance is sought between the economic value and the earnings perspective.
- The bank also sees to it that the outlier criterion is not exceeded, by applying an internal threshold value which serves as an early warning. The outlier criterion is prescribed by the Basel regulations, where it is used to express the maximum relationship between market risk and equity. The outlier criterion is a sensitivity analysis in which the interest rate risk is measured under six prescribed shocks, among which the instantaneous plus or minus 200 basis points parallel shock.
- Early warnings are set for tenor basis risk measures, which are connected to the capital allocated for this risk.
- In case of cross-currency swaps, the cross-currency basis spread risk is monitored on a daily basis. This risk is not limited, since the contracts are deemed to be held until maturity.

All these interest rate risk measures complement each other, and they ensure the transparency and manageability of risks.

Any breach of a limit must be reported to the ALCO. The ALCO decides whether action should be taken immediately in order to adjust the interest rate position to a position within the limit or to authorise the limit breach for a certain period of time. Early warning levels require no direct action from the ALCO but will be discussed in the regular ALCO meetings.

Monitoring and reporting

The risk measures are monitored and reported on a daily basis to the ALCO members as well as the Treasury and Capital Markets directorate. Only the Earnings at Risk measure is calculated on a monthly basis. The daily measures are summarised in a dashboard on a monthly basis, which is prepared and discussed in the regular ALCO meetings. In addition, these measures are summarised in the quarterly Risk Report, which is presented to and discussed in the Management Board, the Risk Committee of the Supervisory Board and the Supervisory Board itself.

The limits with respect to interest rate risk were not breached in 2018, and – in the bank's opinion – its interest rate risk management was adequate, compliant with the regulatory standards and within the limits set by the ALCO. The table below outlines the Earnings at Risk effect of a minus 180 basis points gradual parallel interest rate decrease for the 1-year and 2-year horizon at the end of 2018 versus 2017.

	2018	2017
Earnings at risk		
(in EUR million)		
Horizon		
1 year	–24	–16
2 years	–84	–86

Foreign exchange risk

The bank obtains a large portion of its funding in foreign currencies and is therefore exposed to foreign exchange fluctuations. According to the bank's policy, foreign exchange risks are hedged in principal. Incidentally, foreign exchange positions may occur in certain cases where it is not cost-efficient to hedge the risk. The foreign exchange risk of these minor positions is monitored on a daily basis, subject to limits. During 2018, these limits were not breached.

Volatility risk

In managing its interest rate risk exposure, the bank allows itself a very limited range for assuming volatility risk to support the active interest rate position. This range is limited and is monitored by the Risk Management department on a daily basis. During 2018, no additional volatility risk was assumed to support the active interest rate position.
With regard to its other activities, BNG Bank's policy specifies that the volatility risks for new financial instruments should be hedged one-to-one, if hedging is possible and cost-efficient. The resulting volatility risk is relatively small and is subject to monitoring by Risk Management.

Spread risk

The economic value of BNG Bank's equity is determined over its total portfolio of assets and liabilities. Both assets and liabilities are valued on the basis of an interest rate curve made up of market-based swap rates plus credit risk spreads. In case of interest rate swaps, the CVA risk (counterparty risk) and DVA risk (the bank's own default risk) are included. Spread risk is not hedged by the bank. The impact of changes in these spreads is measured and monitored on a daily basis. For the fair value instruments affecting profit and loss, a warning level on the credit spread delta has been set.

Index risk

The bank has inflation-linked instruments in its portfolio. The bank's policy specifies that exposure to fluctuations in inflation risk should be hedged in full and it executes this policy. The inflation delta is monitored on a daily basis.

Liquidity risk and funding risk

Definitions

Liquidity risk is defined as the existing or future threat to the institution's capital and earnings due to the possibility that it will not be able at any moment to fulfil its payment obligations without incurring any unacceptable costs or losses.

- Short-term liquidity risk is the risk that the bank will not be able to attract sufficient funds in order to meet its payment obligations.
- Refinancing or long-term liquidity is the risk that the bank will, as a result of its own creditworthiness, not be able to attract any (or sufficient) funds against prices which will not jeopardise its continuity.

Governance

The Treasury and Capital Markets directorate is the 'first line of defence', and is responsible for the day-to-day liquidity and funding risk management. It is also responsible for attracting funding. Treasury is mandated to adopt a liquidity risk position within the limits and triggers imposed by the ALCO. Treasury operates on the basis of its funding plan. This plan is approved by the ALCO, which is asked for approval in case of significant deviations.

The Risk Management department is the 'second line of defence' and is responsible for the independent monitoring of liquidity risk, as well as daily checks whether the bank remains within the limits and triggers set by the ALCO. Additionally, stress scenarios are used to assess on a monthly basis whether liquidity and funding are sufficient. The Risk Management department independently reports to the ALCO and to Treasury on the use of predetermined limits, while it also provides risks analyses and advice, both proactively and on request. Risk Management periodically reviews the assumptions used, maintains the set of policies, frameworks, procedures and reporting, and incorporates new regulations in their revision. By participating in the product approval process, it also plays an important role in decisions to assume new liquidity and funding risks from new activities.

The ALCO approves and is responsible for implementing the liquidity and funding risk policy. The ALCO consists of the Executive Board members, the Managing Director of Treasury and Capital Markets, the Head of Risk Management, the Company Secretary and the Senior Economist, supplemented with other participators, depending on the agenda.

If liquidity limits or triggers are breached, the contingency funding plan is enforced. Additional ALCO meetings, temporary procedures for more intensive liquidity management and temporary control of liquidity management by the liquidity contingency team are the main elements of this plan. In combination with the recovery plan, this contingency funding plan was tested successfully in 2018, based on a hypothetical contingency situation.

Developments

The ECB maintained policy interest rates at historically low levels and continued to purchase assets. During 2018, there were also numerous economic and political factors that influenced financial markets, such as the imminent Brexit, the escalation of international trade tensions, and the election and formation of an Italian populist government. Despite these developments, funding conditions for BNG Bank remained favourable during 2018. BNG Bank was able to operate effectively both on the capital markets and on the money markets.

The long-term funding volume target as set in the funding plan has been increased from EUR 18 billion to EUR 20 billion due to the higher volume of loans to clients as well as new investments in securitisations that are backed by retail mortgages. Because the maturity of new assets was longer than planned, it was decided by the ALCO to increase the long-term funding maturity accordingly in order to prevent the liquidity gap from increasing.

The bulk of the short-term funding needs were addressed by the ECP and USCP programmes. Next to that, repo funding also played a significant part in short-term funding in 2018. On the liability side, the bank is not dependent on the UK capital market, as only a relatively small amount consists of GBP funding.

In 2018, new targets for stress scenarios were added on top of the existing combined stress scenario. The scenario analysis is now extended to more types of liquidity stress. Moreover, the modelling of the development of the collateral position was improved such that the treatment of collateral can be better incorporated in the measurement and management of the liquidity position. The monthly liquidity risk information for the ALCO, summarised in a dashboard, was updated incorporating the feedback from the ALCO members.

Liquidity risk

Framework

BNG Bank wants to maintain a constant and stable presence in the capital markets, because the bank wants to continue to meet the demand for credit even in difficult times. It also pursues a prudent liquidity policy to ensure that it can meet its obligations at all times. In this context, ongoing access to the money and capital markets is essential, along with the ongoing maintenance of attractive, varied and sufficiently large issuance programmes for investors. In addition, buffers are required in order to have access to liquidity in times of stress. One such buffer is formed by assets held explicitly for liquidity purposes, known as the liquidity portfolio. The management of the size and composition of this portfolio is one of the liquidity measures taken to comply with the requirement under the CRR to have an LCR of at least 100%. BNG Bank also holds an ample quantity of collateral with the central bank, which enables it to obtain short-term funding immediately. Since most of the bank's assets could serve as collateral at the central bank, this collateral may be further extended in the event of prolonged stress. The size of both buffers is tested in the liquidity stress tests, which are monitored on a monthly basis. Furthermore, the funding plan and the corresponding planned liquidity gap are tested in an adverse stress scenario for the LCR and NSFR ratios.

Risk measures and limits

Liquidity and funding risk measures such as liquidity gap analysis, the refinancing of spread risk analysis, the contingency funding plan and liquidity stress scenarios for the survival period have limits or early warning levels. The limits on the liquidity gap in the short term and in the long term are an explicit part of the risk appetite, and they directly determine the level of the principal liquidity limits. The survival period is the period in which the liquidity buffers are sufficient for absorbing the consequences of a stress scenario. Survival periods are determined under a range of stress scenarios. For all stress scenarios, except the reverse stress scenario, a limit to or target for the survival period is set in the cascading of the risk appetite. Moreover, contingency funding plan triggers are measured daily to identify a potential liquidity stress situation, in which case it can be decided to activate the contingency funding plan.

Monitoring and reporting

The liquidity gap analysis is monitored and reported on a daily basis to the ALCO members as well as the Treasury and Capital Markets directorate. All measures are summarised in a dashboard on a monthly basis, which is prepared and discussed in the ALCO meetings. Furthermore, these measures are summarised in the quarterly Risk Report, which is presented to and discussed by the Management Board, the Risk Committee and the Supervisory Board.

During 2018, both the liquidity gap and the survival periods met the requirements laid down in the risk appetite. Although the contingency funding plan triggers were breached once, it was not assessed as a liquidity contingency situation and therefore the contingency funding plan was not activated. The bank considers its liquidity management to have been adequate in 2018 and the strength of the bank's liquidity position to be amply sufficient as well as compliant with the regulatory standards and limits set by the ALCO. End of 2018, the LCR ratio amounted to 175% (2017: 207%) and the NSFR ratio amounted to 133% (2017: 130%).

The below table provides an overview of the LCR during 2018. For disclosure purposes, our LCR is based on 12 data points for each quarter. The LCR remains well above the regulatory minimum requirements.

LCR disclosure template (EU LIQ1)

Scope of consolidation (consolidated)		TOTAL UNWEIGHTED VALUE				TOTAL WEIGHTED VALUE			
Currency and units (EUR million)		**31/12/ 2018**	**30/09/ 2018**	**30/06/ 2018**	**31/03/ 2018**	**31/12/ 2018**	**30/09/ 2018**	**30/06/ 2018**	**31/03/ 2018**
Number of data points used in the calculation of averages		12	12	12	12	12	12	12	12
High-quality liquid assets									
1	Total high-quality liquid assets (HQLA)	–	–	–	–	26,684	27,008	25,868	25,342
Cash-outflows									
2	Retail deposits and deposits from small business customers, of which:	–	–	–	–	–	–	–	–
3	Stable deposits	–	–	–	–	–	–	–	–
4	Less stable deposits	–	–	–	–	–	–	–	–
5	Unsecured wholesale funding	17,216	17,736	16,974	16,743	15,266	15,869	15,214	15,050
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks	–	–	–	–	–	–	–	–
7	Non-operational deposits (all counterparties)	5,202	5,426	5,542	5,716	3,251	3,559	3,781	4,023
8	Unsecured debt	12,014	12,310	11,432	11,027	12,015	12,310	11,433	11,027
9	Secured wholesale funding	–	–	–	–	0	0	0	0
10	Additional requirements	13,753	14,455	15,482	16,318	4,027	4,777	5,540	6,245
11	Outflows related to derivative exposures and other collateral requirements	2,811	3,564	4,297	4,988	2,811	3,564	4,297	4,988
12	Outflows related to loss of funding on debt products	–	–	–	–	–	–	–	–
13	Credit and liquidity facilities	10,942	10,891	11,185	11,330	1,216	1,213	1,243	1,257
14	Other contractual funding obligations	6	6	6	5	0	0	0	0
15	Other contingent funding obligations	59	70	77	79	3	4	4	4
16	**Total cash outflows**	**31,034**	**32,267**	**32,539**	**33,145**	**19,296**	**20,650**	**20,758**	**21,299**

Continued on next page

Continuation of previous page **Scope of consolidation (consolidated)**		TOTAL UNWEIGHTED VALUE				TOTAL WEIGHTED VALUE			
Currency and units (EUR million)		**31/12/2018**	**30/09/2018**	**30/06/2018**	**31/03/2018**	**31/12/2018**	**30/09/2018**	**30/06/2018**	**31/03/2018**
Cash-inflows									
17	Secured lending (eg reverse repos)	322	307	307	228	61	61	61	47
18	Inflows from fully performing exposures	3,335	3,367	3,281	3,272	1,799	1,853	1,797	1,768
19	Other cash inflows	1,097	1,315	1,632	1,864	1,097	1,315	1,632	1,864
EU-19a	(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)	–	–	–	–	–	–	–	–
EU-19b	(Excess inflows from a related specialised credit institution)	–	–	–	–	–	–	–	–
20	**Total cash inflows**	**4,754**	**4,989**	**5,220**	**5,364**	**2,957**	**3,229**	**3,490**	**3,679**
EU-20a	Fully exempt inflows	0	0	0	0	0	0	0	0
EU-20b	Inflows subject to 90% cap	0	0	0	0	0	0	0	0
EU-20c	Inflows subject to 75% cap	4,432	4,682	4,913	5,136	2,957	3,229	3,490	3,679
21	**Liquidity buffer**	-	-	-	-	**26,418**	**26,978**	**25,839**	**25,342**
22	**Total net cash outflows**	-	-	-	-	**16,339**	**17,421**	**17,268**	**17,620**
23	**Liquidity coverage ratio (%)**	-	-	-	-	**166%**	**162%**	**156%**	**149%**

Funding risk

BNG Bank distinguishes between short-term and long-term funding. The majority of funding is from international capital markets. The bank maintains a number of programmes that enable it to have access to funding at all times at competitive levels. The bank pursues proactive investor relations which support these efforts.

The following resources are used for short-term funding:

- Commercial Paper. The bank has a European Commercial Paper (ECP) programme of EUR 20 billion and a US Commercial Paper (USCP) programme of USD 15 billion. Under normal market circumstances, a substantial margin is maintained between the maximum size allowed under the programme and the bank's actual usage;
- repurchase transactions with interbank parties under a Global Master Repurchase Agreement (GMRA), where the bank's liquidity portfolio is used to pledge as collateral;
- deposits from institutional money market parties.

The bank does not enter into transactions with private individuals.

The following programmes are available for long-term funding:
- the Debt Issuance Programme (DIP) of EUR 100 billion. Socially Responsible Investing (SRI) bonds are also issued under this programme;
- the Kangaroo-Kauri Programme of AUD 10 billion, specifically for the Australian and New Zealand market;
- the Samurai shelf registration and Uridashi shelf registration, specifically for Japanese investors;
- the Namen-Schuld-Verschreibungen (NSV), under German Law;
- private loan agreements under different legislations.

For reasons of diversification, the bank also uses the following alternative funding sources:
- global loans from the European Investment Bank and the Council of Europe Development Bank;
- Guaranteed Investment Contracts (GICs).

The bank has a funding plan, in which the desired funding mix is described in more detail. Part of the funding plan is the annual issuance in benchmark size to maintain a 'BNG curve' in the market. These large-scale issues ensure that the bank has a high profile among investors, allowing it to retain access to investors even in times of market stress. The actual realisation of this desired funding mix or the reason for diverging from it is monitored and evaluated by the ALCO.

Operational risk

Definitions

Operational risk is defined as the risk of losses due to the shortcomings of internal processes, people and systems, or as a result of external events. Operational risk comprises the following risks:

- General operational risk is the risk associated with shortcomings of internal processes and consequences of external events.
- ICT risk is the risk that business processes and information systems are supported by information technology whose protection is insufficiently sound, discontinuous or unsatisfactory. ICT risk comprises the following risks:
  - ICT availability and continuity risk is the risk that the performance and availability of ICT systems and data are adversely impacted, including the inability to recover the institution's services in time due to a failure of ICT hardware or software components, weaknesses in ICT system management or any other event.
  - ICT security risk is the risk of unauthorised access to ICT systems and data from within or outside the institution (e.g. cyber attacks).
  - ICT change risk is the risk arising from the inability of the institution to manage ICT system changes in a timely and controlled manner, in particular for large and complex changes.
- Data quality risk is the risk that data that are stored and processed are incomplete, inaccurate or inconsistent, impairing the ability of an institution to provide services as well as produce (risk) management and financial information in a correct and timely manner.
- Outsourcing risk is the risk that the continuity, integrity and/or quality of activities outsourced to third parties, or the equipment or staff provided by these third parties, is adversely affected.
- Integrity risk is the risk that the institution's integrity is adversely affected by unprofessional or unethical behaviour by the organisation, or its employees and clients, in breach of applicable legislation and regulations or social and institutional standards. A subcategory of integrity risk is:
  - conduct risk, being the current or prospective risk of losses to an institution arising from the inappropriate supply of financial services, including cases of wilful or negligent misconduct.
- Legal risk is the risk associated with (changes in and compliance with) legislation as well as potential threats to the institution's legal status, including the possibility that contractual stipulations prove unenforceable or have been incorrectly documented. Subcategories of legal risks are:
  - compliance risk;
  - contract risk.

Governance

The Executive Board decides on the operational risk policy, facilitated by the Management Board. The senior management in the Management Board interprets the policies and advises on mitigating or accepting operational risks. As such, the Management Board has the function of an Operational Risk Committee. Every month, operational risk is put explicitly on the agenda. The Management Board is supported by the three lines of defence.

Line management is the first line of defence and has primary responsibility for managing operational risk in day-to-day operations, in line with policies and arrangements. Although operational risks cannot and need not be fully mitigated, they must obviously be made transparent and manageable. The second line of defence monitors the operational risks, and it advises, facilitates and challenges the first line of defence.

The Risk Management, Compliance and Security departments constitute the second line of defence for operational risks. By advising, challenging and monitoring the first line, they help to ensure that risks are appropriately identified and managed, thus enabling the organisation to be in control. From an operational risk perspective, the Risk Management department is involved in projects, process changes as well as in the Product Approval and Review Process. The Compliance department focuses on integrity risks as well as on compliance with laws and regulations. It is responsible for the periodical systematic integrity risk analyses (SIRA), for integrity risk policies and procedures, and for the monitoring of integrity risk. From 2019 on, Compliance will set up a comprehensive framework for monitoring compliance with all applicable laws and regulations of BNG Bank. Security provides support to the Management Board and line management in order to safeguard the reliability and continuity of the business processes as well as to be in control of security risks.

The Internal Audit Department (IAD) conducts independent assessments supplemental to the risk analyses by the Risk Management, Compliance and Security departments. The IAD is supported by audit testers in order to determine the existence and effectiveness of control measures. As such, the IAD forms the third line of defence and reports to the Executive Board. Each year, the managing directors and the other direct reports inform the Executive Board whether they are in control of the processes and risks for which they are responsible.

Developments

Since October 2018, the Compliance department has reported to the CRO. From 2019 onwards, its assignment will be broadened from a focus on integrity-related risks to a scope that also includes the monitoring of compliance by BNG Bank with all applicable laws and regulations. In 2017, the Information Security Officer was moved from the Compliance department to the Processing directorate. The main reason for this was to facilitate the transfer of knowledge to the first line, which indeed took place in 2018. In 2018, the bank decided to keep the Information Security Officer positioned in the Processing directorate, with a direct reporting line to the CRO as well as the Management Board in order to safeguard its second-line function. Until 2018, the department that performed audit testing to determine the existence and effect of control measures discussed its testing programmes with the first line and reported its results to the managing directors. The department was managed by the Head of Internal Audit. To be in line with governance regulations, audit testing has now become a function within the IAD in support of internal audits and its findings are reported to the Executive Board.

Since banks rely more and more on ICT systems, ICT risk is an important risk to manage. Within the ICT risk, BNG Bank distinguishes between ICT availability and continuity risk, ICT security risk and ICT change risk. Since data form the backbone of ICT systems, data quality risk is defined as a separate risk. The bank is developing a company-wide data warehouse to meet both internal information needs and external requirements such as the Principles for Effective Risk Data Aggregation and Risk Reporting (PERDARR). The bank must be able to produce risk information quickly and correctly in times of business as usual as well as in times of stress. The various business departments have a major responsibility towards data quality. Responsibility for data ownership has been assigned to the members of the Management Board in order to emphasise the importance of this subject. To remain focused on the most important projects, all the intended projects for 2019 have been prioritised by the Management Board, while the selected projects have been planned and staffed.

The ICT environment is developing from a situation with applications running almost exclusively 'on-premise' to a mixed environment including applications running in the cloud. It requires a thorough risk analysis before data can be entrusted to a third party in the cloud. A cloud service is only accepted if the party can give appropriate assurance on Confidentiality, Integrity and Availability. BNG Bank has started with the development of a new customer portal using the Microsoft Azure platform. The security risk as well as other operational risks will be thoroughly assessed and mitigated before introduction.

Several projects to ensure compliance with laws and regulations were completed in 2018 with a considerable impact on business processes (notably MiFID/MiFIR and the General Data Protection Regulation).

General

The Risk Management department supports, advises and challenges line management through several risk management tools. Periodically, Risk Management facilitates risk control self-assessments, supporting the line management. The key risks are identified and documented, as are the mitigating key control measures and the resulting residual risk. Risk Management challenges the process and the results of the assessments, and it advises on necessary supplementary controls. For every new cycle (of two years), the approach is revised.

BNG Bank registers all operational incidents with a potential impact of EUR 5,000 or higher. To this end, employees involved in the operational process are obliged to report all operational incidents to the Risk Management department. Remedial actions directly related to the incident are the responsibility of the first line. Additionally, the Risk Management department conducts an assessment in order to determine whether the prevention of future similar incidents will require any adjustments to the process, systems or working methods. Every quarter, the Risk Management department reports to the Executive Board and senior management on incidents with a possible impact from EUR 10,000 upwards. It also provides annual reports on incidents involving a loss of more than

EUR 100,000 to the Executive Board and the Supervisory Board's Risk Committee. For 2018, the Incidents Report contains one incident with an impact in excess of EUR 100,000. The impact of operational incidents on the bank's annual results in 2018 was limited. Incidents which pose a serious threat to the ethical conduct of the business and incidents concerning serious data leakage must be reported to the ECB, while serious leakage of personal data must be reported to the Dutch Data Protection Authority (Autoriteit Persoonsgegevens). No such incidents occurred in 2018. The number and impact of operational incidents are stable and are on an acceptable level.

Reporting on operational risk is part of the quarterly Risk Report to the Executive Board and the Supervisory Board. The set of indicators for operational risk is derived from the Risk Appetite Statement of the bank and is updated annually. All the categories and subcategories of operational risk are incorporated in the report. Apart from the indicators, the Risk Management department offers an opinion on the most important non-financial risks.

Annually, a scenario analysis on operational risk is performed. Scenarios are identified within the categories and subcategories of operational risk as well as within the event types defined in legislation and reporting requirements. With these scenarios, the economic capital allocation for operational risk is underpinned.

Operational risk has a soft component, also referred to as 'culture'. BNG Bank is convinced of the importance of this component. To improve risk awareness, a broad representation of the organisation is involved in various operational risk management activities and operational risk is regularly discussed.

ICT risk

The bank's information policy aims to develop and maintain information systems that allow the bank to continue executing its strategy successfully. The information policy is reviewed annually, based on the business objectives and external developments.

The Architecture Advice Group (AAG) is a multidisciplinary team which advises the Management Board on information architecture policies and which assesses plans as well as instructions against internal policies. Security and operational risk in general are important issues in the AAG.

The management of ICT risk is based on the application of preventive rather than remedial measures. These measures are aimed at preventing potential or actual incidents, or detecting them at the earliest possible opportunity, and preventing potential damage or restoring the desired situation as quickly as possible.

An important choice in the ICT architecture is to create a common data source, the central data warehouse, for analyses and reporting. The reconciliation of data and reports is incorporated. The development of a central data warehouse still requires a large amount of ICT capacity and will continue to do so in the next few years. Where necessary, external expertise and capacity are used.

Agile working has been adopted for carrying out projects. A team which consists of analysts, developers and representatives from the business departments are working together in close collaboration to achieve the desired result. The 'product owner' has the deciding vote on the priorities of the items that the team delivers, taking into account the interests of all stakeholders.

All projects are initiated and managed via a project portfolio. Many changes in systems are still prompted by changing laws and regulations.

ICT availability and continuity risk

BNG Bank has outsourced the ICT infrastructure and technical support to Centric FSS. Centric FSS is an important partner in the control of the availability and continuity risk. For each application, clear arrangements are in place with respect to the availability and loss of data. For monitoring, see the section on outsourcing risk. In order to guarantee the continuity of ICT support within the bank, a yearly fallback test is conducted. As in previous years, the 2018 test demonstrated that the bank's backup systems are adequately equipped to ensure that services continue as normal in the event of a calamity.
For cloud services, before a service is purchased, an assessment is made whether the service meets the requirements for availability and continuity (among other things).

ICT security risk

To control the security risk, Centric FSS also has an important role in the implementation of security measures such as multi-factor authentication or patch management. The systems are frequently tested for vulnerabilities to hacking.
Alertness of employees to security threats is an important control measure. All bank employees received information security training in 2018 in the form of interactive information sessions and e-learning. There were no major information security incidents in 2018. Security is an important aspect of the risk assessment performed for cloud services. The requirements for security measures depend on the type of information stored or processed (confidentiality and integrity).

ICT change risk

Every change is thoroughly tested before implementation. Change control, with a separation of the development, test and production environments, further mitigates the change risk. Where possible, additional automated code review and testing as well as automated deployment are practised.

Data quality risk

As data quality is the basis for reliable business operations and management information, it has increasing focus within the bank. In operational processes as well as in projects, departments cooperate on improving data quality. Data Owners are accountable for the data and the quality of data within their domain. The Data and Information Management department advises on subjects regarding data and facilitates automated data quality monitoring. With the development of the central data warehouse, the possibilities of data reconciliation and data lineage will be increased. The implementation of Master Data Management processes provides a common point of reference for data on financial products as well as contact data.

Outsourcing risk

BNG Bank's most important outsourcing contract relates to the processing of the payment transactions, as well as a large portion of the bank's further ICT activities to Centric FSS. Apart from payment services, this outsourcing includes the current account administration, the computing centre and workstation management. BNG Bank manages the activities performed by Centric FSS via Service Level Agreements (SLAs) and the bank's internal demand organisation. BNG Bank regularly monitors and evaluates the service provider's services. The ISAE 3402 type II statement annually issued by Centric FSS is part of this procedure. The IAD's periodical audits of Centric FSS provide additional assurance. The bank also structurally monitors the financial situation of Centric FSS and draws up contingency plans. Other services such as the management of the building and installations, catering, cleaning and landscaping have also been outsourced, with satisfactory results.

Cloud computing is becoming more and more common practice. BNG Bank is treating cloud computing as a way of outsourcing and performs a thorough risk analysis as part of the outsourcing decision. The classification and ultimate destination of the data as well as the characteristics of the outsourcing party and the application are important factors in the decision. Based on the policies regarding information security, outsourcing, cloud computing and architecture, the decision to allow a cloud application is made by the Architecture Advice Group described under ICT Risk above.

Integrity risk

Integrity, including conduct risk, is a key part of operations. The risk of internal and external fraud is evaluated, while mitigating controls are in place in processes as well as in automated systems. The BNG Bank Code of Conduct is published on the website and states the bank's core values: reliable, sustainable and professional. The Code of Conduct serves as a guideline for all actions undertaken by BNG Bank and its employees. New staff are assessed on their integrity, irrespective of whether it concerns permanent staff or temporarily hired staff. The issue of integrity is highlighted among all staff on a regular basis. All employees have individually taken the banker's oath and endorsed the disciplinary regulations for banks. When employees take the oath, the importance of ethical conduct is discussed. The bank carries out a product approval and review process (PARP) to ensure that its products serve the interests of its clients and its investors and that they do not involve any unacceptable risks for the clients, the investors or the bank itself. The bank values acting with due care towards clients and other stakeholders over an exclusive focus on financial profit or other self-interests. The bank also expects its clients and other contacts to adhere to ethical standards and not to jeopardise the bank's reputation. The bank has policies in place which are used as a basis for assessing new and existing clients and contacts. The risk of fraud and money laundering is assessed, while clients, contacts and counterparties are checked against international sanction lists. Client payment transactions are monitored. The Compliance department periodically carries out a systematic integrity risk analysis and did not detect any major integrity issues in 2018. The bank has whistle-blower arrangements in place that enable staff to report irregularities without fear for their position. No irregularities were reported in 2018.

Legal risk

Legal risk includes the risk that BNG Bank does not comply with applicable legislation and regulation (compliance risk) as well as the risk that contracts contain inappropriate stipulations (contract risk). Line management is responsible for compliance with all applicable laws and regulations. With respect to the international regulatory framework for banks, known as Basel III, the bank has installed a working group that signals new developments, assigns them to the responsible line management or – if necessary – initiates implementation projects. Developments with respect to other laws and regulations are monitored by individual departments as well as primary points of contact that have been identified for those laws and regulations. The Compliance department is in the process of setting up a more comprehensive framework to monitor compliance with all applicable laws and regulations centrally.

For managing contract risk, the bank has a legal department, whose tasks and responsibilities include drafting legally sound arrangements with clients and other parties. To this end, standard contracts and provisions have been drawn up, which are managed in an internal model contract library. Any deviation from these standard contracts is coordinated by the Legal Affairs and Tax department (JFZ).

The bank has automated the administration of contractual provisions in agreements with clients, with the aim to standardise the conditions and provisions as much as possible. The internal model contract library is aligned with the contract administration, and is subject to continuous further development and updating. This guarantees the enforceability of contractual agreements as much as possible, while the standardisation of conditions will result in an operational process that involves as little manual intervention as possible.

Where applicable, the JFZ department seeks external assistance; for example, in the event of complex (often syndicated) transactions and in cases requiring specialist legal knowledge.

As at year-end 2018, BNG Bank was not involved in any material legal proceedings.

Strategic risk

Definitions

Strategic risk is defined as the risk that strategic decisions of the institution itself could result in losses and/or the chance of losses as a result of changes beyond the control of the institution or group in the area of the bank's competitive position, the political climate, regulatory developments, reputation and business climate. In addition to general strategic risks, the following aspects can be identified:

- Reputation risk is the risk that the institution's market position will deteriorate due to a negative perception of its image among stakeholders.
- Business climate is the likelihood of losses due to environmental changes in terms of the economy, stock exchange climate, wage and/or purchasing power developments, broader society and technology, as well as by the activities, actions and/or decisions of new or existing competitors.
- Political risk is the risk that the institution's competitive and market position will be influenced by the political climate and stakeholder influence.
- Regulatory risk is the risk that developments in regulatory requirements will materially impact the business model and the complexity of operations.

Governance

Strategic risks are driven by external factors in particular. They are closely interlinked with the strategic elements in the business plan. In addition, they interlink with other risk types (e.g. operational risks can reach a dimension in which they can have a serious effect on the reputation of BNG Bank or, conversely, a changing business climate causes changes in the credit risk or interest rate risk profile of BNG Bank). For this reason, strategic risk has no dedicated general policy of its own. Instead, strategic risks are incorporated in the Annual Plan of BNG Bank and the business plans of the individual departments. They are incorporated in the stress-testing programme and are also addressed in the Capital Management Plan (as part of the ICAAP). Decisions on strategic risk are the responsibility of the Executive Board, although discussions generally also take place in Management Board or ALCO meetings, depending on the exact nature of the strategic risk. The monitoring of measures and actions to mitigate strategic risk is part of the planning and budget cycle.

Developments

Strategic risks are driven by the external environment of the bank, which is evolving continuously. In meetings with stakeholders, these developments are discussed and evaluated. In 2018, a strategic risk analysis was conducted to discuss the most important strategic risks, and to identify whether and which actions or additional actions were needed for further mitigation. Risk identification took place using interviews with senior management. In a workshop, also with senior management, the risks were clarified and ranked. In a second workshop, dilemmas were identified and – where applicable – further actions were defined. High on the list of strategic risks are the interconnected risks of disintermediation, platform developments and digitisation. Moreover, execution power in the context of new initiatives was high on the list as well.

There is no change to the bank's opinion that its business model does not force it to be a technological frontrunner and that its scale of operations does not allow it to be one. However, falling behind with the developments in retail banking can also become a dissatisfier for the bank's clients, exclusively non-retail. This might not be compensated sufficiently by attractive pricing to guarantee future customer satisfaction. For this reason, BNG Bank is investing in an extendible client platform that will allow the bank to roll out different digital services over time. The choice and order of the implementation of these services will be partially dependent on future developments. Trends such as the Dutch energy transition, European Capital Markets and platforms created by technology firms or financial competitors are considered to have an impact on the business model.

As an organisation with a sizeable balance sheet – even on European scale – but a small scale of operations, changing client demands as well as continuously increasing regulatory pressure force the bank to move from a stable organisation to an organisation that is both stable and as agile as reasonably possible. The quality of several processes is being brought to a higher level and the documentation of the corresponding governance is being improved. These developments have an impact on sourcing decisions and corresponding staff requirements. In 2018, instruments were developed to stimulate job rotation, internships and task rotation within departments. Developing a strategic Human Resources Policy became more prominent on the agenda in 2018. Inflow, outflow and throughflow are key elements in this policy, next to elements such as diversity and key personnel risk.

The energy transition decided upon by the Dutch government leads to changes in the nature of credit risk as well as reputation risk. As mentioned in developments under credit and liquidity risk, Brexit is considered to have most likely only a minimal impact on the business model of BNG Bank. The most extensive ties with the UK relate to the large amount of derivatives transactions with banks in the UK and to central clearing through the clearing house LCH. Onboarding of a clearing house in the eurozone took place in 2018.

Reputation risk

As a bank of and for the public sector, it is of vital importance that the products and services which we provide to our clients support their role in the Dutch public sector. This is reflected not only in the bank offering the products that its clients ask for, but especially in a certain reticence if it is not sufficiently clear that a particular product is in the clients' interest. The bank will stress this when it receives requests for financing arrangements which it considers unsuitable for the client concerned. This applies in particular to smaller organisations of which the bank has reason to believe that they lack the in-house expertise to manage the risks of the product in question. This is factored into the bank's product approval process, in which product templates are used to address explicitly the type of client that the product is suitable for as well as the risks and limitations of the product for both client and bank.

Reputation risk also applies to the bank's other stakeholders, such as investors and shareholders. It often arises as a consequential risk if other risks are not properly controlled. As a result, it makes up an integral part of all aspects of the bank's risk policy. Mitigation of the various risks therefore indirectly safeguards the bank's reputation.
To provide its clients with innovative forms of lending, a short time to market is desirable from a strategic as well as a commercial perspective. However, insufficient care during implementation can lead to problems that could harm the bank's reputation. Instruments to manage reputation risk include shareholder dialogues that include the exchange of expectations. Since reputation risk is included in the risk appetite of the bank, it is also part of the associated monitoring.

Business climate

BNG Bank's market, the Dutch public sector, is less vulnerable to economic trends than most sectors of the financial markets.

The relatively low credit margins characteristic of the market in which BNG Bank operates act as an obstacle to potential new entrants. Although non-financial institutions may have regulatory advantages or may not be regulated at all, it is not very likely that institutions striving to maximise their profits will enter this market on a large scale because of the relatively low margins. In addition, it is a challenge to keep operational costs of servicing a loan portfolio acceptable without a certain scale. Efficiency and scale are key to a profitable business model in this low-margin sector. However, institutional parties such as pension funds and insurers do enter the public-sector market on an irregular basis.

The ongoing low interest rate environment is putting pressure on the earnings of the bank. The return on equity is not only influenced by this downward pressure on earnings but also by growing equity as a result of post-crisis regulation. Since BNG Bank's shareholders are first and foremost interested in low credit pricing, the return on equity is of lesser importance. In addition, the required return for the bank is a function of the general interest rate, compensating the effect of the development in the interest rate level.

As a committed partner for a more sustainable society, BNG Bank is heavily dependent on changing public opinion. Banks are expected to show good Environmental Social Governance (ESG) risk management throughout the supply chain, not just with regard to their own financial relationships. Shifts in public opinion on sustainability are increasingly impacting stakeholder expectations. To be able to balance the requirement for a long-term vision with timely responses to these shifts, the bank aims for a more integrated approach to sector management and sustainability policies for 2019.

BNG Bank has invested a limited amount of risk-bearing capital in area development projects subject to partnerships with public-sector entities in those projects. This has allowed the bank to participate in such projects also in its capacity as lender. Market conditions in this sector have been difficult since the crisis of 2008, and the bank decided in 2018 to limit this activity to managing and phasing out the existing portfolio. New projects will no longer be considered.

Political risk

At BNG Bank, business climate and political risk are closely linked, because public authorities are both shareholders and clients. As a result, the bank's dependence on political decisions is high. This is especially the case for decisions that impact regulations for client sectors which represent significant portions of the bank's balance sheet, such as housing or healthcare. The financial impact of the energy transition as part of the change towards a sustainable society that is being planned by the government and its social partners is yet unclear. Over the following years, it may have significant impact on the financing needs of the housing sector, both in terms of volume and in type of funding. Moreover, improving the sustainability of municipal property will impact the credit demand by local government. In case of government support for the energy transition by means of guarantee programmes or otherwise, new opportunities could arise for the bank.

With regard to stakeholder influence, meeting the financing requirements of public authorities is essential for BNG Bank. At the same time, BNG Bank has independently committed to several sustainability initiatives. There is a risk of misalignment between the product demands from public authorities and the abovementioned commitments. To control this risk, the bank's Sustainability Committee is in the process of setting up a monitoring framework.

Regulatory risk

Regulations are still subject to a continuous stream of changes, mostly aimed at improving the safety of banks and often resulting in higher capital requirements or a need to strengthen governance. The bank is specifically exposed to potential changes in solvency requirements based on notional amounts, since most of its assets are zero-risk-weighted. A non-zero risk weight for these exposures would have a significant impact on the bank's capital. In addition, concentration limits on government exposures would be an obvious threat to the bank's business model. The Bank Recovery and Resolution Directive (BRRD) poses the question of whether the shareholders are permitted to assist BNG Bank in the event of acute problems without triggering discussions on state aid or a bail-in. The regulation governing the MREL requirement (Minimum Requirement for own funds and Eligible Liabilities) can also affect how the bank meets its funding needs. The precise application of these bail-in regulations as well as the interpretation by the Single Resolution Board in the context of promotional banks is expected to be clarified in the first half of 2019.

Regulations tend to be increasingly rule-based instead of principle-based. In the summer of 2018, extensive new EBA regulations on the governance of banks came into force. Moreover, in terms of supervision, BNG Bank is regarded as a large bank because of the size of its balance sheet. This means that the governance of the bank should be formalised in more detail than before, resulting in new policies and procedures, among other things. The bank has created an overarching description of its Risk Governance in 2017 and expanded this in 2018. Policies regarding model risk and product approval were included, while the relation to e.g. ICAAP/ILAAP and recovery planning was explained. In 2019, an extension to a more general description on its Internal Governance is foreseen. Among other things, the compliance function, the governance of the ICAAP as well as the strategic planning process will be expanded and incorporated. In addition, stress testing will be high on the agenda for 2019.

All these developments place a heavy burden on the resources of the bank. To a certain extent, the bank is forced to prioritise supervisory requirements at the cost of its further priorities, including product development and digitisation. To meet current regulatory demands and anticipate future regulatory developments, significant additional costs are foreseen for 2019.

Scope of application (article 436 CRR)

The requirements of the CRR apply to BNG Bank. BNG Bank has two subsidiaries that operate in support of the bank's core business activity. There is no difference in scope of consolidation for accounting and prudential purposes for BNG Bank. Each year, BNG Bank prepares consolidated financial statements for the parent company and its subsidiaries. The financial statements of the parent company and its subsidiaries, which are used to prepare the consolidated financial statements, are drawn up at the same reporting date and are based on uniform principles. All intra-group transactions and balances, including income, expenses and dividends, have been fully eliminated in the consolidated financial statements. The consolidated financial statements comprise the following subsidiaries over which BNG Bank has control:

- BNG Gebiedsontwikkeling directly or indirectly provides venture capital or other capital to public authorities and directly or indirectly participates in and/or cooperate with projects, either with or on behalf of public authorities or institutions affiliated with public authorities.
- Hypotheekfonds voor Overheidspersoneel finances mortgage loans taken out by civil servants in the employ of an affiliated public or semi-public institution with which a cooperation agreement has been reached.

Differences between accounting and regulatory scopes of consolidation and mapping of financial categories to regulatory risk categories (EU LI1)

						31/12/2018
		CARRYING VALUES OF ITEMS				
	CARRYING VALUES AS REPORTED IN PUBLISHED FINANCIAL STATEMENTS AND FOR REGULATORY CONSOLIDATION	SUBJECT TO CREDIT RISK FRAMEWORK	SUBJECT TO COUNTER-PARTY CREDIT RISK FRAMEWORK	SUBJECT TO SECURITISATION FRAMEWORK	SUBJECT TO MARKET RISK FRAMEWORK	NOT SUBJECT TO CAPITAL REQUIREMENTS OR SUBJECT TO DEDUCTION OF CAPITAL
Assets						
Cash and balances with the central bank	1,587	1,587	–	–	–	–
Amounts due from banks	82	82	–	–	73	–
Cash collateral posted	12,043	3	12,040	–	–	–
Reverse repos	–	–	–	–	–	–
Financial assets at FVTPL	1,606	1,606	–	–	906	–
Derivatives (assets)	8,390	–	8,390	–	3,276	–
Financial assets at FVOCI	9,648	9,648	–	–	22	–
Interest-bearing securities at AC	7,406	2,455	–	4,940	644	10
Loans and advances	85,034	85,034	–	–	102	–
Value adjustments on loans in portfolio hedge accounting	11,566	11,566	–	–	–	–
Participating interests	44	44	–	–	–	–
Property and equipment	17	14	–	–	–	3
Other assets	79	79	–	–	1	–
Current tax assets	7	7	–	–	–	–
Deferred tax assets	–	–	–	–	–	–
Assets held for sale	–	–	–	–	–	–
Total assets	**137,509**	**112,125**	**20,430**	**4,940**	**5,024**	**13**
Liabilities						
Amounts due to banks	2,383	–	–	–	1,838	545
Cash collateral received	419	–	419	–	–	–
Repos	–	–	–	–	–	–
Financial liabilities at FVTPL	762	–	–	–	656	106
Derivatives (liabilities)	19,223	–	19,223	–	2,225	–
Debt securities issued	103,722	–	–	–	46,804	56,918
Funds entrusted	5,800	–	–	–	2,090	3,710
Subordinated debts	32	–	–	–	–	32
Current tax liabilities	–	–	–	–	–	–
Deferred tax liabilities	99	–	–	–	–	99
Other liabilities	78	–	–	–	–	78
Total liabilities	**132,518**	**-**	**19,642**	**-**	**53,613**	**61,488**

	31/12/2017					
	CARRYING VALUES OF ITEMS					
	CARRYING VALUES AS REPORTED IN PUBLISHED FINANCIAL STATEMENTS AND FOR REGULATORY CONSOLIDATION	SUBJECT TO CREDIT RISK FRAMEWORK	SUBJECT TO COUNTER-PARTY CREDIT RISK FRAMEWORK	SUBJECT TO SECURITI-SATION FRAMEWORK	SUBJECT TO MARKET RISK FRAMEWORK	NOT SUBJECT TO CAPITAL REQUIRE-MENTS OR SUBJECT TO DEDUCTION OF CAPITAL
Assets						
Cash and balances with the central banks	2,996	2,996	–	–	–	–
Amounts due from banks	13,997	105	13,892	–	3	–
Financial assets at fair value through the income statement	2,006	1,798	–	208	913	–
Derivatives	8,982	–	8,982	–	2,902	–
Financial assets available-for-sale	14,110	11,064	–	3,021	683	25
Loans and advances	86,008	85,956	–	52	131	–
Value adjustments on loans in portfolio hedge accounting	11,813	11,813	–	–	–	–
Investments in associates and joint ventures	47	47	–	–	–	–
Property & equipment	17	14	–	–	–	3
Other assets	19	19	–	–	1	–
Assets held for sale	30	30	–	–	–	–
Total assets	**140,025**	**113,842**	**22,874**	**3,281**	**4,633**	**28**
Liabilities						
Amounts due to banks	2,393	–	314	–	1,832	247
Financial liabilities at fair value through the income statement	944	–	–	–	810	134
Derivatives	21,870	–	21,870	–	3,495	–
Current Tax Liability	17	–	–	–	–	17
Deferred Tax Liability	173	–	–	–	–	173
Debt securities	104,127	–	–	–	54,424	49,703
Funds entrusted	5,472	–	55	–	1,947	3,470
Subordinated debts	31	–	–	–	–	31
Other liabilities	45	–	–	–	–	45
Total liabilities	**135,072**	**-**	**22,239**	**-**	**62,508**	**53,820**

Main sources of differences between regulatory exposure amounts and carrying values (EU LI2)

					31/12/2018
		ITEMS SUBJECT TO			
	TOTAL	CREDIT RISK FRAMEWORK	COUNTER-PARTY CREDIT RISK FRAMEWORK	SECURITI-SATION FRAMEWORK	MARKET RISK FRAMEWORK
Asset carrying value amount under scope of regulatory consolidation (as per template LI1)	**137,496**	112,126	20,430	4,940	5,024
Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	**71,029**	0	19,642	0	53,613
Total net amount under regulatory scope of consolidation	**66,467**	**112,126**	**788**	**4,940**	**-48,589**
Off-balance sheet amounts	**13,713**	13,506	0	198	0
Differences due to application of the overall net FX position	**48,496**	0	0	0	48,496
Differences due to application of Mark-to-Market Method and contractual netting for CCR	**2,267**	0	2,267	0	0
Differences due to valuation	**2,937**	147	0	0	0
Exposure amounts considered for regulatory purposes	**133,880**	**125,779**	**3,055**	**5,138**	**-93**

					31/12/2017
		ITEMS SUBJECT TO			
	TOTAL	CREDIT RISK FRAMEWORK	COUNTER-PARTY CREDIT RISK FRAMEWORK	SECURITI-SATION FRAMEWORK	MARKET RISK FRAMEWORK
Asset carrying value amount under scope of regulatory consolidation (as per template LI1)	**139,997**	113,842	22,874	3,281	4,633
Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	**81,252**	0	22,239	0	62,508
Total net amount under regulatory scope of consolidation	**58,745**	**113,842**	**635**	**3,281**	**-57,875**
Off-balance sheet amounts before CCF after provisions	**12,743**	12,510	0	233	0
Differences due to application of the overall net FX position	**57,791**	0	0	0	57,791
Differences due to application of Mark-to-Market method and contractual netting for CCR	**2,516**	0	2,516	0	0
Differences between financial statements and exposure value due to valuation and netting	**1,108**	-30	0	0	0
Exposure amounts considered for regulatory purposes	**132,903**	**126,322**	**3,151**	**3,514**	**-84**

Explanation of differences between accounting and regulatory exposure (EU LIA)

The consolidation scope for the purpose of calculating Regulatory Capital is equal to the consolidation scope under IFRS. The main differences between the carrying value of assets under the scope of regulatory consolidation and the exposure amounts considered for regulatory purposes can be explained by the inclusion of the off-balance sheet liabilities in the exposure amounts for regulatory purposes, the exclusion of items that are capital deducted, and the different valuation of derivatives due to netting rules and collateral. The market risk framework for regulatory purposes for BNG Bank consists only of the standardised approach for foreign exchange risk. In Table LI1, the column for the market risk framework shows all transactions with a foreign currency component. After eliminating the transactions denominated in euros, this results in a minor short position for both year-end 2018 and year-end 2017 (Table LI2).

Outline of the differences in the scopes of consolidation (EU LI3)

NAME OF THE ENTITY	METHOD OF ACCOUNTING CONSOLIDATION	METHOD OF REGULATORY CONSOLIDATION				DESCRIPTION OF THE ENTITY
		FULLY CONSOLIDATED	PROPORTIONAL CONSOLIDATED	NEITHER CONSOLIDATED NOR DEDUCTED	DEDUCTED	
BNG Gebiedsontwikkeling BV	Fully consolidated	X				Directly or indirectly provides venture capital or other capital to public authorities and directly or indirectly participates in and/or cooperate with projects, either with or on behalf of public authorities or institutions affiliated with public authorities.
Hypotheekfonds voor overheidspersoneel BV (HVO)	Fully consolidated	X				Finances mortgage loans taken out by civil servants in the employ of an affiliated public or semi-public institution with which a cooperation agreement has been reached.

Own funds (article 437 CRR)

Balance sheet reconciliation

BNG Bank's capitalization is well above the fully-loaded capital requirements laid down in the Capital Requirements Directive IV (CRD IV). The capital structure consists mainly of common equity. The other part consists of additional Tier 1 instruments.

Share capital

The authorised capital is divided into 100 million shares with a nominal value of EUR 2.50 each, of which 55,690,720 shares have been issued and fully paid up. The number of shares in circulation remained unchanged during the financial year. There are no issued shares that are not fully paid up. BNG Bank and its subsidiaries hold no company shares. None of the shares carry preferential rights, nor are they subject to restrictions. There are no options that can be exercised to obtain entitlement to the issue of shares.

Equity attributable to the shareholders includes reserves which consist of a revaluation reserve, the cash flow hedge reserve, a reserve for fair value increases as well as retained earnings from previous years. This equity amounts to EUR 4,258 million at end of 2018 and a full breakdown is included in the Annual Report (pp. 128-130).

Hybrid capital

The bank's hybrid capital amounts to EUR 733 million. In 2018 no additional hybrid capital was issued. Hybrid capital concerns perpetual loans involving an annual non-cumulative discretionary payment on the outstanding principal amount, subject to compulsory amortisation in the event that the CET1 ratio falls below 5.125%. The payment qualifies as dividend under IFRS and is charged to the Other reserves. The dividend distribution is deductible for corporate income tax until 2019 due to a change in law in 2018.

The instrument is structured in line with CRR requirements and the EBA guidelines and qualifies as additional Tier 1 capital. BNG Bank has the unilateral contractual option of repaying the perpetual capital instruments prematurely on the sixth coupon due date (in May 2021 and 2022) and subsequently every year on the coupon due date.

The tables below show the structure of the regulatory capital. The tables present the capital in the transitional situation and the capital after full phasing-in (2018).

		31/12/2018
	CAPITAL FULLY PHASED IN	IFRS EQUITY
Paid-up capital	139	139
Share premium	6	6
Retained earnings from previous years	3,410	3,410
Unappropriated profit		337
Accumulated other comprehensive income		
– Cash flow hedge reserve	10	10
– Cost of hedging	222	222
– Own credit adjustment	9	9
– Revaluation reserve	125	125
Common Equity Tier 1 (CET1) capital before regulatory adjustments	**3,921**	**4,258**
Adjustments to CET1 capital as a result of prudential filters:		
– Cash flow hedge reserve	-10	
– Cumulative gains and losses arising from the bank's own credit risk related to derivatives liabilities	-2	
– Own credit risk for Financial liabilities at fair value through the income statement	-9	
– Value adjustments due to the prudential valuation requirements	-5	
– Intangible assets	-3	
– Expected credit loss allowance of Financial assets at fair value through OCI	-1	
Deduction of capital for securitisation positions eligible as alternatives for a risk weight of 1250%	-10	
CET1 capital	**3,881**	
Additional Tier 1 capital:	733	733
Tier 1 capital	**4,614**	
Total equity		**4,991**

			31/12/2017
	CAPITAL (TRANSI-TIONAL)	CAPITAL FULLY PHASED IN	IFRS EQUITY
Paid-up capital	139	139	139
Share premium	6	6	6
Retained earnings from previous years	3,221	3,221	3,221
Unappropriated profit			393
Accumulated other comprehensive income			
– Cash flow hedge reserve	193	193	193
– Revaluation reserve	268	268	268
Common Equity Tier 1 (CET1) capital before regulatory adjustments	**3,827**	**3,827**	**4,220**
Adjustments to CET1 capital as a result of prudential filters:			
– Cash flow hedge reserve	–193	–193	
– Cumulative gains and losses arising from the bank's own credit risk related to derivatives liabilities	–6	–6	
– Own credit risk for Financial liabilities at fair value through the income statement	–9	–9	
– Value adjustments due to the prudential valuation requirements	–8	–8	
Deduction of capital for securitisation positions eligible as alternatives for a risk weight of 1250%	–25	–25	
Transitional adjustments to CET1 capital:			
– Intangible assets	–2	–2	
– 20% of the revaluation reserve related to Financial assets available-for-sale	–51	–	
CET1 capital	**3,533**	**3,584**	
Additional Tier 1 capital:	733	733	733
Tier 1 capital	**4,266**	**4,317**	
Total equity			**4,953**

Prudential filters

BNG Bank applies the following prudential filters to the CET1 capital:

- The cash flow hedge reserve is eliminated.
- The benefits arising from own credit risk (DVA) in derivatives transactions are eliminated.
- The benefits arising from 'own credit risk' in relation to obligations classified as Financial liabilities at fair value through the income statement are eliminated.
- Due to the regulations on prudent valuation, an adjustment is calculated in relation to the balance sheet valuation of assets and liabilities that are carried at fair value.

- The investments in the development of software is activated and amortised over three years. After a correction for 'deferred tax', the total of these intangible assets is deducted.
- The expected credit loss allowance of Financial assets at fair value through OCI.

Deductible items

BNG Bank opts to reduce the CET1 capital by two securitisation positions that are eligible for 1250% solvency weighting.

Adjustments in CRD IV/CRR transition phase

The transition phase has ended, so 100% of the unrealised gains and losses from the revaluation reserve for Financial assets at fair value through other comprehensive income are included in the CET1 capital in 2018. (2017: 80% of the unrealised gains and losses from the revaluation reserve for Financial assets available-for-sale)

Capital instruments' main features template

BNG Bank N.V.			
1 Issuer	BNG Bank N.V.	BNG Bank N.V.	BNG Bank N.V.
2 Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement)		XS1311037433	XS1453520378
3 Governing law(s) of the instrument	Laws of the Netherlands	Laws of the Netherlands	Laws of the Netherlands
Regulatory treatment			
4 Transitional CRR rules	Common Equity Tier 1	Additional Tier 1	Additional Tier 1
5 Post-transitional CRR rules	Common Equity Tier 1	Additional Tier 1	Additional Tier 1
6 Eligible at solo / (sub-)consolidated / solo&(sub-)consolidated	Solo & (sub-)consolidated	Solo & (sub-)consolidated	Solo & (sub-)consolidated
7 Instrument type (types to be specified by each jurisdiction)	Ordinary share	Perpetual Capital Security	Perpetual Capital Security
8 Amount recognised in regulatory capital (Currency in million, as of most recent reporting date).	EUR 145	EUR 424	EUR 309
9 Nominal amount of instrument	EUR 139	EUR 424	EUR 309
9a Issue price	n/a	100% for 1st tranche at 16/11/2015 (a 2nd tranche was issued on 15/12/2015 on the same terms with a price of 100.61%)	100% for 1st tranche at 28/07/2016 (two follow-up tranches were issued in second half of 2016 on same terms at 100.34% and 99.72% respectively)
9b Redemption price	n/a	Subject to write down	Subject to write down

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BNG Bank N.V.

10	Accounting classification	Shareholders' equity	Equity	Equity
11	Original date of issuance	23 December 1914	16 November 2015	28 July 2016
12	Perpetual or dated	Perpetual	Perpetual	Perpetual
13	Original maturity date	No maturity	No maturity	No maturity
14	Issuer call subject to prior supervisory approval	No	Yes	Yes
15	Optional call date, contingent call dates, and redemption amount	n/a	16 May 2021 and every interest payment date thereafter, Tax and/or regulatory event call, Redemption at prevailing principal amount	16 May 2022 and every interest payment date thereafter, Tax and/or regulatory event call, Redemption at prevailing principal amount
16	Subsequent call dates, if applicable	n/a	Interest payment date (16 May)	Interest payment date (16 May)
Coupons / dividends				
17	Fixed or floating dividend/coupon	Floating	Fixed	Fixed
18	Coupon rate and any related index	n/a	3.622%, resettable on 16 May 2021 and every 5 years afterwards equal to prevailing 5-year Mid-Swap Rate plus initial margin	3.277%, resettable on 16 May 2022 and every 5 years afterwards equal to prevailing 5-year Mid-Swap Rate plus initial margin
19	Existence of a dividend stopper	n/a	n/a	n/a
20a	Fully discretionary, partially discretionary or mandatory (in terms of timing)	Mandatory	Mandatory	Mandatory
20b	Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully discretionary	Fully discretionary	Fully discretionary
21	Existence of step up or other incentive to redeem	n/a	No	No
22	Noncumulative or cumulative	Noncumulative	Noncumulative	Noncumulative
23	Convertible or non-convertible	Nonconvertible	Nonconvertible	Nonconvertible
24	If convertible, conversion trigger(s)	n/a	n/a	n/a

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BNG Bank N.V.				
25	If convertible, fully or partially	n/a	n/a	n/a
26	If convertible, conversion rate	n/a	n/a	n/a
27	If convertible, mandatory or optional conversion	n/a	n/a	n/a
28	If convertible, specify instrument type convertible into	n/a	n/a	n/a
29	If convertible, specify issuer of instrument it converts into	n/a	n/a	n/a
30	Write-down features	No	Yes	Yes
31	If write-down, write-down trigger(s)	n/a	CET1 ratio < 5.125%	CET1 ratio < 5.125%
32	If write-down, fully or partially	n/a	Partially	Partially
33	If write-down, permanent or temporary	n/a	Temporary	Temporary
34	If temporary write-down, description of write-up mechanism	n/a	Pro rata with other Discretionary Temporary Write-down Instruments, subject to MDA and Maximum Write-up Amount	Pro rata with other Discretionary Temporary Write-down Instruments, subject to MDA and Maximum Write-up Amount
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Additional Tier 1 instruments	Tier 2 instruments	Tier 2 instruments
36	Non-compliant transitioned features	No	No	No
37	If yes, specify non-compliant features			

Own funds disclosure template

Amounts in millions of euro

Common Equity Tier 1 capital: instruments and reserves		(A) AMOUNT AT 31/12/2018	(A) AMOUNT AT 31/12/2017	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
1	Capital instruments and the related share premium accounts	145	145	26 (1), 27, 28, 29, EBA list 26 (3)
	of which: Ordinary shares	139	139	EBA list 26 (3)
	of which: Share premium	6	6	EBA list 26 (3)
	of which: Instrument type 3	–	–	EBA list 26 (3)
2	Retained earnings	3,410	3,221	26 (1) (c)
3	Accumulated other comprehensive income (and any other reserves)	366	461	26 (1)
3a	Funds for general banking risk	–	–	26 (1) (f)
4	Amount of qualifying items referred to in Article 484 (3) and the related share premium accounts subject to phase out from CET1	–	–	486 (2
5	Minority interests (amount allowed in consolidated CET1)	–	–	84
5a	Independently reviewed interim profits net of any foreseeable charge or dividend	–	–	26 (2)
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**3,921**	**3,827**	
Common Equity Tier 1 (CET1) capital: regulatory adjustments				
7	Additional value adjustments (negative amount)	–5	–8	34, 105
8	Intangible assets (net of related tax liability) (negative amount)	–3	–2	36 (1) (b), 37
9	Empty set in the EU	–	–	

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		(A) AMOUNT AT 31/12/2018	(A) AMOUNT AT 31/12/2017	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
10	Deferred tax assets that rely on future profitability excluding those arising from temporary difference (net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)	–	–	36 (1) (C), 38
11	Fair value reserves related to gains or losses on cash flow hedges	–10	–193	33 (a)
12	Negative amounts resulting from the calculation of expected loss amounts	–1	–	36 (1) (d), 40, 159
13	Any increase in equity that results from securitised assets (negative amount)	–	–	32 (1)
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	–11	–15	33 (1) (b) (c)
15	Defined-benefit pension fund assets (negative amount)	–	–	36 (1) (e), 41
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	–	–	36 (1) (f), 42
17	Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negatvie amount)	–	–	36 (1) (g), 44
18	Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	–	–	36 (1) (h), 43, 45, 46, 49 (2) (3), 79
19	Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	–	–	36 (1) (i), 43, 45, 47, 48 (1) (b), 49 (1) to (3), 79
20	Empty set in the EU	–	–	

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	(A) AMOUNT AT 31/12/2018	(A) AMOUNT AT 31/12/2017	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
20a Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative	–10	–25	36 (1) (k)
20b of which: qualifying holdings outside the financial sector (negative amount)	–	–	36 (1) (k) (i), 89 to 91
20c of which: securitisation positions (negative amount)	–10	–25	36 (1) (k) (ii) 243 (1) (b) 244 (1) (b) 258
20d of which: free deliveries (negative amount)	–	–	36 (1) (k) (iii), 379 (3)
21 Deferred tax assets arising from temporary difference (amount above 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)	–	–	36 (1) (c), 38, 48 (1) (a)
22 Amount exceeding the 15% threshold (negative amount)	–	–	48 (1)
23 of which: direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities	–	–	36 (1) (i), 48 (1) (b)
24 Empty set in the EU	–	–	
25 of which: deferred tax assets arising from temporary difference	–	–	36 (1) (c), 38, 48 (1) (a)
25a Losses for the current financial year (negative amount)	–	–	36 (1) (a)
25b Foreseeable tax charges relating to CET1 items (negative amount)	–	–	36 (1) (l)
26 Regulatory adjustments applied to Common Equity Tier 1 in respect of amounts subject to pre-CRR treatment	–	–51	
26a Regulatory adjustments relating to unrealised gains and losses pursuant to Articles 467 and 468	–	–51	
27 Qualifying AT1 deductions that exceeds the AT1 capital of the institution (negative amount)	–	–	36 (1) (j)
28 Total regulatory adjustments to Common Equity Tier 1 (CET1)	**–40**	**–294**	

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		(A) AMOUNT AT 31/12/2018	(A) AMOUNT AT 31/12/2017	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
29	**Common Equity Tier 1 (CET1) capital**	**3,881**	**3,533**	
	Additional Tier 1 (AT1) capital: instruments			
30	Capital instruments and the related share premium accounts	733	733	51, 52
31	of which: classified as equity under applicable accounting standards	733	733	
32	of which: classified as liabilities under applicable accounting standards	–	–	
33	Amount of qualifying items referred to in Article 484 (4) and the related share premium accounts subject to phase out from AT1	–	–	486 (3)
34	Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interest not included in row 5) issued by subsidiaries and held by third parties	–	–	85, 86, 480
35	of which: instruments issued by subsidiaries subject to phase-out	–	–	486 (3)
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	**733**	**733**	
	Additional Tier 1 (AT1) capital: regulatory adjustments			
37	Direct and indirect holdings by an institution of own AT1 instruments (negative amount)	–	–	52 (1) (b), 56 (a), 57
38	Holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	–	–	56 (b), 58
39	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	–	–	56 (c), 59, 60, 79

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		(A) AMOUNT AT 31/12/2018	(A) AMOUNT AT 31/12/2017	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
40	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	–	–	56 (d), 59, 79
41	Empty set in the EU	–	–	
42	Qualifying T2 deductions that exceed the T2 capital of the institution (negative amount)	–	–	56 (e)
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**-**	**-**	
44	**Additional Tier 1 (AT1) capital**	**733**	**733**	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**4,614**	**4,266**	
	Tier 2 (T2) capital: instruments and provisions			
46	Capital instruments and the related share premium accounts	–	–	62, 63
47	Amount of qualifying items referred to in Article 484 (5) and the related share premium accounts subject to phase out from T2	–	–	486 (4)
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interest and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third party	–	–	87, 88, 480
49	of which: instruments issued by subsidiaries subject to phase-out	–	–	486 (4)
50	Credit risk adjustments	–	–	62 (c) & (d)
51	**Tier 2 (T2) capital before regulatory adjustment**	**-**	**-**	

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	(A) AMOUNT AT 31/12/2018	(A) AMOUNT AT 31/12/2017	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
Tier 2 (T2) capital: regulatory adjustments			
52 Direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount)	–	–	63 (b) (i), 66 (a), 67
53 Holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institutions designed to inflate artificially the own funds of the institution (negative amount)	–	–	66 (b), 68
54 Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10 % threshold and net of eligible short positions) (negative amount)	–	–	66 (c), 69, 70, 79
55 Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amounts)	–	–	66 (d), 69, 79
56 Empty set in the EU	–	–	
57 Total regulatory adjustments to Tier 2 (T2) capital	**-**	**-**	
58 Tier 2 (T2) capital	**-**	**-**	
59 Total capital (TC = T1 + T2)	**4,614**	**4,266**	
60 Total risk-weighted assets	**12,096**	**11,641**	
Capital ratios and buffers			
61 Common Equity Tier 1 (as a percentage of total risk exposure amount)	32.1%	30.4%	92 (2) (A), 465

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		(A) AMOUNT AT 31/12/2018	(A) AMOUNT AT 31/12/2017	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
62	Tier 1 (as a percentage of total risk exposure amount	38.1%	36.7%	92 (2) (b), 465
63	Total capital (as a percentage of total risk exposure amount	38.1%	36.7%	92 (2) (c)
64	Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1) (a) plus capital conservation and countercyclical buffer requirements plus a systemic risk buffer, plus systemically important institution buffer expressed as a percentage of total risk exposure amount)	8.95%	6.25%	CRD 128, 129, 140
65	of which: capital conservation buffer requirement	1.875%	1.25%	
66	of which: countercyclical buffer requirement	0.075%	–	
67	of which: systemic risk buffer requirement	n/a	n/a	
67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	0.75%	0.50%	CRD 131
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	32.1%	30.4%	CRD 128
69	(non-relevant in EU regulation)	–	–	
70	(non-relevant in EU regulation)	–	–	
71	(non-relevant in EU regulation)	–	–	
	Amounts below the thresholds for deduction (before risk-weighting)			
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions	–	–	36 (1) (h), 45, 46, 472 (10) 56 (c), 59, 60, 475 (4), 66 (c), 69, 70
73	Direct and indirect holdings of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions	–	–	36 (1) (i), 45, 48

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Continuation of previous page	(A) AMOUNT AT 31/12/2018	(A) AMOUNT AT 31/12/2017	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
74 Empty set in the EU	–	–	
75 Deferred tax assets arising from temporary difference (amount below 10% threshold , net of related tax liability where the conditions in Article 38 (3) are met)	–	–	36 (1) (c), 38, 48
Applicable caps on the inclusion of provisions in Tier 2			
76 Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	–	–	62
77 Cap on inclusion of credit risk adjustments in T2 under standardised approach	–	–	62
78 Credit risk adjustments included in T2 in respect of exposures subject to internal rating-based approach (prior to the application of the cap)	–	–	62
79 Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	–	–	62
Capital instruments subject to phase-out arrangements (only applicable between 1 January 2014 and 1 January 2022)			
80 Current cap on CET1 instruments subject to phase-out arrangements	–	–	484 (3), 486 (2) & (5)
81 Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	–	–	484 (3), 486 (2) & (5)
82 Current cap on AT1 instruments subject to phase-out arrangements	–	–	484 (4), 486 (3) & (5)
83 Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	–	–	484 (4), 486 (3) & (5)
84 Current cap on T2 instruments subject to phase-out arrangements	–	–	484 (5), 486 (4) & (5)
85 Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	–	–	484 (5), 486 (4) & (5)

Capital requirements (articles 438 and 440 CRR)

Capital and solvency

Definitions

Regulatory capital relates to the capital requirements under the CRD IV. For regulatory purposes the capital requirement is based on the Pillar 1 requirement for the aggregated risk-weighted assets (RWA) for the three major risk types (credit, operational and market risk). This requirement is supplemented by so-called combined buffer requirement (CBR) and a Pillar 2 requirement (P2R). The CBR consists of a capital conservation buffer, a systemic risk buffer, a countercyclical buffer and a systemic relevance buffer. The P2R is an institutional specific requirement stemming from the Supervisor Review and Evaluation Process (SREP) conducted by the supervisor. The P2R covers risks underestimated or not covered by Pillar 1. BNG Bank employs the 'Standardised Approach' to calculate the RWAs. In addition to the regulatory required capital BNG Bank calculates economic capital (EC). Economic capital covers all risks in our risk taxonomy, for which capital is deemed to be the mitigating instrument to cover unexpected losses. It is used for internal risk measurement and management. It is the amount of capital we deem adequate to pursue our strategy and which achieve a sufficient level of protection against large unexpected losses that could result from extreme market conditions or events.

Governance

The Executive Board is responsible for determining the policy with respect to capital. This is laid down in a capital adequacy statement and management plan. Next, the Executive Board is responsible for the allocation of capital. Decision making is prepared by the Capital Policy and Financial Regulations Committee. This committee comprises all relevant stakeholders: the Executive Board, Public Finance, Treasury, Capital Management, Risk Management and Finance and Control.

Developments

As at December 2018, the phase-in CRD IV Common Equity Tier 1 (CET1), Tier 1 and total capital ratios were respectively 32%, 38% and 38%. All capital ratios were well above regulatory minimum requirements. BNG Bank's capital position strengthened compared to 31 December 2017 driven by profit accumulation.

BNG Bank is required in 2019 to meet a minimum CET1 ratio of 10.325%, composed of a SREP requirement of 6.75% (4.5% Pillar 1 requirement and 2.25% Pillar 2 requirement), a systemic relevance risk buffer of 1.00%, countercyclical buffer of 0.075% and a capital conservation buffer (CCB) of 2.50% BNG Bank amply meets the requirements. The Maximum Distributable Amount (MDA) trigger level for BNG Bank is 10.325% of CET1 capital. In 2011, BNG Bank lowered its dividend distribution policy to 25% in order to meet the additional capital requirements introduced by Basel III. Given that clarity on the capital requirements is still pending (see subsection on regulatory framework). BNG Bank is not changing this policy now, but expects to update it in 2019.

	31/12/2018	
	MINIMUM REQUIRED EXTERNALLY	PRESENT
Solvency		
CRD IV/CRR (transitional)		
Tier 1 capital	1,506	4,614
Total capital ratio	12.45%	38.1%
– Pillar 1	8%	
– Pillar 2 requirement	1.75%	
– Combined Buffer Requirement	2.70%	
Common Equity Tier 1 capital	1,083	3,881
Common Equity Tier 1 ratio	8.95%	32.1%
– Pillar 1	4.5%	
– Pillar 2 requirement	1.75%	
– Combined Buffer Requirement	2.70%	
Risk-weighted assets	n.v.t.	12,096
CRD IV/CRR (fully phased in)		
Tier 1 capital	1,612	4,614
Total capital ratio	13.325%	38.1%
– Pillar 1	8%	
– Pillar 2 requirement	1.75%	
– Combined Buffer Requirement	3.575%	
Common Equity Tier 1 capital	1,188	3,881
Common Equity Tier 1 ratio	9.825%	32.1%
– Pillar 1	4.5%	
– Pillar 2 requirement	1.75%	
– Combined Buffer Requirement	3.575%	
Risk-weigthed assets	n.v.t.	12,096

	31/12/2017	
	MINIMUM REQUIRED EXTERNALLY	PRESENT
Solvency		
CRD IV/CRR (transitional)		
Tier 1 capital	1,135	4,266
Total capital ratio	9.75%	36.7%
– Pillar 1	8%	
– Combined Buffer Requirement	1.75%	
Common Equity Tier 1 capital	728	3,533
Common Equity Tier 1 ratio	6.25%	30.4%
– Pillar 1	4.50%	
– Combined Buffer Requirement	1.75%	
CRD IV/CRR (fully phased in)		
Tier 1 capital	1,339	4,317
Total capital ratio	11.50%	36.7%
– Pillar 1	8%	
– Combined Buffer Requirement	3.50%	
Common Equity Tier 1 capital	931	3,584
Common Equity Tier 1 ratio	8.00%	30.4%
– Pillar 1	4.50%	
– Combined Buffer Requirement	3.50%	

Capital management

The primary objective of the capital management strategy is to ensure that internal as well as external capital adequacy requirements are met at all times and sufficient capital is available to support the bank's strategy. The capital management strategy builds on the bank's risk appetite and its business plans. Besides, expectations and requirements of external stakeholders (e.g. regulators, investors, rating agencies, shareholders), the bank's capitalization relative to the market, market developments and the feasibility of capital management actions are taken into account. The capitalization policy is incorporated in the so-called Internal Capital Adequacy Assessment Process (ICAAP). Key to this policy is the capital management plan, which determines the level and composition of the capital based on the risks to be capturedby that capital. In the ICAAP, regulatory as well as economic capital is taken into account. As part of the ICAAP a number of stress scenarios is executed in order to determine the adequacy and robustness of the capitalization. Next to the level of capitalization, the ICAAP determines the allocation per relevant type of risk. On an ongoing basis, capital adequacy is measured and monitored against target capital ratios. These target levels are derived from the bank's risk appetite and strategy and quantified by the ICAAP. The allocation is derived from the ICAAP. This process ensures that the bank is operating in line with its risk appetite.

Regulatory framework

The European Commission issued in November 2016 draft texts to amend CRD IV, CRR and BRRD. The legislative process is still ongoing with an expected adoption in Q2 2019. In the context of capital, the leverage ratio and the Minimum Requirement for own funds and Eligible Liabilities (MREL) requirement are the main important subjects for BNG Bank.

The CRR introduced a non-risk based leverage ratio which would be monitored until 2017 and further refined and calibrated before becoming a binding measure as from 2018. As this binding measure is part of CRR 2, the details have not been finalised yet. Discussions are still ongoing over the required level, potentially depending on significance, and a proportional treatment of promotional banks. Developments in this respect are being monitored. BNG Bank's capital planning is based on the 3% level communicated to date and reaffirmed by Basel IV (see below). As of December 2018, BNG Bank meets this level. The BRRD provides authorities with more comprehensive and effective measures to deal with failing banks. The bail-in framework of the BRRD has been applicable since January 2016. The bail-in framework introduced an additional loss-absorbing measure, MREL. On 27 February 2019, the Single Resolution Board (SRB) announced that simplified obligations apply to BNG Bank. This means that the preferred resolution strategy is normal insolvency law. No explicit MREL has been included in the decision. Based on the current SRB guidelines, an MREL requirement equal to the Loss Absorption Amount, consisting of Pillar 1 and Pillar 2 requirements plus the combined buffer requirement applies. Hence, the current capitalisation is sufficient to meet the MREL requirements. In two years, the SRB will evaluate the decision taken in accordance with legislation. BNG Bank will continue to monitor developments in this context.

Commonly referred to as Basel IV, the Basel Committee on Banking Supervision has issued in December 2017 post crisis reforms. Basel IV has to be transposed in European law, earliest expected timeline 2022/2023. The impact is therefore yet unclear and conditional on the transposition (i.e. potential changes made during this process). While introducing changes to the Standardised Approach, the framework aims specifically to enhance the reliability and comparability of risk-weighted capital ratios under the Internal Model approach. As such, the changes will impact the capital position of BNG Bank. The most important driver for the impact is whether the exclusion of several counterparties under CRR Article 382 will be maintained. The treatment of sovereign exposures is not part of Basel IV. Revisions to this approach are part of a discussion paper. As sovereign exposures form a significant part of BNG Bank's exposures, any changes to the treatment of these exposures will have a significant impact on BNG Bank's capital ratios. Developments in this area will be monitored closely.

The EU revised the securitisation regulation as per December 2017 by adopting Regulation (EU) 2017/2401 and Regulation (EU) 2017/2402. The new rules will apply to new transactions from 2019 onwards and one year later to existing transactions. The positive impact, given the more favourable risk weighting under the revised regulation, on BNG Bank's capital position will therefore result beginning 2020.

Overview of RWA (EU OV1)

Table: EU OV1	31/12/2018	30/09/2018	31/12/2018	30/09/2018
	RWA		MINIMUM CAPITAL REQUIREMENT	
Credit risk (excluding CCR)	**8,706**	**8,749**	**697**	**700**
Of which standardised approach (SA)	8,706	8,749	697	700
Of which the foundation IRB (FIRB)	–	–	–	–
Of which the advanced IRB (AIRB)	–	–	–	–
Of which Equity IRB under the simple risk-weighted approach or the IMA	–	–	–	–
Counterparty Credit Risk	**1,087**	**1,288**	**87**	**103**
Of which mark-to-market	–	–	–	–
Of which original exposure	–	–	–	–
Of which the standardised approach	14	18	1	1
Of which internal model method (IMM)	–	–	–	–
Of which risk exposure amount for contributions to the default fund of a CCP	3	8	0	1
Of which CVA	1,070	1,262	86	101
Settlement risk	**-**	**-**	**-**	**-**
Securitisation exposures in banking book (after the cap)	**1,193**	**1,034**	**96**	**83**
Of which IRB approach (RBA)	–	–	–	–
Of which IRB Supervisory Formula Approach (SFA)	–	–	–	–
Of which internal assessment approach (IAA)	–	–	–	–
Of which Standardised approach (SA)	1,193	1,034	96	83
Market risk	**93**	**0**	**7**	**0**
Of which Standardised approach (SA)	93	0	7	0
Of which IMA	–	–	–	–
Large exposures	**-**	**-**	**-**	**-**
Operational risk	**1,017**	**951**	**81**	**76**
Of which basic indicator approach	–	–	–	–
Of which standardised approach (SA)	1,017	951	81	76
Of which advanced measurement approach	–	–	–	–
Amounts below the thresholds for deduction (subject to 250% risk weight)	–	–	–	–
Floor adjustment	**-**	**-**	**-**	**-**
Total	**12,096**	**12,022**	**968**	**962**

Table: EU OV1

	31/12/2017	30/09/2017	31/12/2017	30/09/2017
	RWA		MINIMUM CAPITAL REQUIREMENT	
Credit risk (excluding CCR)	**8,374**	**8,387**	**670**	**671**
Of which standardised approach (SA)	8,374	8,387	670	671
Of which the foundation IRB (FIRB)	–	–	–	–
Of which the advanced IRB (AIRB)	–	–	–	–
Of which Equity IRB under the simple risk-weighted approach or the IMA	–	–	–	–
Counterparty Credit Risk	**1,221**	**1,239**	**98**	**99**
Of which mark-to-market	–	–	–	–
Of which original exposure	–	–	–	–
Of which the standardised approach	11	6	1	0
Of which internal model method (IMM)	–	–	–	–
Of which risk exposure amount for contributions to the default fund of a CCP	–	–	–	–
Of which CVA	1,210	1,233	97	99
Settlement risk	**-**	**-**	**-**	**-**
Securitisation exposures in banking book (after the cap)	**1,095**	**1,200**	**88**	**96**
Of which IRB approach (RBA)	–	–	–	–
Of which IRB Supervisory Formula Approach (SFA)	–	–	–	–
Of which internal assessment approach (IAA)	–	–	–	–
Of which Standardised approach (SA)	1,095	1,200	88	96
Market risk	**0**	**137**	**0**	**11**
Of which Standardised approach (SA)	0	137	0	11
Of which IMA	–	–	–	–
Large exposures	**-**	**-**	**-**	**-**
Operational risk	**951**	**752**	**76**	**60**
Of which basic indicator approach	–	–	–	–
Of which standardised approach (SA)	951	752	76	60
Of which advanced measurement approach	–	–	–	–
Amounts below the thresholds for deduction (subject to 250% risk weight)	–	–	–	–
Floor adjustment	**-**	**-**	**-**	**-**
Total	**11,641**	**11,715**	**932**	**937**

Countercyclical capital buffer (article 440 CRR)

	General credit exposures	Securitisation exposure	Own funds requirement				31/12/2018
	Exposure value SA	Exposure value SA	Of which: general credit risk expsosures	Of which: securitisation exposures	Total	Own funds requirement weight	Countercyclical capital buffer rate
Belgium	195	31	16	–	16	2.2%	0.0%
Spain	21	426	0	17	17	2.3%	0.0%
France	182	50	4	2	6	0.9%	0.0%
Great Britain	1,471	34	54	0	54	7.5%	1.0%
Ireland	–	54	–	2	2	0.3%	0.0%
Italy	–	32	–	1	1	0.1%	0.0%
Netherlands	19,315	4,158	543	71	614	85.0%	0.0%
Portugal	128	42	10	2	12	1.7%	0.0%
	21,312	**4,827**	**627**	**95**	**722**	**100%**	

	31/12/2018
Amount of institution-specific countercyclical capital buffer	
Total risk exposure amount	12,096
Institution specific countercyclical buffer rate	0.075%
Institution specific countercyclical buffer requirement	9

Please note that the figures over the financial year 2017 are not included in the table regarding the countercyclical capital buffer. For that year, there was no countercyclical capital buffer.

Credit risk and credit risk mitigation (articles 442 and 453 CCR)

In the application of article 442 and 453 CRR templates and tables in this section provide further quantitative insight into the credit risk profile of BNG Bank. This first starts with some different perspectives on the overall portfolio of BNG Bank before concentrating on the non-performing and forborne exposures, the credit risk mitigation measures that are applied and the effects on the RWA that should be considered for capitalization purposes. However, first some more context is provided on the definitions applied with respect to the credit quality of assets.

Credit quality assets (EU CRB-A)

Forborn exposures

Forbearance concerns credit agreements whose credit conditions have been amended in the debtor's favour as a result of the debtor's precarious financial position, so as to enable it to fulfil its obligations.

Non-performing exposures

BNG Bank applies the following criteria to designate exposures as non-performing or credit-impaired:
- BNG Bank considers that the obligor is unlikely to pay its credit obligations to the bank;
- The obligor is past due 90 days or more on any material credit obligation to the bank.

The bank employs the following indicators for 'Unlikeliness to pay':
- The obligor's source of income is considered insufficient to meet its payment obligations;
- There are indications that future cash flows are under pressure;
- The obligor's debt ratio has increased significantly;
- One or more covenants have been breached;
- BNG Bank has called upon a guarantee or seized collateral;
- Significant delayed payments to other creditors (recorded in a register);
- There is a crisis in the obligor's market sector, in which the obligor is considered to be a weak party;
- The obligor can no longer be active in its market sector as a result of its financial difficulties;
- Another creditor has filed for the obligor's bankruptcy.

The term 'past due' refers to the payment arrears commencing at the moment on which payment was contractually due.

An exposure classified as non-performing can once again be regarded as performing if all of the following conditions are met:
- The debtor once again complies with all contractual terms (no default); and
- The debtor's situation has improved to the extent that the debtor is able to meet payment obligations according to an existing or adjusted payment profile ('likely to pay'); and
- The debtor has no payment arrears exceeding 90 days.

Impairment of financial assets

From 1 January 2018, BNG Bank assesses on a forward-looking basis the expected credit losses (ECL). Financial assets migrate through the following three stages based on the change in credit risk since initial recognition. When a modification of a financial asset results in the derecognition of the existing financial asset and the subsequent recognition of the modified asset, the date of modification shall be regarded as the date of initial recognition.

Stage 1: 12-month ECL

BNG Bank recognises an ECL allowance reflecting default events that are possible within the next 12 months for exposures without a significant increase in credit risk (SICR) since initial recognition.

Stage 2: lifetime ECL – not credit-impaired

BNG Bank recognises an ECL allowance reflecting default events that are possible during the remaining lifetime of the financial assets for exposures which have had a significant increase in credit risk since initial recognition, but which are not considered credit-impaired.

Stage 3: lifetime ECL – credit-impaired

BNG Bank assesses on an individual exposure level whether exposures are credit-impaired. This assessment is based on whether one or more events have occurred that have a detrimental impact on the estimated future cash flows of that asset.

Credit-impaired exposures are financial assets measured at amortised cost or fair value through other comprehensive income and off-balance sheet exposures for which a Stage 3 credit loss allowance was made (2017: financial assets at amortised cost and off-balance sheet exposures for which an individual provision was made). Exposures classified under Stage 1 or 2 (2017: under the IBNI provision) are not classified as credit-impaired exposures.

Total and average net amount of exposures (EU CRB-B)

	31/12/2018		31/12/2017	
	NET VALUE OF EXPOSURES AT THE END OF THE PERIOD	AVERAGE NET EXPOSURE OF THE PERIOD	NET VALUE OF EXPOSURES AT THE END OF THE PERIOD	AVERAGE NET EXPOSURE OF THE PERIOD
Table: EU CRB-B				
Central governments or central banks	7,742	21,365	10,125	20,386
Regional governments or local authorities	38,085	37,546	36,495	36,742
Public sector entities	3,078	2,881	2,808	2,963
Multilateral Development Banks	802	781	733	862
International Organisations	542	570	730	968
Institutions	537	548	492	10,020
Corporates	61,947	61,787	61,426	61,859
– Of which: 0% risk weighted	51,067	51,145	51,163	51,442
Secured by mortgages on immovable property	157	165	172	183
Exposures in default	41	34	17	86
Covered bonds	1,198	1,238	1,278	1,471
Claims with a short-term credit assessment	0	0	0	0
Collective investments undertakings (CIU)	0	0	30	30
Equity	44	43	47	45
Securitisation positions	4,999	4,132	3,539	3,587
Other items	11,607	11,362	11,969	12,422
Total credit risk exposure (SA)	**130,779**	**142,452**	**129,861**	**151,624**
– Of which: Small & Medium Enterprises (SMEs)	14,064	14,166	14,318	14,512

The average exposure value to institutions of 2018 is significantly different compared to 2017. This is due to changes in 2017 in the calculation of the original exposure amount related to derivatives and collateral. For the determination of the replacement cost both collateral posted and received that would be netted under an eligible netting agreement is taken into account in the original exposure amount. Whereas, prior year-end 2017, for determining the original exposure amount only derivatives transactions were considered and collateral posted and received was reported as a financial collateral deduction.

Geographical breakdown of exposures (EU CRB-C)

					31/12/2018
Table: CRB-C	NETHERLANDS	OTHER EURO COUNTRIES	REST OF EUROPE	REST OF THE WORLD	TOTAL EXPOSURE VALUE
Central governments or central banks	3,697	4,023	0	22	7,742
Regional governments or local authorities	37,492	593	0	0	38,085
Public sector entities	2,386	601	91	0	3,078
Multilateral Development Banks	0	802	0	0	802
International Organisations	0	542	0	0	542
Institutions	8	527	1	1	537
Corporates	59,756	580	1,611	0	61,947
– Of which: 0% risk weighted	50,273	150	644	0	51,067
Secured by mortgages on immovable property	157	0	0	0	157
Exposures in default	41	0	0	0	41
Covered bonds	528	47	623	0	1,198
Claims with a short-term credit assessment	0	0	0	0	0
Collective investments undertakings (CIU)	0	0	0	0	0
Equity	44	0	0	0	44
Securitisation positions	4,257	708	34	0	4,999
Other items	11,607	0	0	0	11,607
Total credit risk exposure (SA)	**119,973**	**8,423**	**2,360**	**23**	**130,779**

					31/12/2017
	NETHERLANDS	OTHER EURO COUNTRIES	REST OF EUROPE	REST OF THE WORLD	TOTAL EXPOSURE VALUE
Table: CRB-C					
Central governments or central banks	5,140	4,964	0	21	10,125
Regional governments or local authorities	36,043	452	0	0	36,495
Public sector entities	2,122	595	91	0	2,808
Multilateral Development Banks	0	733	0	0	733
International Organisations	0	730	0	0	730
Institutions	12	480	0	0	492
Corporates	58,964	784	1,678	0	61,426
– Of which: 0% risk weighted	50,335	179	649	0	51,163
Secured by mortgages on immovable property	172	0	0	0	172
Exposures in default	17	0	0	0	17
Covered bonds	578	169	531	0	1,278
Claims with a short-term credit assessment	0	0	0	0	0
Collective investments undertakings (CIU)	0	30	0	0	30
Equity	47	0	0	0	47
Securitisation positions	2,846	652	41	0	3,539
Other items	11,936	33	0	0	11,969
Total credit risk exposure (SA)	**117,877**	**9,622**	**2,341**	**21**	**129,861**

Concentration of exposures by industry or counterparty types (EU CRB-D)

	31/12/2018						
	GENERAL GOVERN-MENTS	CREDIT INSTITU-TIONS	OTHER FINANCIAL CORPO-RATIONS	NON-FINANCIAL CORPO-RATIONS	HOUSE-HOLDS	OTHER	TOTAL EXPOSURE VALUE
Table: EU CRB-D							
Central governments or central banks	7,742	0	0	0	0	0	7,742
Regional governments or local authorities	38,085	0	0	0	0	0	38,085
Public sector entities	3,078	0	0	0	0	0	3,078
Multilateral Development Banks	0	802	0	0	0	0	802
International Organisations	542	0	0	0	0	0	542
Institutions	0	537	0	0	0	0	537
Corporates	0	0	2,010	56,196	3,741	0	61,947
– Of which: 0% risk weighted	0	0	1,021	47,408	2,638	0	51,067
Secured by mortgages on immovable property	0	0	157	0	0	0	157
Exposures in default	0	0	2	22	17	0	41
Covered bonds	0	1,172	26	0	0	0	1,198
Claims with a short-term credit assessment	0	0	0	0	0	0	0
Collective investments undertakings (CIU)	0	0	0	0	0	0	0
Equity	0	0	41	0	0	3	44
Securitisation positions	0	0	4,999	0	0	0	4,999
Other items	0	0	0	0	0	11,607	11,607
Total credit risk exposure (SA)	**49,447**	**2,511**	**7,235**	**56,218**	**3,758**	**11,610**	**130,779**

Table: EU CRB-D

31/12/2017	GENERAL GOVERN-MENTS	CREDIT INSTITU-TIONS	OTHER FINANCIAL CORPO-RATIONS	NON-FINANCIAL CORPO-RATIONS	HOUSE-HOLDS	OTHER	TOTAL EXPOSURE VALUE
Central governments or central banks	10,125	0	0	0	0	0	10,125
Regional governments or local authorities	36,495	0	0	0	0	0	36,495
Public sector entities	2,808	0	0	0	0	0	2,808
Multilateral Development Banks	0	733	0	0	0	0	733
International Organisations	730	0	0	0	0	0	730
Institutions	0	489	3	0	0	0	492
Corporates	0	0	2,287	55,332	3,807	0	61,426
– Of which: 0% risk weighted	0	0	1,168	47,221	2,774	0	51,163
Secured by mortgages on immovable property	0	0	0	0	172	0	172
Exposures in default	0	0	0	17	0	0	17
Covered bonds	0	1,202	76	0	0	0	1,278
Claims with a short-term credit assessment	0	0	0	0	0	0	0
Collective investments undertakings (CIU)	0	0	30	0	0	0	30
Equity	0	0	0	47	0	0	47
Securitisation positions	0	0	3,539	0	0	0	3,539
Other items	0	0	0	0	0	11,969	11,969
Total credit risk exposure (SA)	**50,158**	**2,424**	**5,935**	**55,396**	**3,979**	**11,969**	**129,861**

Maturity of exposures (EU CRB-E)

						31/12/2018
	NET EXPOSURE VALUE					
	ON DEMAND	≤ 1 YEAR	> 1 YEAR ≤ 5 YEARS	> 5 YEARS	NO STATED MATURITY	TOTAL
Table: EU CRB-E						
Central governments or central banks	1,587	0	1,970	4,185	0	7,742
Regional governments or local authorities	622	4,307	6,413	20,781	0	32,123
Public sector entities	26	118	744	1,407	0	2,295
Multilateral Development Banks	0	0	298	504	0	802
International Organisations	0	0	0	542	0	542
Institutions	0	41	298	198	0	537
Corporates	580	2,767	8,811	43,003	25	55,186
– Of which: 0% risk weighted	196	1,905	7,541	38,087	0	47,729
Secured by mortgages on immovable property	0	0	0	0	157	157
Exposures in default	9	0	0	0	32	41
Covered bonds	0	80	738	380	0	1,198
Claims with a short-term credit assessment	0	0	0	0	0	0
Collective investments undertakings (CIU)	0	0	0	0	0	0
Equity	0	3	0	0	41	44
Securitisation positions	0	0	0	4,801	0	4,801
Other items	0	146	1,941	9,512	8	11,607
Total credit risk exposure (SA)	**2,824**	**7,462**	**21,213**	**85,313**	**263**	**117,075**

						31/12/2017
	NET EXPOSURE VALUE					
Table: EU CRB-E	ON DEMAND	≤ 1 YEAR	> 1 YEAR ≤ 5 YEARS	> 5 YEARS	NO STATED MATURITY	TOTAL
Central governments or central banks	2,996	0	1,167	5,962	0	10,125
Regional governments or local authorities	714	3,583	6,049	20,807	0	31,153
Public sector entities	32	37	627	1,435	0	2,131
Multilateral Development Banks	0	0	256	477	0	733
International Organisations	0	46	218	466	0	730
Institutions	0	98	238	156	0	492
Corporates	527	2,884	8,531	42,997	0	54,939
– Of which: 0% risk weighted	195	2,118	7,155	38,508	0	47,976
Secured by mortgages on immovable property	0	0	0	172	0	172
Exposures in default	10	1	0	2	0	13
Covered bonds	0	123	652	503	0	1,278
Claims with a short-term credit assessment	0	0	0	0	0	0
Collective investments undertakings (CIU)	0	0	0	30	0	30
Equity	0	47	0	0	0	47
Securitisation positions	0	0	0	3,306	0	3,306
Other items	0	253	2,003	9,713	0	11,969
Total credit risk exposure (SA)	**4,279**	**7,072**	**19,741**	**86,026**	**0**	**117,118**

The exposure values in this table are exclusive of off-balance exposure in contrast to the other tables. The total credit exposure is therefore lower than in the other tables.

Credit quality of exposures by exposure classes and instruments (EU CR1-A)

	31/12/2018						
	GROSS CARRYING VALUES OF:						
Table: EU CR1-A	DEFAULTED EXPOSURES	NON-DEFAULTED EXPOSURES	SPECIFIC CREDIT RISK ADJUST-MENT	GENERAL CREDIT RISK ADJUST-MENT	ACCUMU-LATED WRITE-OFFS	CREDIT RISK ADJUST-MENT CHARGES OF THE PERIOD	NET VALUES
Central governments or central banks	–	7,742	0	–	–	–	7,742
Regional governments or local authorities	–	38,086	1	–	–	–	38,085
Public sector entities	–	3,078	0	–	–	–	3,078
Multilateral Development Banks	–	802	–	–	–	–	802
International Organisations	–	542	–	–	–	–	542
Institutions	–	537	0	–	–	–	537
Corporates	57	61,980	49	–	–	-10	61,988
– Of which: 0% risk weighted	–	51,067	–	–	–	–	51,067
– Of which: SMEs	32	14,033	16	–	–	–	14,049
Secured by mortgages on immovable property	–	157	–	–	–	–	157
Exposures in default	57	–	16	–	–	–	41
Covered bonds	–	1,198	0	–	–	–	1,198
Claims with a short-term credit assessment	–	–	–	–	–	–	–
Collective investments undertakings (CIU)	–	–	–	–	–	–	–
Equity	–	44	–	–	–	–	44
Securitisation positions	–	5,006	7	–	–	–	4,999
Other items	–	11,607	–	–	–	–	11,607
Total credit risk exposure (SA)	**57**	**130,779**	**57**	**-**	**-**	**-10**	**130,779**
Of which: Loans and advances	57	85,612	47	–	–	3	85,669
Of which: Debt securities	–	13,200	8	–	–	7	13,200
Of which: Off-balance sheet exposures	–	13,515	2	–	–	–	13,515

							31/12/2017
	Gross carrying values of:						
Table: EU CR1-A	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
Central governments or central banks	–	10,125	–	–	–	–	10,125
Regional governments or local authorities	–	36,495	–	–	–	–	36,495
Public sector entities	–	2,808	0	–	–	–	2,808
Multilateral Development Banks	–	733	–	–	–	–	733
International Organisations	–	730	–	–	–	–	730
Institutions	–	492	–	–	–	–	492
Corporates	37	61,440	34	–	–	–8	61,443
– Of which: 0% risk weighted	–	51,163	–	–	–	–	51,163
– Of which: SMEs	10	14,314	6	–	–	–	14,318
Secured by mortgages on immovable property	–	172	–	–	–	–	172
Exposures in default	37	–	20	–	–	–3	17
Covered bonds	–	1,278	–	–	–	–	1,278
Claims with a short-term credit assessment	–	–	–	–	–	–	–
Collective investments undertakings (CIU)	–	30	–	–	–	–	30
Equity	–	47	–	–	–	–	47
Securitisation positions	–	3,539	0	–	–	–	3,539
Other items	–	11,969	–	–	–	–	11,969
Total credit risk exposure (SA)	**37**	**129,858**	**34**	**-**	**-**	**-8**	**129,861**
Of which: Loans and advances	33	85,117	31	–	–	–8	85,150
Of which: Debt securities	–	16,890	–	–	–	–	16,890
Of which: Off-balance sheet exposures	3	12,789	3	–	–	–	12,789

Credit quality of exposures by industry or counterparty types (EU CR1-B)

Table: EU CR1-B	Gross carrying values of: Defaulted exposures	Gross carrying values of: Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
							31/12/2018
General governments	–	49,448	1	–	–	0	49,447
Credit institutions	–	2,511	0	–	–	0	2,511
Other financial corporations	3	7,240	8	–	–	-5	7,235
Non-financial corporations	31	56,225	38	–	–	-4	56,218
Households	23	3,745	10	–	–	0	3,758
Other	–	11,610	–	–	–	–	11,610
Total	**57**	**130,779**	**57**	**-**	**-**	**-10**	**130,779**

	31/12/2017						
	GROSS CARRYING VALUES OF:						
	DEFAULTED EXPOSURES	NON-DEFAULTED EXPOSURES	SPECIFIC CREDIT RISK ADJUST-MENT	GENERAL CREDIT RISK ADJUST-MENT	ACCUMU-LATED WRITE-OFFS	CREDIT RISK ADJUST-MENT CHARGES OF THE PERIOD	NET VALUES
Table: EU CR1-B							
General governments	–	50,158	0	–	–	0	50,158
Credit institutions	–	2,424	–	–	–	–	2,424
Other financial corporations	–	5,936	1	–	–	–3	5,935
Non-financial corporations	32	55,390	26	–	–	–4	55,396
Households	5	3,981	7	–	–	–1	3,979
Other	–	11,969	–	–	–	–	11,969
Total	**37**	**129,858**	**34**	**-**	**-**	**-8**	**129,861**

Credit quality of exposures by geography (EU CR1-C)

	Gross carrying values of:						31/12/2018
Table: EU CR1-C	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
Netherlands	57	119,962	46	–	–	–10	119,973
Other Euro countries	–	8,432	9	–	–	–	8,423
Rest of Europe	–	2,362	2	–	–	–	2,360
Rest of the world	–	23	0	–	–	–	23
Total	**57**	**130,779**	**57**	**-**	**-**	**-10**	**130,779**

	Gross carrying values of:						31/12/2017
Table: EU CR1-C	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
Netherlands	37	117,873	33	–	–	–8	117,877
Other Euro countries	–	9,623	1	–	–	–	9,622
Rest of Europe	–	2,341	0	–	–	–	2,341
Rest of the world	–	21	–	–	–	–	21
Total	**37**	**129,858**	**34**	**-**	**-**	**-8**	**129,861**

Ageing of past-due exposures (EU CR1-D)

						31/12/2018
	GROSS CARRYING VALUES					
	≤ 30 DAYS	> 30 DAYS ≤ 60 DAYS	> 60 DAYS ≤ 90 DAYS	> 90 DAYS ≤ 180 DAYS	> 180 DAYS ≤ 1 YEAR	> 1 YEAR
Table: EU CR1-D						
Debt securities	–	–	–	–	–	–
Loans and advances	0	–	–	–	–	5
Off-balance sheet exposures	–	–	–	–	–	–
Total	**0**	**-**	**-**	**-**	**-**	**5**

						31/12/2017
	GROSS CARRYING VALUES					
	≤ 30 DAYS	> 30 DAYS ≤ 60 DAYS	> 60 DAYS ≤ 90 DAYS	> 90 DAYS ≤ 180 DAYS	> 180 DAYS ≤ 1 YEAR	> 1 YEAR
Table: EU CR1-D						
Debt securities	–	–	–	–	–	–
Loans and advances	1	–	–	0	2	8
Off-balance sheet exposures	–	–	–	–	–	–
Total	**1**	**-**	**-**	**0**	**2**	**8**

Non-performing and forborne exposures (EU CR1-E)

Table: EU CR1-E	31/12/2018						
	GROSS CARRYING VALUES OF PERFORMING AND NON-PERFORMING EXPOSURES						
				OF WHICH NON-PERFORMING			
		OF WHICH PERFORMING BUT PAST DUE > 30 DAYS AND ≤ 90 DAYS	OF WHICH PERFORMING FORBORNE		OF WHICH DEFAULTED	OF WHICH IMPAIRED	OF WHICH FORBORNE
Debt securities	18,008	–	–	–	–	–	–
Loans and advances	99,452	–	346	57	57	57	2
Off-balance sheet exposures	13,706		0	–	–		–
Total	**131,166**	**-**	**347**	**57**	**57**	**57**	**2**

Table: EU CR1-E	31/12/2018					
	ACCUMULATED IMPAIRMENT AND PROVISIONS AND NEGATIVE FAIR VALUE ADJUSTMENTS DUE TO CREDIT RISK				COLLATERALS AND FINANCIAL GUARANTEES RECEIVED	
	ON PERFORMING EXPOSURES	OF WHICH FORBORN	ON-NON PERFORMING EXPOSURES	OF WHICH FORBORN	ON NON-PERFORMING EXPOSURES	OF WHICH FORBORN EXPOSURES
Debt securities	-8	–	–	–	–	–
Loans and advances	-47	-22	-16	-2	33	–
Off-balance sheet exposures	-2	–	–	–	–	–
Total	**-57**	**-22**	**-16**	**-2**	**33**	**-**

Table: EU CR1-E	31/12/2017						
	Gross carrying values of performing and non-performing exposures						
				Of which non-performing			
		Of which performing but past due > 30 days and ≤ 90 days	Of which performing forborne		Of which defaulted	Of which impaired	Of which forborne
Debt securities	17,119	–	–	14	14	14	–
Loans and advances	102,330	–	235	38	38	29	6
Off-balance sheet exposures	12,782	–	–	–	–		–
Total	**132,231**	**-**	**235**	**52**	**52**	**43**	**6**

Table: EU CR1-E	31/12/2017					
	Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
	On performing exposures	Of which forborn	On-non performing exposures	Of which forborn	On non-performing exposures	Of which forborn exposures
Debt securities	–259	–	–	–	–	–
Loans and advances	–72	–1	–20	–	–	–
Off-balance sheet exposures	–	–	–	–	–	–
Total	**-331**	**-1**	**-20**	**-**	**-**	**-**

Changes in stock of general and specific credit risk adjustments (EU CR2-A)

Table: EU CR2-A	ACCUMULATED SPECIFIC CREDIT RISK ADJUSTMENT
Closing balance 2016	**42**
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	–
Specific credit risk adjustments directly recorded to the statement of profit or loss	–
Opening balance 2017	**42**
Increases due to amounts set aside for estimated loan losses during the period	3
Decreases due to amounts reversed for estimated loan losses during the period	–7
Decreases due to amounts taken against accumulated credit risk adjustments	–4
Transfers between credit risk adjustments	–
Impact of exchange rate differences	–
Business combinations, including acquisitions and disposals of subsidiaries	–
Other adjustments	–
Closing balance 2017 (IAS 39)	**34**
Reclassification and remeasurement due to implementation of IFRS 9	**32**
Opening balance 2018	**66**
Increases due to amounts set aside for estimated loan losses during the period	12
Decreases due to amounts reversed for estimated loan losses during the period	–24
Decreases due to amounts taken against accumulated credit risk adjustments	–
Transfers between credit risk adjustments	3
Impact of exchange rate differences	–
Business combinations, including acquisitions and disposals of subsidiaries	–
Other adjustments	–
Closing balance 2018	**57**
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	0
Specific credit risk adjustments directly recorded to the statement of profit or loss	0

From 1 January 2018, BNG Bank assesses on a forward-looking basis the expected credit losses (ECL) for the following categories of financial assets that are not measured at fair value through the income statement:
- debt instruments measured at amortised cost; and
- debt instruments measured at fair value through other comprehensive income; and
- loan commitments; and
- financial guarantee contracts.

Financial assets migrate through the three stages defined in IFRS 9 based on the change in credit risk since initial recognition. When a modification of a financial asset results in the derecognition of the existing financial asset and the subsequent recognition of the modified asset, the date of modification shall be regarded as the date of initial recognition.

Changes in stock of defaulted and impaired loans and debt securities (EU CR2-B)

Table: EU CR2-B	GROSS CARRYING VALUE DEFAULTED EXPOSURES
Closing balance 2016	**138**
Loans and debt securities that have defaulted or impaired since the last reporting date	11
Returned to non-defaulted status	–104
Amounts written off	0
Other changes	–8
Closing balance 2017	**37**
Loans and debt securities that have defaulted or impaired since the last reporting date	33
Returned to non-defaulted status	–11
Amounts written off	–
Other changes	–2
Closing balance 2018	**57**

Furthermore, it should be noted that the closing balance reported in template EU CR2-B is different from the reported defaulted exposure in template CR1-E. This can be attributed to different definitions that are applied. A securitisation exposure which is recognized as a non-performing in CR1-E is not recognized in the stock of defaulted loans and debt securities because this exposure qualifies for a 1250% risk weighting. BNG Bank uses the option to offset these items against the CET1 capital and does therefore not include in table EU-CR2-B.

Credit risk mitigation techniques – overview (EU CR3)

Table: EU CR3	Exposures unsecured - carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by guarantees	Exposures secured by credit derivatives
					31/12/2018
Total loans and advances	85,567	47,571	97	47,474	0
Total debt securities	13,199	1,328	0	1,329	0
Total securitisation	4,999	0	0	0	0
Total off balance sheet exposure	13,513	3,432	4	3,428	0
Total other exposure	13,501	342	0	342	0
Total exposures	**130,779**	**52,673**	**101**	**52,573**	**0**
Of which defaulted	41	0	0	0	0

Table: EU CR3	Exposures unsecured - carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by guarantees	Exposures secured by credit derivatives
					31/12/2017
Total loans and advances	85,116	47,774	66	47,708	0
Total debt securities	13,555	1,413	0	1,413	0
Total securitisation	3,539	0	0	0	0
Total off balance sheet exposure	12,516	3,239	5	3,234	0
Total other exposure	15,135	10	0	10	0
Total exposures	**129,861**	**52,436**	**71**	**52,365**	**0**
Of which defaulted	17	0	0	0	0

Standardised approach – credit risk exposure and credit risk mitigation (CRM) effects (EU CR4)

Guarantees provided by governments, WSW and WfZ are an important part in the determination of the credit risk profile of BNG Bank. Below tables show the effect of all CRM techniques. RWA density provides a synthetic metric on the portfolio that remains after the application of CRM techniques.

						31/12/2018
	EXPOSURES BEFORE CCF AND CRM		EXPOSURES POST CCF AND CRM		RWAS AND RWA DENSITY	
	ON-BALANCE	OFF-BALANCE	ON-BALANCE	OFF-BALANCE	RWA	RWA DENSITY
Tabel: EU CR-4						
Central governments or central banks	7,741	1	51,902	483	–	0%
Regional governments or local authorities	32,122	5,963	36,345	436	69	0%
Public sector entities	2,295	783	2,309	29	310	13%
Multilateral Development Banks	802	–	802	–	–	0%
International Organisations	542	–	542	–	–	0%
Institutions	537	–	11	–	2	20%
Corporates	55,187	6,760	7,429	273	6,884	89%
Secured by mortgages on immovable property	157	–	47	–	47	100%
Exposures in default	41	–	14	–	14	100%
Covered bonds	1,198	–	1,198	–	120	10%
Claims with a short-term credit assessment	–	–	–	–	–	–
Collective investments undertakings (CIU)	–	–	–	–	–	–
Equity	44	–	44	–	44	100%
Securitisation positions	4,801	198	4,728	99	1,193	25%
Other items	11,607	–	11,607	–	34	0%
Total	**117,074**	**13,705**	**116,978**	**1,320**	**8,717**	**7%**

						31/12/2017
	EXPOSURES BEFORE CCF AND CRM		EXPOSURES POST CCF AND CRM		RWAS AND RWA DENSITY	
	ON-BALANCE	OFF-BALANCE	ON-BALANCE	OFF-BALANCE	RWA	RWA DENSITY
Tabel: EU CR-4						
Central governments or central banks	10,125	1	54,372	393	–	0%
Regional governments or local authorities	31,153	5,342	35,516	538	101	0%
Public sector entities	2,131	676	2,045	16	274	13%
Multilateral Development Banks	733	–	733	–	–	0%
International Organisations	730	–	730	–	–	0%
Institutions	492	–	29	–	11	38%
Corporates	54,939	6,488	6,939	234	6,375	89%
Secured by mortgages on immovable property	172	–	45	–	45	100%
Exposures in default	13	3	13	–	14	108%
Covered bonds	1,278	–	1,278	–	135	11%
Claims with a short-term credit assessment	–	–	–	–	–	–
Collective investments undertakings (CIU)	30	–	30	–	30	100%
Equity	47	–	47	–	47	100%
Securitisation positions	3,306	233	3,281	116	1,095	32%
Other items	11,969	–	11,969	–	25	0%
Total	**117,118**	**12,743**	**117,027**	**1,297**	**8,152**	**7%**

Standardised approach before risk mitigation (EU CR5)

Table: EU CR5	0%	2%	10%	20%	35%	50%	100%	> 100%	OTHERS	DEDUCTED	TOTAL EXPOSURE VALUE	OF WHICH UNRATED
												31/12/2018
Central governments or central banks	52,385	–	–	–	–	–	–	–	–	–	52,385	52,385
Regional governments or local authorities	36,556	–	–	194	–	–	30	–	–	–	36,780	36,769
Public sector entities	789	–	–	1,594	–	–	–	–	–	–	2,338	2,338
Multilateral Development Banks	802	–	–	–	–	–	–	–	–	–	802	802
International Organisations	542	–	–	–	–	–	–	–	–	–	542	542
Institutions	–	–	–	11	–	–	–	–	–	–	11	3
Corporates	0	–	–	473	0	891	6,328	11	–	–	7,703	6,551
Secured by mortgages on immovable property	–	–	–	–	–	–	47	–	–	–	47	47
Exposures in default	–	–	–	–	–	–	14	–	–	–	14	1
Covered bonds	–	–	1,198	–	–	–	–	–	–	–	1,198	
Claims with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–	–
Collective investments undertakings (CIU)	–	–	–	–	–	–	–	–	–	–	–	–
Equity	–	–	–	–	–	–	44	–	–	–	44	44
Securitisation positions	76	–	–	4,152	53	505	7	24	–	10	4,827	
Other items	11,573	–	–	–	–	–	34	–	–	–	11,607	11,607
Total credit risk exposure	**102,723**	**-**	**1,198**	**6,379**	**53**	**1,396**	**6,504**	**35**	**-**	**10**	**118,298**	**111,089**

Table: EU CR5

31/12/2017	0%	2%	10%	20%	35%	50%	100%	> 100%	OTHERS	DEDUCTED	TOTAL EXPOSURE VALUE	OF WHICH UNRATED
Central governments or central banks	54,765	–	–	–	–	–	–	–	–	–	54,765	54,765
Regional governments or local authorities	35,777	–	–	219	–	–	58	–	–	–	36,054	36,043
Public sector entities	689	–	–	1,372	–	–	–	–	–	–	2,061	1,970
Multilateral Development Banks	733	–	–	–	–	–	–	–	–	–	733	733
International Organisations	730	–	–	–	–	–	–	–	–	–	730	730
Institutions	–	–	–	12	–	17	–	–	–	–	29	20
Corporates	0	–	–	666	–	539	5,958	10	–	–	7,173	6,022
Secured by mortgages on immovable property	–	–	–	–	–	–	45	–	–	–	45	45
Exposures in default	–	–	–	–	–	–	13	1	–	–	14	0
Covered bonds	–	–	1,208	71	–	–	–	–	–	–	1,279	–
Claims with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–	–
Collective investments undertakings (CIU)	–	–	–	–	–	–	30	–	–	–	30	30
Equity	–	–	–	–	–	–	47	–	–	–	47	47
Securitisation positions	43	–	–	2,389	74	736	129	26	–	25	3,422	80
Other items	11,944	–	–	–	–	–	25	–	–	–	11,969	11,969
Total credit risk exposure	**104,681**	**-**	**1,208**	**4,729**	**74**	**1,292**	**6,305**	**37**	**-**	**25**	**118,351**	**112,454**

Counterparty credit risk (article 439 CRR)

Counterparty credit risk means the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. The exposure to counterparty credit risk pertains to exposures arising from derivatives, repurchase transactions, securities or commodities lending or borrowing transactions, long settlement transactions and margin lending transactions. This section provides different perspectives on this counterparty credit rsik as it pertains to BNG Bank.

Analysis of the counterparty credit risk (CCR) exposure by approach (EU CCR1)

The credit risk of derivative transactions is relatively small, despite the fact that principal amounts totalled EUR 194 billion at year-end 2018 (2017: EUR 224 billion). With the exception of currency derivatives, these contractual principal amounts merely serve as accounting quantities and do not reflect the size of cash flows or the risk associated with the derivatives. The credit equivalent of the derivatives portfolio serves as a more accurate indicator in this regard. The credit risk is expressed in terms of credit equivalents, in accordance with central bank guidelines. The credit equivalent consists of the market value plus an add-on for future credit risk. Contracts with a positive value – where contractual default by the counterparty would cause the bank to miss out on revenue – are relevant in this regard. BNG Bank determines this value using the Mark-to-Market (MtM) method. The current replacement cost is calculated by including collateral received or posted. In addition, the principal amounts are multiplied by percentages based on the specific product and its maturity period in order to determine the potential credit risk ('add-on'). The sum of these two values (credit equivalent) indicates the net exposure to credit risk.

Table: EU CCR1	NOTIONAL	REPLACEMENT COST/ CURRENT MARKET VALUE	POTENTIAL FUTURE CREDIT EXPOSURE	EEPE	MULTIPLIER	EAD POST CRM	RWAS
							31/12/2018
Mark-to-market		1,001	1,382			2,368	1,177
Original exposure method							
Standardised approach							
IMM (for derivatives and SFT's)							
Financial collateral simple method (for SFT's)							
Financial collateral comprehensive method (for SFT's)		4,767	4,936			18	7
VaR for SFT's							
Total		**5,768**	**6,318**			**2,386**	**1,184**

Table: EU CCR1	NOTIONAL	REPLACEMENT COST/ CURRENT MARKET VALUE	POTENTIAL FUTURE CREDIT EXPOSURE	EEPE	MULTIPLIER	EAD POST CRM	RWAS
							31/12/2017
Mark-to-market		1,061	1,528			2,589	1,316
Original exposure method							
Standardised approach							
IMM (for derivatives and SFT's)							
Financial collateral simple method (for SFT's)							
Financial collateral comprehensive method (for SFT's)							
VaR for SFT's							
Total		**1,061**	**1,528**			**2,589**	**1,316**

The increase in SFT's is mainly due to the use of collateral swaps.

Credit valuation adjustment (CVA) capital charge (EU CCR2)

	31/12/2018	
	EXPOSURE VALUE	RWAS
Table: EU CCR2		
Total portfolios subject to the advanced method	0	0
(i) VaR component	0	0
(ii) SVaR component	0	0
All portfolios subject to the standardised method	1,136	1,070
Based on the original exposure method	0	0
Total subject to the CVA capital charge	**1,136**	**1,070**

	31/12/2017	
	EXPOSURE VALUE	RWAS
Table: EU CCR2		
Total portfolios subject to the advanced method	0	0
(i) VaR component	0	0
(ii) SVaR component	0	0
All portfolios subject to the standardised method	1,523	1,210
Based on the original exposure method	0	0
Total subject to the CVA capital charge	**1,523**	**1,210**

Standardised approach – CCR exposures by regulatory portfolio and risk (EU CCR3)

Table: EU CCR3	0%	2%	10%	20%	35%	50%	100%	> 100%	OTHERS	DEDUCTED	TOTAL EXPOSURE VALUE	OF WHICH UNRATED
												31/12/2018
Counterparty credit risk												
Central governments or central banks	28	–	–	–	–	–	–	–	–	–	28	28
Regional governments or local authorities	212	–	–	–	–	–	–	–	–	–	212	212
Public Sector Entities	–	–	–	62	–	–	–	–	–	–	62	62
Institutions	–	687	–	712	658	–	–	–	–	–	2,057	195
Corporates	–	–	–	4	–	–	–	692	–	–	696	692
Total	**240**	**687**	**-**	**778**	**658**	**-**	**-**	**692**	**-**	**-**	**3,055**	**1,189**

Table: EU CCR3

											31/12/2017	
	0%	2%	10%	20%	35%	50%	100%	> 100%	OTHERS	DEDUCTED	TOTAL EXPOSURE VALUE	OF WHICH UNRATED
Counterparty credit risk												
Central governments or central banks	59	–	–	–	–	–	–	–	–	–	59	59
Regional governments or local authorities	201	–	–	–	–	–	–	–	–	–	201	201
Public Sector Entities	–	–	–	85	–	–	–	–	–	–	85	85
Institutions	–	562	–	598	925	–	–	–	–	–	2,085	180
Corporates	–	–	–	5	–	–	–	716	–	–	721	716
Total	**260**	**562**	**-**	**688**	**925**	**-**	**-**	**716**	**-**	**-**	**3,151**	**1,241**

Impact of netting and collateral held on exposure values (EU CCR5-A)

					31/12/2018
	GROSS POSITIVE FAIR VALUE OR NET CARRYING AMOUNT	NETTING BENEFITS	NETTED CURRENT CREDIT EXPOSURE	COLLATERAL HELD	NET CREDIT EXPOSURE
Table: EU CCR5-A					
Derivatives	8,801	7,433	1,368	414	954
SFTs	4,938	0	4,938	4,918	20
Cross-product netting	0	0	0	0	0
Total	**13,739**	**7,433**	**6,306**	**5,332**	**974**

					31/12/2017
	GROSS POSITIVE FAIR VALUE OR NET CARRYING AMOUNT	NETTING BENEFITS	NETTED CURRENT CREDIT EXPOSURE	COLLATERAL HELD	NET CREDIT EXPOSURE
Table: EU CCR5-A					
Derivatives	9,323	7,907	1,416	369	1,047
SFTs	0	0	0	0	0
Cross-product netting	0	0	0	0	0
Total	**9,323**	**7,907**	**1,416**	**369**	**1,047**

Composition of collateral for exposures to counterparty credit risk (EU CCR5-B)

	COLLATERAL USED IN DERIVATIVE TRANSACTIONS		COLLATERAL USED IN SECURITIES FINANCE TRANSACTIONS	
	FAIR VALUE OF COLLATERAL RECEIVED	FAIR VALUE OF COLLATERAL POSTED	FAIR VALUE OF COLLATERAL RECEIVED	FAIR VALUE OF COLLATERAL POSTED
Table: EU CCR5-B				
Cash collateral	414	12,038	20	20
Paper collateral	–	462	5,376	4,750
Total 31/12/2018	**414**	**12,500**	**5,396**	**4,770**
Cash collateral	369	13,892	–	–
Paper collateral	–	434	–	–
Total 31/12/2017	**369**	**14,326**	**-**	**-**

At year-end 2018, the collateral posted amounted to EUR 12.5 billion (2017: EUR 14.3 billion). The deterioration of BNG Bank's rating by three notches would increase this amount by EUR 10.5 million (2017: EUR 10 million). The strength of the bank's liquidity position is sufficient to meet, and to absorb fluctuations in, higher collateral obligations.

Exposures to central counterparties (EU CCR8)

Table: EU CCR8	31/12/2018 EAD POST CRM	31/12/2018 RWAS
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	690	14
(i) OTC derivatives	688	14
(ii) Exchange traded derivatives	0	0
(iii) SFT's	2	0
(iv) Netting sets where cross-product netting has been approved	0	0
Segregated initial margin	0	0
Non-segregated initial margin	0	0
Prefunded default fund contributions	35	3
Alternative calculation of own funds requirements for exposures	0	0
Total exposures to QCCPS	**725**	**17**

Table: EU CCR8	31/12/2017 EAD POST CRM	31/12/2017 RWAS
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	562	11
(i) OTC derivatives	562	11
(ii) Exchange traded derivatives	0	0
(iii) SFT's	0	0
(iv) Netting sets where cross-product netting has been approved	0	0
Segregated initial margin	0	0
Non-segregated initial margin	0	0
Prefunded default fund contributions	0	0
Alternative calculation of own funds requirements for exposures	0	0
Total exposures to QCCPS	**562**	**11**

Unencumbered assets (article 443 CRR)

Encumbered and unencumbered financial assets

The encumbered and unencumbered assets in carrying and fair value amount by broad categories of asset type.

				31/12/2018
	CARRYING AMOUNT OF ENCUMBERED ASSETS	FAIR VALUE OF ENCUMBERED ASSETS	CARRYING FAIR VALUE OF UNENCUMBERED ASSETS	FAIR VALUE OF UNENCUMBERED ASSETS
Assets of the reporting institution	**17,697**	**-**	**119,812**	**-**
Equity instruments	–	–	–	–
Debt securities	5,255	5,250	12,746	12,760
Loans and advances	12,442	–	85,376	–
Other assets	–	–	21,690	–

				31/12/2017
	CARRYING AMOUNT OF ENCUMBERED ASSETS	FAIR VALUE OF ENCUMBERED ASSETS	CARRYING FAIR VALUE OF UNENCUMBERED ASSETS	FAIR VALUE OF UNENCUMBERED ASSETS
Assets of the reporting institution	**17,303**	**-**	**122,722**	**-**
Equity instruments	–	–	–	–
Debt securities	3,000	3,000	13,859	13,887
Loans and advances	14,303	–	87,955	–
Other assets	–	–	20,908	–

Collateral received by an institution, by broad categories of product type

	31/12/2018	
	FAIR VALUE OF ENCUMBERED COLLATERAL RECEIVED OR OWN DEBT SECURITIES ISSUED	FAIR VALUE OF COLLATERAL RECEIVED OR OWN DEBT SECURITIES ISSUED AVAILABLE FOR ENCUMBRANCE
Collateral received by the reporting institution	**-**	**5,454**
Equity instruments	–	–
Debt securities	–	5,095
Loans and advances	–	359
Own debt securities issued other than own covered bonds or ABSs	–	–

	31/12/2017	
	FAIR VALUE OF ENCUMBERED COLLATERAL RECEIVED OR OWN DEBT SECURITIES ISSUED	FAIR VALUE OF COLLATERAL RECEIVED OR OWN DEBT SECURITIES ISSUED AVAILABLE FOR ENCUMBRANCE
Collateral received by the reporting institution	**-**	**2,680**
Equity instruments	–	–
Debt securities	–	2,311
Other collateral received	–	369
Own debt securities issued other than own covered bonds or ABSs	–	–

Carrying amount of encumbered assets/ collateral received and associated liabilities

	31/12/2018	
	MATCHING LIABILITIES, CONTINGENT LIABILITIES OR SECURITIES LENT	ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED OTHER THAN COVERED BONDS AND ABSS ENCUMBERED
Carrying amount of selected financial liabilities	14,274	17,298

	31/12/2017	
	MATCHING LIABILITIES, CONTINGENT LIABILITIES OR SECURITIES LENT	ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED OTHER THAN COVERED BONDS AND ABSS ENCUMBERED
Carrying amount of selected financial liabilities	16,092	16,892

Narrative information on the importance of asset encumbrance for an institution

Encumbered assets are assets involving a pledge or claim and include loans deposited at the central bank, issued paper collateral for repurchase agreements and derivative contracts, re-issued paper collateral and collateralized buy-backs of BNG Bank issues. In times of funding and liquidity needs, encumbered financial assets are not freely disposable to be able to meet these needs in the short term.

Selected financial liabilities consist of derivative positions with a negative balance sheet value which are covered by paper collateral. Collateral received by BNG Bank comprises of debt securities issued by governments and financial corporations and is used for money market transactions. BNG Bank also pledged a portfolio of loans with the Central Bank for monetary purposes. Since most of the banks assets could serve as collateral, this may be further extended in the event of prolonged stress.

Market risk (article 445 CRR)

For the disclosure of market risk pursuant with policies and strategies, please refer to the chapter Risk management objectives and policies in the section 'market risk'. Below table MR1 shows the components of own funds requirements under the standardised approach for market risk. Only temporary small foreign exchange positions for which it is not efficient to hedge the risks may result in a limited capital charge in the interim. At 31 December 2018 this position resulted in a capital requirement of EUR 7 million (2017: EUR 0 million).

Market risk under the standardised approach (EU MR1)

Tabel: EU MR1	31/12/2018 RWAS	31/12/2018 CAPITAL REQUIREMENT	31/12/2017 RWAS	31/12/2017 CAPITAL REQUIREMENT
Outright products				
Interest rate risk (general and specific)	0	0	0	0
Equity risk (general and specific)	0	0	0	0
Foreign echange risk	93	7	0	0
Commodity risk	0	0	0	0
Options				
Simplified approach	0	0	0	0
Delta-plus method	0	0	0	0
Scenario approach	0	0	0	0
Securitisation (specific risk)	0	0	0	0
Total	**93**	**7**	**0**	**0**

Remuneration (article 450 CRR)

The remuneration policy is compatible with the legal and policy frameworks for institutions established in the Netherlands. In 2018, the following laws and regulations were instrumental in determining the remuneration policy:

- European and national financial supervision rules, including the Capital Requirements Regulation, the Financial Supervision Act, the Regulation on Sound Remuneration Policies, the Remuneration Policy (Financial Enterprises) Act, and the Work and Security Act;
- the Dutch Corporate Governance Code;
- the Banking Code.

In addition to satisfying legal and regulatory requirements, the remuneration policy also complies with the central government's policy for state-owned enterprises. Disclosure on the remuneration policies, responsible committees, governance processes, applied criteria and amounts involved are provided in the Annual Report as well on the website (e.g. remuneration report)[5].

[5] Website and Annual Report (pp. 53-54, 72-74 and 197-200).

Leverage ratio (article 451 CRR)

Leverage ratio (article 451 CRR)

		31/12/2018
		APPLICABLE AMOUNTS
1	Total assets as per published financial statements	137,509
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	–
3	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 'CRR')	–
4	Adjustments for derivative financial instruments	–17,683
5	Adjustments for securities financing transactions 'SFTs'	3
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	2,424
EU-6a	(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	–
EU-6b	(Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013)	–
7	Other adjustments	–21
8	**Total leverage ratio exposure**	**122,232**

Table LRCom: Leverage ratio common disclosure

		31/12/2018 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)	129,119
2	(Asset amounts deducted in determining Tier 1 capital)	–21
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)**	**129,098**
Derivative exposures		
4	Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	1,072
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	1,650
EU-5a	Exposure determined under Original Exposure Method	–
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	–
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	–12,015
8	(Exempted CCP leg of client-cleared trade exposures)	–
9	Adjusted effective notional amount of written credit derivatives	–
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	–
11	**Total derivative exposures (sum of lines 4 to 10)**	**-9,293**
Securities financing transaction exposures		
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	–
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	–
14	Counterparty credit risk exposure for SFT assets	3
EU-14a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	–
15	Agent transaction exposures	–
EU-15a	(Exempted CCP leg of client-cleared SFT exposure)	–
16	**Total securities financing transaction exposures (sum of lines 12 to 15a)**	**3**
Other off-balance sheet exposures		
17	Off-balance sheet exposures at gross notional amount	13,713
18	(Adjustments for conversion to credit equivalent amounts)	–11,289
19	**Other off-balance sheet exposures (sum of lines 17 to 18)**	**2,424**

Continued on next page

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		31/12/2018 CRR LEVERAGE RATIO EXPOSURES
Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)		
EU-19a	(Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance sheet))	–
EU-19b	(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	–
Capital and total exposures		
20	Tier 1 capital	4,614
21	**Total leverage ratio exposures (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)**	**122,232**
Leverage ratio		
22	Leverage ratio	3.77%
Choice on transitional arrangements and amount of derecognised fiduciary items		
EU-23	Choice on transitional arrangements for the definition of the capital measure	Fully phased in
EU-24	Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) NO 575/2013	–

Table LRSpl: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

		31/12/2018 CRR LEVERAGE RATIO EXPOSURES
On-balance sheet exposures (excluding derivatives and SFTs)		
EU-1	Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	129,119
EU-2	Trading book exposures	–
EU-3	Banking book exposures, of which:	129,119
EU-4	Covered bonds	1,198
EU-5	Exposures treated as sovereigns	41,925
EU-6	Exposures to regional governments, MDB, international organisations and PSE NOT treated as sovereigns	1,579
EU-7	Institutions	12,553
EU-8	Secured by mortgages of immovable properties	157
EU-9	Retail exposures	–
EU-10	Corporate	55,219
EU-11	Exposures in default	57
EU-12	Other exposures (eg equity, securitisations, and other non-credit obligation assets)	16,431

Table LRQua: Free format text boxes for disclosure on qualitative items

1	Description of the processes used to manage the risk of excessive leverage	BNG Bank's capital planning is based on the expected regulatory 3% leverage ratio requirement as communicated to date. BNG Bank complies to that minimum requirement. That having said, discussions are still ongoing on a proportional treatment of promotional banks the outcome of which might change the target level. Both regulatory developments as any changes of its leverage ratio are monitored on an on-going basis to mitigate any remaining risk of excessive leverage.
2	Description of the factors that had an impact on the leverage Ratio during the period to which the disclosed leverage Ratio refers	The leverage ratio is driven by changes in the underlying components as shown above. As in previous years the capital base in the leverage ratio has further increased which among other things is a result of the retained earnings. In 2018 62.5% of the profit over 2017 was retained (2017:75%).

Exposures in equities not included in the trading book (article 447 CRR)

The exposure comprises the shareholdings in BNG Bank's banking book. The tables below present the various values of the portfolio at year-end 2018 and 2017.

				31/12/2018
	BALANCE SHEET VALUE (EXPOSURE)	FAIR VALUE OF ENCUMBERED FAIR VALUE	CUMULATIVE UNREALISED RESULTS	RESULTS REALISED IN FINANCIAL YEAR
Financial assets at fair value through profit and loss	0	0	–	–
Associates and joint ventures				
Associates	3	3	–	1
Joint ventures	41	41	–	–1
Total	**44**	**44**	**-**	**0**

				31/12/2017
	BALANCE SHEET VALUE (EXPOSURE)	FAIR VALUE OF ENCUMBERED FAIR VALUE	CUMULATIVE UNREALISED RESULTS	RESULTS REALISED IN FINANCIAL YEAR
Financial assets available for sale	0	0	–	–
Associates and joint ventures				
Associates	3	3	–	1
Joint ventures	44	44	–	7
Total	**47**	**47**	**-**	**8**

BNG Bank has no investments in listed shares. The shares in the Investments in associates and joint ventures balance sheet item concern investments in joint ventures entered into by BNG Gebiedsontwikkeling. The purpose of these partnerships is to develop and allocate land for the construction of homes and industrial estates, together with public authorities, at the bank's own expense and risk. The shares in associates and the shares in the Financial assets available-for-sale balance sheet item concern investments in private equity exposures in companies that are significant suppliers to the public sector.

The Investments in associates and joint ventures balance sheet item is stated according to the equity method. The Financial assets available-for-sale item is stated at fair value and value movements are recognised in equity, net of taxes. Further information can be found in the Annual Report (pp. 86-115) under 'Accounting principles for the consolidated financial statements'.

Exposure to securitisation positions (article 449 CRR)

BNG Bank acts primarily as an investor in the most senior tranches of securitisations for the ALM portfolio; these investments in securitisations are part of the banking book. The underlying assets are mostly home mortgages. The bank does not invest in synthetic securitisations or resecuritisations. As well as acting as an investor in securitisations, BNG Bank fulfils a number of additional roles, albeit to a limited extent. These include the role of Issuer Account Bank and the role of Cash Advance Facility Provider in that the bank provides liquidity facilities to finance securitisations. BNG Bank does not act as an originator or sponsor. This means that the bank has not transferred any assets to securitisations and does not support securitised assets.

	31/12/2018	31/12/2017
Securitisations broken down by underlying assets		
Securitisations on the balance sheet with underlying assets in:		
– Home mortgages	1,336	1,060
– Home mortgages with NHG guarantee	3,316	2,197
– Other	156	50
Total balance sheet value	**4,808**	**3,307**
Off-balance sheet commitments regarding securitisations	198	233
Total securitisation positions	**5,006**	**3,540**

At year-end 2018 the balance sheet value amounted to EUR 4.8 billion (2017: EUR 3.3 billion) in securitisation positions. The off-balance sheet securitisation commitments at year-end 2018 amounted to EUR 0.2 billion (2017: EUR 0.2 billion) and concerned liquidity facilities. BNG Bank considers the credit risk of these facilities to be virtually zero. The facilities may only be drawn on under strict conditions (e.g. in the event of technical payment problems), and in that case BNG Bank's claim will have preference over all other claims.

All securitisations in the bank's portfolio have at least one external rating from S&P, Moody's, Fitch or DBRS. Any interest rate risks are hedged with derivatives, in conformity with policy. The aforementioned risks are monitored by the Investment Committee. All securitisations are subjected to an impairment test twice a year. As investments are limited to the most senior tranches the liquidity risk for BNG Bank is considered limited as these senior tranches are impacted last if liquidity issues would arise for the underlying securitisation.

Exposure value and capital requirement of securitisations broken down by risk weighting

	31/12/2018		31/12/2017	
	EXPOSURE VALUE	CAPITAL REQUIREMENT	EXPOSURE VALUE	CAPITAL REQUIREMENT
0%	76	0	43	0
20%	4,152	66	2,389	38
35%	53	1	74	2
50%	505	20	736	30
100%	7	1	129	10
350%	24	7	26	7
1250%*	10	0	25	–
Total	**4,827**	**95**	**3,422**	**87**

* The exposure with a risk weight of 1250% is offset against the CET1 capital

Under CRD IV, BNG Bank applies the Standardised Approach (SA) in calculating risk-weighted exposure values of securitisations in relation to credit risk. Most of the securitisation positions have a 20% weighting. A limited number of securitisations have a 1250% weighting because of the rating. BNG Bank takes advantage of the option to offset these items against the CET1 capital.

Mapping of regulatory requirements

For the sake of completeness, below table presents an overview of the regulatory criteria with respect to Pillar 3 disclosures and the location where this information is included in this report. Starting point for these regulatory disclosure requirements is Part Eight of the Capital Requirements Directive (CRR). However, the European Banking Authority as well as the European Commission published several additional guidelines or standards that prescribe in more detail how specific information should be disclosed. Most noteworthy in this respect are the following:

- (EU) 2017/2295 Regulatory Technical Standards for disclosure of encumbered and unencumbered assets
- EBA/GL/2017/01: Guidelines on LCR disclosure to complement the disclosure of liquidity risk management
- EBA/GL/2016/11: Guidelines on disclosure requirements under Part Eight of Regulation (EU) NO 575/2013
- (EU) 2016/200: Implementing Technical Standards with regard to disclosure of the leverage ratio
- (EU) 2015/1555: Regulatory Technical Standards for the disclosure of information in relation to the compliance of institutions with the requirement for a countercyclical capital buffer
- EBA/GL/2015/22: Guidelines on sound remuneration policies
- (EU)1030/2014: Implementing Technical Standards with regard to the disclosure of the values used to identify global systemically important institutions
- EBA/GL/2014/02: Guidelines on disclosure of indicators of global systemic importance
- EBA/GL/2014/03: Guidelines on disclosure of encumbered and unencumbered assets
- (EU)1423/2013: Implementing Technical Standards with regard to disclosure of own funds requirements

CRR	DESCRIP-TION	ADDITIONAL GUIDELINES OR STANDARDS	APPLICABLE TABLES OR TEMPLATES	CLARIFICATION, IF NEEDED	LOCATION PILLAR 3 REPORT
Article 435	Risk manage-ment objectives and policies	EBA/ GL/2016/11	EU OVA EU CRA EU CCRA EU MRA	This requires a comprehensive overview on the risks management objectives and policies. This is mostly qualitative information for which no specific format is required. It should be noted that quantitative targets on individual risk are not disclosed due to their confidential nature. Information regarding the governance arrangements with respect to the members of the management and supervisory boards is not included again in this report. The most up-to-date information on this can be found on the website of BNG Bank. The Annual Report (pp. 41-45 and 61-74) includes a comprehensive overview on this at end 2018[7].	pp. 10-49
		EBA/ GL/2017/01	EU LIQA EU LIQ1	The CRR does not include a separate article on the disclosure of liquidity risk, but EBA has issued guidelines for this under article 435 of the CRR. Therefore, this information is also included in the first section of this report.	pp. 35-36
Article 436	Scope of application		EU LI1 EU LI2 EU LI3 EU LIA		pp. 50-57
Article 437	Own funds	(EU) 1423/2013		BNG Bank own funds consists of share capital and hybrid capital. The hybrid capital instruments instruments are issued privately to a limited number of investors. Therefore, terms and conditions for these instruments are not part of the disclosure as they are only made available to these parties on the basis of confidentiality.	pp. 58-72

Continued on next page

[7] For the Executive Board.
For the Supervisory Board.
The Annual report is available at the website.

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CRR	DESCRIPTION	ADDITIONAL GUIDELINES OR STANDARDS	APPLICABLE TABLES OR TEMPLATES	CLARIFICATION, IF NEEDED	LOCATION PILLAR 3 REPORT
Article 438	Capital requirements	EBA/ GL/2016/11	EU OV1		pp. 73-79
Article 439	Exposure to counterparty credit risk	EBA/ GL/2016/11	EU CCR1 EU CCR2 EU CCR8 EU CCR5-A EU CCR5-B	Qualitative information as described in articles 439(a), (b) and (d) is included in the first section on risk management objectives and policies, while article 439(c) is not applicable as BNG Bank has not identified any wrong way risk. In addition, articles 439(g), (h) and (i) are also not applicable as BNG Bank has no credit derivative hedges. The quantitative information from articles 439(e) and (f) is included in accordance with the templates provided by EBA.	pp. 108-116
Article 440	Countercyclical capital buffer	(EU) 2015/1555		The geographical distribution of the credit exposures of BNG Bank is limited and most of the credit exposures are concentrated in The Netherlands. However, end-2018 a small countercyclical capital buffer applies which is disclosed in accordance with the requirements.	p. 80
Article 441	Indicator of global systemic importance	(EU) 1030/2014		BNG Bank is not identified as G-SII (Global Systemically Important Institutions). Therefore, this article is not applicable to BNG Bank.	n/a
Article 442	Credit risk adjustments	EBA/ GL/2016/11	EU CRB-A EU CRB-B EU CRB-C EU CRB-D EU CRB-E EU CR1-A EU CR1-B EU CR1-C EU CR1-D EU CR1-E EU CR2-A EU CR2-B		pp. 81-107

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CRR	DESCRIPTION	ADDITIONAL GUIDELINES OR STANDARDS	APPLICABLE TABLES OR TEMPLATES	CLARIFICATION, IF NEEDED	LOCATION PILLAR 3 REPORT
Article 443	Unencumbered assets	EBA/GL/2014/03			pp. 117-121
Article 444	Use of ECAI's	EBA/GL/2016/11	EU CRD EU CR5 EU CCR3	Qualitative information on the use of ECAI's is included in the first section on risk management objectives and policies, and specifically in the subsection on credit risk. The quantitative template as provided by EBA is part of the section with templates on credit risk.	pp. 24, 106-107, 112-113
Article 445	Exposure of market risk	EBA/GL/2016/11	EU MR1		pp. 122-123
Article 446	Operational risk			As included in table EU OV1 in the section on capital requirements, BNG Bank applies the standardized approach for the assessment of own fund requirements for operational risk.	pp. 38-44
Article 447	Exposure in equities not included in the trading book			BNG Bank has a small exposure in equities. An overview on these exposures is included separately in this Pillar 3 report.	pp. 129-130
Article 448	Exposure to interest rate risk on position not included in the trading book			An overview on the nature of the interest rate risk is included in the first qualitative part of this reports and is specifically addressed in the sub-section on market risk.	pp. 28-31

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CRR	DESCRIPTION	ADDITIONAL GUIDELINES OR STANDARDS	APPLICABLE TABLES OR TEMPLATES	CLARIFICATION, IF NEEDED	LOCATION PILLAR 3 REPORT
Article 449	Exposure to securitisation positions				pp. 131-132
Article 450	Remuneration policy	EBA/GL/2015/22		BNG Bank has a prudent system of remuneration that complies with the legal and policy frameworks for institutions established in the Netherlands. In addition to satisfying legal and regulatory requirements, the remuneration policy also complies with the central government's policy for state-owned enterprises. Disclosure on the remuneration policies, responsible committees, governance processes, applied criteria and amounts involved are provided in the Annual Report as well on the website (e.g. remuneration report).	p. 124
Article 451	Leverage ratio	(EU) 2016/200			pp. 125-128
Article 452	Use of IRB approach to credit risk			BNG Bank does not apply the IRB approach.	n/a
Article 453	Use of credit risk mitigation technique		EU CRC EU CR3 EU CR4	Qualitative information as described in tables EU CRC and EU CRD is part of the comprehensive disclosure in the first section on risk management objectives and policies. The prescribed quantitative templates are included separately in this report.	pp. 20-27, 103-105

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CRR	DESCRIPTION	ADDITIONAL GUIDELINES OR STANDARDS	APPLICABLE TABLES OR TEMPLATES	CLARIFICATION, IF NEEDED	LOCATION PILLAR 3 REPORT
Article 454	Use of the Advanced Measurement Approaches to Operational Risk			BNG Bank does not apply the AMA approach to operational risk.	n/a
Article 455	Use of internal market risk models			BNG Bank does not apply internal market risk models.	n/a

Colophon

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