

# RISK MANAGEMENT ORGANIZATION



## CONTROL BODIES

Group General Control is responsible for conducting inspections and audits across the Group's various operational entities both in Morocco and overseas.

### GROUP RISKS DIVISION

The Group Risks Division ensures that credit, market and operational risks are monitored and controlled. The Division is responsible for:

- Defining BMCE Bank Group's risk policy;
- Implementing a risk control system relating to credit, market and operational risks;
- Defining and managing the credit approval and monitoring processes.

The Group Risks Division comprises six units:

- Group Risk Management Division
- Commitments Monitoring
- Commitments Analysis
- Group Risk Convergence
- Group Risk Consolidation & Steering
- Group Risk Projects Steering

## GOVERNANCE BODY

### GROUP RISKS COMMITTEE

BMCE Bank Group's Risk Committee is a body reporting directly to the Board of Directors whose remit extends to the Bank, its direct and indirect subsidiaries and other entities included within the Group's scope of consolidation.

The Group Risks Committee assists the Board of Directors in matters such as strategy and risk management. In particular, it ensures that overall risk policy is adapted to the risk profile of both the Bank and the Group, the degree of risk aversion, its systemic importance, its size and its capital base.

## AUDIT AND INTERNAL CONTROL COMMITTEE

The Group Audit and Internal Control Committee (Group CACI) is a body reporting directly to the Board of Directors whose remit extends to the Bank, its subsidiaries and other entities included within the Group's scope of consolidation.

The CACI assists the Board of Directors in matters such as internal control, corporate strategy and risk management while ensuring that:

- The internal control system and resources are:
  - Consistent and compatible to be able to monitor and control risk within the Bank and produce information required by regulatory authorities;
  - Adapted to the Bank's organisational structure as well as the activities of entities under the Bank's control;
- The financial information intended for the Board of Directors is reliable and accurate such that the legitimate interests of shareholders, depositors and other stakeholders are safeguarded;
- Examine the parent company financial statements prior to submitting them to the Board of Directors for approval.

## GENERAL MANAGEMENT COMMITTEE

The General Management Committee is responsible for translating and monitoring the Group's corporate strategy into operational initiatives and measures.

This Committee, which meets weekly, is also responsible for steering the Bank's business, managing its internal control and risk management systems, monitoring HR and overseeing commercial, institutional and financial communications.

## GROUP RISK STEERING AND MANAGEMENT COMMITTEE

The Group Risk Steering and Management Committee is a sub-committee of BMCE Bank of Africa Group's General Management Committee. It helps the latter manage and monitor, at the operational level:

- Group risk steering policy;
- And ensures that the Group's activities comply with risk policies and the limits set.

This Committee ensures that BMCE Bank Group's risk steering policy is effective and consistent with risk management policy relating to credit, market, country and operational risks.

## CREDIT COMMITTEES

### Senior Credit Committee

This committee is chaired by the Bank's Chairman and Chief Executive Officer with the Group Deputy Chief Executive Officer as Vice-Chairman. It is subdivided by market segment into two committees, one specialising in Corporate Banking, the other in Personal and Professional Banking.

These committees meet twice-weekly and include senior managers of the Bank.

### Regional Credit Committee

The Regional Credit Committee (CCR) meets on a weekly basis. The dates for holding Regional Credit Committee meetings are decided by each region's Regional Director and notices are sent to all members.

## COMMITTEE FOR MONITORING ACCOUNTS SHOWING ANOMALIES

As part of its portfolio monitoring remit, the Committee for Monitoring Accounts Showing Anomalies (main committee or select committee) meets on a monthly basis to monitor the rehabilitation of high-risk accounts.

## CREDIT RISK

The Bank's credit division operates in accordance with the general credit policy approved by the Group's senior management. The Group's requirements in terms of ethics, reporting lines, compliance with procedures and discipline in risk analysis are guiding principles.

This general policy is further divided into specific policies and procedures depending on the character of specific operations or counterparties.

## DECISION-MAKING PROCEDURE

BMCE Bank has adopted a dual approach to the credit approval process as follows:

1- A standardised approach for retail products within the framework of Product Programs which define, for each product, risk management rules governing product marketing. Risk policy may be implemented in two ways:

- Use of a self-check form with formatted approval criteria as the basis of risk assessment; this self-check form lists credit approval criteria and checks compliance with credit standards. A credit application must be rejected if it does not comply with these standards unless exemption has been granted by the Committee.

- A delegation system by which credit approval decisions are delegated to different levels of power. This ensures consistency in credit decision-making and a high level of integrity from the person to whom powers have been delegated. Each credit application is processed by subordinate entities prior to its approval by the duly responsible decision-making entity.

2- An individualised approach based on the particular characteristics and requirements of corporates based on three fundamental principles:

- Management of the loan portfolio which provides Senior Management with enough information to be able to assess the customer's risk profile;

- The delegation of authority to employees, assigned *intuitu personae* on the basis of their decision-making ability, experience, personal skills, professional skills and training;

- The balance of powers, granted on the judgement of at least three people known as a 'troika'.

For certain risk levels, approval must be sought from the Senior Credit Committee or the Bank's Chairman.

The Group Risks Division monitors risk management quality and ensures compliance with internal rules and procedures.

It is also worth noting that Group General Control and the external auditors provide additional objective control of credit quality and ensure that procedures are complied with.

## SYSTEM FOR MONITORING AND STEERING CREDIT RISKS

The system for monitoring and steering credit risks provides second level control. It operates independently of monitoring carried out by sales units on a daily basis.

The system may be adapted to the specific character of each subsidiary in concertation with the Group Risks Division.

Responsibility for risk monitoring is entirely incumbent on sales units. Daily monitoring of transaction-related risks is the responsibility of the sales person in charge of the customer relationship. To help sales units fulfil their responsibilities, they are assisted by the Group Risks Division which provides alerts.

The controls carried out by the Group Risks Division are primarily aimed at ensuring that the advanced alert system is effective both in terms of risk management and sales units anticipating the potential risks so that the Bank's loan portfolio is managed appropriately.

The Group Risks Division is not responsible for checking and approving each transaction executed by an approved and validated facility. This task belongs to an independent back-office responsible for executing the transaction with the agreement of the Sales function.

The main operational responsibilities of the Group Risks Division, as part of its remit for monitoring and steering credit risks, may be summarised as follows:

- Monitor commitments' regularity: compliance with the initially-stated purpose of the loan and with credit limits, examining payment incidents, reviewing customer files for which payments are due etc.
- Detect loans showing persistent signs of weakness;
- Monitor, in partnership with the branch network, developments in relation to the Bank's main risks (problem loans, largest or most sensitive commitments);
- Determine which customer files are eligible for downgrade as required by regulations governing non-performing loans.
- Monitor on a permanent basis credit risk indicators including healthy loans, troubled loans and non-performing loan mentioning provisioning, non-performing loan ratios and hedging ratios.

## STEERING THE LOAN PORTFOLIO

The loan portfolio of the Group and its entities is steered using a number of indicators of risk resulting when credit approval is given as well as those arising during the life of the loan.

Multi-criteria analysis of the loan portfolio is a way of controlling risks retrospectively. This consists of identifying and tracking all loan commitments of the Group and its entities based on a number of criteria such as products, maturities, customers, business groups, customer segments, counterparty ratings, asset categories (healthy and non-performing), business sectors, agencies, geographical areas, types of security etc. Multi-criteria analysis is a credit risk management tool.

The Credit Risks unit is responsible for carrying out multi-criteria analysis of the loan portfolio. It is also responsible for reporting on credit risks, both within the Group to the Risk Committees and to senior management, and externally, to regulators.

## MONITORING HIGH-RISK ACCOUNTS

High-risk accounts relate to those for which the risk is likely to subsequently increase, thereby resulting in a cost to the Bank. They consist of commitments which show either a visible deterioration in risk quality as measured against quantitative criteria or a potential deterioration in risk quality as measured against qualitative criteria. Assessment, intervention and the complementary nature of the Commercial and Risks Divisions remain the determining factors for identifying high-risk accounts.

## LOAN CLASSIFICATION

On carrying out the monthly review of the Bank's portfolio and analysis of high-risk accounts, each subsidiary reviews its regulatory loan classification as required by local regulatory requirements.

This review is finalised by the committees responsible for monitoring high-risk accounts on the recommendation of each entity's Risks Division. The latter is also responsible for implementing these decisions by monitoring and transferring these accounts from the "healthy" to the "non-performing, requires provisioning" category.

Provisioning is checked and monitored by Group General Control, the external auditors, the Audit and Internal Control Committee and the Group Risks Committee.

## CORRECTIVE MANAGEMENT OF THE PORTFOLIO

The Bank has adopted a policy of recovery by amicable means so as to make the recovery of problem loans more effective. Two entities oversee this policy, one specialising in Corporate Banking activities, the other in Personal and Professional Banking loans.

These entities have the following responsibilities:

- Permanently monitor the regularity and quality of the Bank's commitments;
- Monitor, primarily via the branch network or directly with the customers in question, the settlement of accounts for which payments are due;
- Adopt a pro-active approach to avoid non-performing loan impairment.

## INTERNAL RATINGS SYSTEM

The Bank has an internal ratings system covering the entire BMCE Bank Group, including local subsidiaries.

This internal ratings system is operationally embedded in the Bank's various business lines and subsidiaries e.g. the system is used for delegating, pricing and sales and marketing targeting as well as simplifying the credit approval decision-making process.

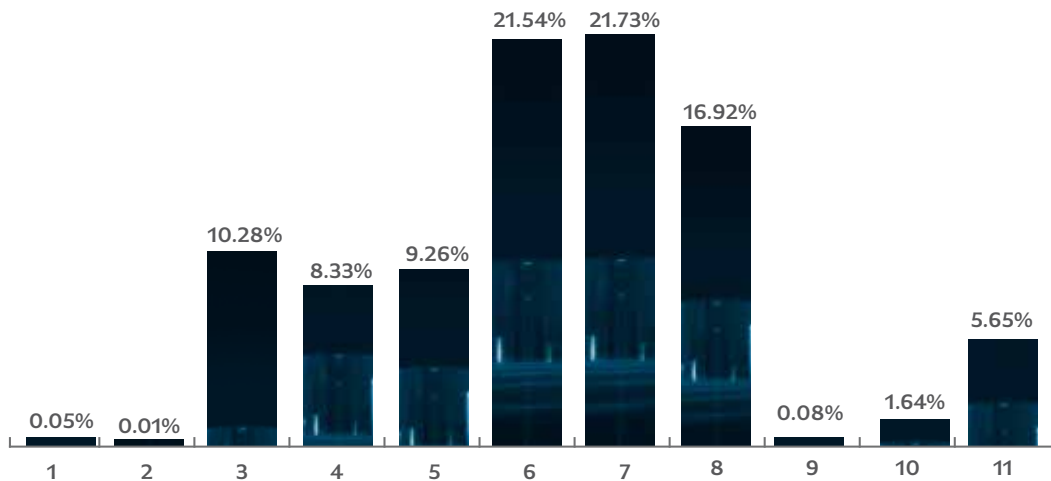
A rating is attributed to each customer. Each customer is treated as a Group third party code. The ratings process is carried out for each Group third party code. A third party has one and only one rating.

In compliance with regulatory principles, ratings attributions and their subsequent revisions must be carried out or approved by a party which does not directly benefit from the approval of the loan.

## DESCRIPTION OF THE CHARACTERISTICS OF THE INTERNAL RATINGS MATRIX BY RISK CATEGORY

	CATEGORY	CLASS	DEFINITION
Investment grade	Limited risk	1	Extremely stable short- and medium-term; very stable long-term; solvent despite serious disruptions;
		2	Very stable short- and medium- term; stable long-term; sufficiently solvent despite persistently negative events;
		3	Solvent short- and medium-term despite significant difficulties; moderately negative developments can be withstood long-term;
		4	Very stable short-term; no expected change to threaten the loan in the coming year; sufficiently solid medium-term to be able to survive; long-term outlook still uncertain;
	Medium risk	5	Stable short-term; no expected change to threaten the loan in the coming year; can only withstand small negative developments medium-term;
		6	Ability limited to withstand unexpected negative developments;
		7	Ability very limited to withstand unexpected negative developments;
Sub-investment grade	High risk	8	Ability limited to repay interest and principal on time; any change in internal and external economic and commercial conditions will make it difficult to fulfil obligations;
		9	Incapable of repaying interest and principal on time; fulfilling obligations dependent on favourable internal and external commercial and economic conditions;
	Very high risk	10	Very high risk of default; incapable of repaying interest and principal on time; partial default in repayment of interest and capital;
		11	Total default in repayment of interest and capital.

## Breakdown of commitments by risk category at 31 December 2017



## RATING RETAIL CUSTOMERS

Rating retail customers consists of statistically modelling retail customers in default as well as their risk behaviour.

A behavioural scoring matrix (Basel II standard) for customers in employment has been operational since 2013. The matrix is displayed in the Customer Relationship Management (CRM) system with additional remarks provided. It is updated on a daily basis.

A credit approval scoring matrix for retail customers with an instant loan employed by companies with whom the Bank has an arrangement has been modelled. The Corporate ratings model is linked to the Retail Customer ratings model by the ratings model for company arrangements.

A credit approval system for consumer credit has been developed and approved by the Bank.

A risk-adjusted delegation system has been approved by the Bank. A test phase was carried out with three pilot groups. A delegation adjustment was proposed, and a pilot test is being conducted for one month. The general roll-out is scheduled for second half 2018.

## GUARANTEES AND SECURITIES

The Group receives various types of guarantee as loan collateral. As a general rule, collateral requirements are governed by two factors: the type of credit requested and the quality of the counterparty.

The Group systematically mortgages all property which it has financed (housing loans and loans for property development) and requests that customers take out insurance cover.

Similarly, funding for public procurement of goods, capital equipment and business premises are systematically guaranteed by pledges on the items funded and insurance cover is also required.

In addition to these guarantees, the Group generally strengthens its position by requesting personal guarantees from counterparties whenever it is deemed necessary, depending on the quality of the latter.

## CONCENTRATION LIMITS

The Bank's risk policy is constantly focused on loan portfolio diversification.

Credit risk management is based on a system in which a risk opinion and formal risk limits are attributed to strategic initiatives at the business line level, such as in the event of a new business or product launch. For BMCE Bank of Africa Group, the risk of credit risk concentration may result from exposure to individual counterparties, interest groups or counterparties belonging to the same business sector.

## INDIVIDUAL COUNTERPARTIES

The Group monitors individual concentrations at the parent and consolidated levels on a monthly basis. It closely monitors the commitments of its largest 10, 20 and 100 customers by commitment.

## INTEREST GROUPS

Portfolio diversification by counterparty is monitored on a regular basis, particularly within the framework of the Group's individual concentration policies. Credit risk exposure to counterparties or groups of counterparties with relatively sizeable loans, of more than 5% of the Bank's capital, are specifically monitored, both on an individual and consolidated basis.

Furthermore, controlling major risks also ensures that the aggregate risk incurred for each beneficiary does not exceed 20% of the Group's net consolidated capital, as required by Moroccan banking industry regulations. BMCE Bank of Africa Group ensures that it complies with the concentration thresholds stipulated in the Bank Al-Maghrib directive.

## COUNTERPARTIES BELONGING TO THE SAME BUSINESS SECTOR

The chosen methodology for setting sector limits is based on a statistical model which includes historical default rates and the number of counterparties by business sector and by risk category -rating.

The objective is to model the probability of default by using appropriate econometric techniques and a dependent random variable whose value is derived from the number of default occurrences.

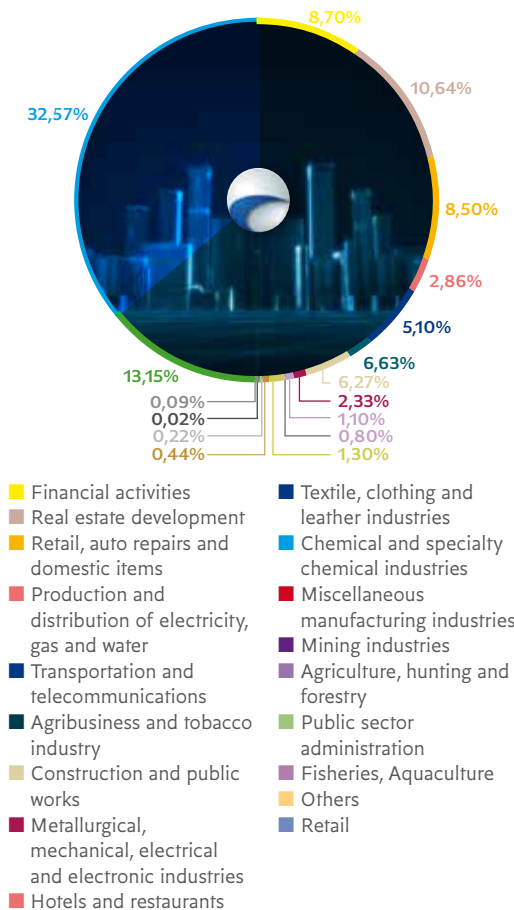
This procedure is based on the assumption that counterparties are independent and that the defaulting events are not correlated. The key concept underlying this methodology is the probability of default for a given counterparty. This probability is measured by using the rate of default of the rating-business sector pair.

The model also enables the Bank to identify priority sectors for credit expansion in the context of the Bank's development plan as well as bad loan experience by sector. This approach, adopted by the Group Risks Division, is complemented by back-testing the model every six months.

Sector-specific limits are reviewed every six months in consultation with sales units and the Bank's Economic Intelligence Centre which provide operational experience as well as estimates of macroeconomic and industry growth. The opinions of these entities help to challenge and provide further confirmation of the model's suitability in a given economic context.



### BREAKDOWN OF THE GROUP'S OUTSTANDING CUSTOMER COMMITMENTS (DOMESTIC ACTIVITY) BY BUSINESS SECTOR AT 31 DECEMBER 2017



to ensure that the various scenarios chosen are appropriate. This assessment is conducted on the basis of anticipated goals for carrying out stress tests and each time that market conditions suggest that a potentially unfavourable change is likely to seriously impact the Group's ability to withstand it.

### LEVEL OF EXPOSURE TO COUNTERPARTY RISK BASED ON METHODS APPLIED TO OFF-BALANCED SHEET ITEMS

#### CREDIT RISK-WEIGHTED ASSETS

Type of Exposure	Risk-Weighted Assets post CRM
Balance-sheet items	151 492 990
Off balance sheet items: financing commitments	5 633 606
Off balance sheet items: guarantee commitments	10 404 375
Counterparty Risk: temporary disposals of securities relating to the bank portfolio	-
Counterparty Risk: temporary disposals of securities relating to the trading portfolio	289 940
Counterparty Risk: derivative products relating to the bank portfolio	-
Counterparty Risk: derivative products relating to the trading portfolio	269 457
Other assets / Other items	26 453 633
Settlement Risk	250 736
<b>Total</b>	<b>194 544 001</b>

#### Stress tests

BMCE Bank of Africa Group conducts half-yearly stress tests so as to evaluate the vulnerability of its loan portfolio in the event of a change in circumstances or deterioration in the quality of counterparties.

Stress tests are conducted in order to assess the Group's resilience in the face of unexpected, extreme events. Operationally, they consist of simulating scenarios in the event of default of a certain percentage of the Group's counterparties. The ultimate aim is to quantify the impact of an assessment is conducted twice a year

## MARKET RISK

Market risk management at BMCE Bank Group adheres to regulatory standards as defined by supervisory authorities in application of best international management practices as defined by the Basel Accords.

### TYPES OF MARKET RISK

The Bank differentiates between four types of market risk:

- Interest rate risk;
- Equity risk;
- Foreign currency risk;
- Commodities risk.

And three types of credit risk for market transactions:

- Issuer risk;
- Counterparty risk;
- Settlement risk.

### FINANCIAL INSTRUMENTS MAPPING

The following table shows products traded as part of BMCE Bank Group's trading portfolio, mapped by risk factor:

<b>Foreign exchange products</b>	Change cash
	FX spot
	FX forwards
	FX derivatives
	FX swaps
<b>Equity products</b>	Equities
	Equity/index derivatives
<b>Fixed income products</b>	Equity mutual funds
	I- Corporate and interbank loans/ borrowings
	• Fixed rate (MAD and foreign currencies)
	• Floating rate (MAD and foreign currencies)
	II- Negotiable debt securities and other debt securities
	II-1 Sovereign securities
	• Fixed rate (MAD)
	• Floating rate (MAD and foreign currencies)
	II-2 Securities issued by credit institutions and companies
	• Fixed rate (MAD)
	• Floating rate (MAD and foreign currencies)
	III- Stock lending/borrowing
	• Stock lending/borrowing
	• Repos/Reverse repos
	IV- Interest rate derivatives
	• <i>Interest rate swaps</i>
	• Swap futures
• <i>Forward Rate Agreement</i>	
V- Fixed income mutual funds	
• Money market mutual funds	
• Bond mutual funds	
<b>Commodity derivatives and credit derivatives</b>	Commodity futures
	Commodity futures and options
	Credit default swaps (CDS)
	Credit linked notes (CLN)

## GOVERNANCE

The main contributors to BMCE Bank of Africa Group's market risk management policy are as follows:

- General Management, which implements market risk management strategies and policies approved by the Board of Directors;

- The Group Risks Committee, which defines Group market risk management policy and approves any change in steering risks in market operations implemented by any of the Group's entities;

- The Group Market Risks Committee, which ensures that the system for monitoring BMCE Bank of Africa Group's market risks is effective and consistent with policy for managing the Group's market risks;

- The Group Market Risks Department which, as a separate department from the Group's front-office, centralises management of BMCE Bank of Africa Group's market risk; this gives it maximum objectivity in steering market risks and in arbitrating between the different market activities;

- The Risk management units of BMCE Bank of Africa Group entities which ensure first level control of market activities within their own entities and report back to Group Risk Management;

- Internal Audit, which ensures implementation of market risk management policy and rigorous compliance with procedures.

### MARKET RISK MANAGEMENT SYSTEM

BMCE Bank Group's market risk management system is based on three main factors:

- Management of limits;
- Risk indicators;
- Capital requirements.

## MANAGING LIMITS

### Counterparty limits in market transactions

The approval process for counterparty limits and applications to overrun those limits in market transactions is governed within BMCE Bank Group of Africa via a system of delegation of powers within a framework of procedures specific to each counterparty type. Monitoring authorised counterparty limits and overruns is carried out individually by the risk management unit within each BMCE Bank Group entity on a daily basis as well as overall by the risk management entity responsible for monitoring and consolidating the Group's exposure in market transactions.

### Market limits

In order to control market risk within BMCE Bank Group of Africa and to diversify the trading portfolio, a set of market limits has been jointly adopted by Group Risk Management and each entity's risk management unit. These market limits reflect BMCE Bank Group's risk profile and help to steer market risk management by arbitrating between its various market activities.

The market limits adopted by BMCE Bank are based on a VaR approach and comprise the following:

- Stop-loss limits
- Position limits
- Overall VaR limits
- Capital requirement limits
- Transaction limits

### Regulatory limits

In addition to limits adopted for internal purposes, BMCE Bank Group of Africa also complies with regulatory limits defined by Bank Al-Maghrib including:

- Limits on foreign currency positions which should not exceed 10% of shareholders' equity;
- Limits on the overall foreign exchange position which should not exceed 20% of shareholders' equity.

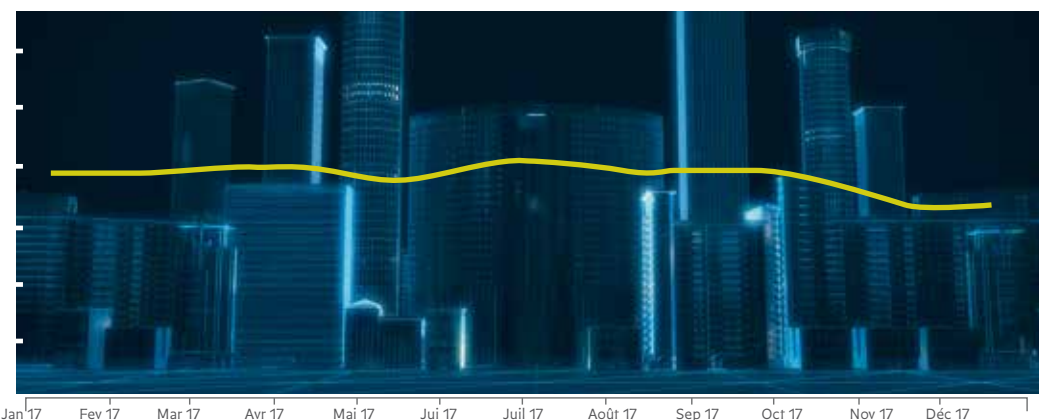
## MONITORING MARKET RISK INDICATORS

### Value-at-Risk (VaR)

Value-at-Risk is a technique used to quantify overall market risk. It helps to quantify the risk incurred by calculating the potential loss over a given time horizon and the degree of probability. Unlike traditional risk indicators, Value-at-Risk combines several risk factors and measures their interaction, thereby taking into consideration portfolio diversification.

BMCE Bank Group of Africa uses software to calculate overall Value-at-Risk and VaR by asset class on a daily basis as well as carrying out daily back-testing for a number of methods.

## CHANGES IN VAR (1 DAY) GENERAL RISK IN 2017



### Stress-testing by risk factor

A series of stress tests are conducted on a daily basis for each of the trading portfolio's activities. These stress tests replicate the impact of an extreme situation on the current portfolio by applying hypothetical scenarios or identifying the worst possible situations for the Bank.

The results of stress tests are used to quantify the impact on the Bank's net banking income, capital levels, capital adequacy ratios and Tier 1 capital ratio.

Regulatory stress tests are also conducted on a half-yearly basis as stipulated in technical notice No.01-DSB-2012.

## CAPITAL REQUIREMENTS

BMCE Bank Group of Africa uses the Fermat software solution to calculate capital requirements under the standardised approach for market risks. This enables it to meet regulatory requirements in terms of reporting and monitor capital requirements regarding the Group's trading portfolio.

The Group's consolidated capital requirements in respect of market risk at 31 December 2017 were as follows:

CAPITAL REQUIREMENTS	CAPITAL REQUIRED
Capital required for fixed income risk	616 419
Capital required for equity risk	116 014
Capital required for foreign exchange risk	11 958
Total capital required in respect of market risk	744 391
<b>Total market risk-weighted assets</b>	<b>9 304 885</b>

## METHOD FOR VALUING TRADING PORTFOLIO SECURITIES

### DIRHAM-DENOMINATED FIXED INCOME AND MONEY MARKET INSTRUMENTS

Market values of fixed income and money market assets are calculated on Kondor+ using the dirham yield curve for fixed income and money market assets on the basis of the dirham rate curve published by Bank Al-Maghrib and on each transaction's characteristics.

### MONEY MARKET AND FIXED INCOME MUTUAL FUNDS

A number of mutual funds publish net asset values on a daily basis while others are updated weekly. Mutual funds are valued on the basis of net asset value calculated on a daily or weekly basis.

### FOREIGN CURRENCY-DENOMINATED FIXED INCOME PRODUCTS

Foreign currency-denominated fixed income products are valued on Kondor+ on the basis of the yield curves for the foreign currencies in question and on each transaction's characteristics.

### FOREIGN EXCHANGE OPTIONS

Foreign exchange options are valued on the following basis: volatility curve, yield curves (EUR, MAD and USD) and foreign exchange crosses for the three currencies.

The foreign exchange options position is included in the overall foreign exchange position using the delta equivalent method.

## OVERALL FOREIGN EXCHANGE POSITION

The value of foreign exchange positions does not include the 0.2% levied by Bank Al-Maghrib on each spot trade.

Branch-based foreign exchange transactions are executed at BMCE Bank's fixing rate (non-negotiable rate). A final statement of orders awaiting execution is transmitted to the Foreign Exchange Desk on day "N" which deals with it immediately. On "N+1" in the morning, the Middle Office receives a statement comprising possible amendments to branch network positions and updates Kondor+.

## POSITIVE FAIR VALUE OF CONTRACTS (GUARANTEES)

Guarantees relating to market risks relate to "repo" agreements. The latter are securities sold under repurchase agreements in order to raise funds.

## COUNTRY RISK

In a constantly changing world and within the constraints of the Group's overseas growth strategy and regulatory requirements, the introduction of a country risk management system will enable the Group to identify, measure and control its cross-border risks.

The Country Risk unit's adopted methodology is based on the following points:



## COUNTRY RISK MANAGEMENT POLICY

The country risk management policy aims to define a framework for overseeing all overseas business activities that generate risks for the Bank. It establishes management standards and rules in order to harmonise regulatory requirements and in-company governance.

## COUNTRY RISK REPORTING

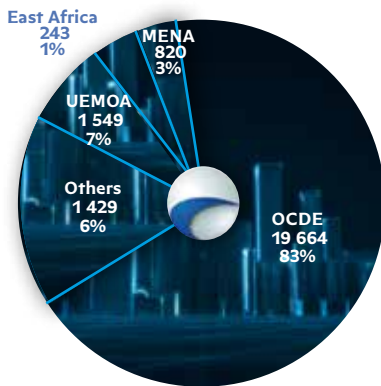
Monthly reporting by overseas subsidiaries and the parent company enables the Group Risks Division to assess each country's potential risk factors and help to establish risk-mitigation strategies.

## IDENTIFYING CROSS-BORDER RISKS

BMCE Bank Group is exposed to international risks through the various types of commitment made by the Bank to non-resident counterparties in dirhams or in foreign currencies. These include:

- Loans to non-residents
- Trade finance business
- Foreign assets
- Market operations

## BREAKDOWN OF COUNTRY RISK EXPOSURE BY GEOGRAPHICAL REGION:



## CONSOLIDATION

Country risk commitments are identified in such a way as to establish a position for each subsidiary as well as for the Group, providing an overview of the Group's overall exposure to cross-border risks.

## INTRODUCTION OF AN ALERTS SYSTEM

This system consists of monitoring regulatory, economic and financial factors by tracking all the prominent events occurring during the week. These items are disseminated to all interested parties in a Monthly Report.

An additional module monitors country risk trends and consists of specific research and in-company requests.

## RATINGS SYSTEM

BMCE Bank Group bases its country risk assessments on the ratings of external agencies such as Coface, S&P and Moody's.

## SETTING LIMITS

When establishing country limits for loan commitments, BMCE Bank Group takes into consideration:

- An assessment of an issuer's risk profile;
  - Risk appetite;
  - The breakdown and diversification of the loan portfolio of each subsidiary and of the Group, while complying with the maximum permitted concentration by country based on a percentage of Tier 1 capital.
- These limits are monitored on a permanent basis. Requests to exceed country limits are assessed on the basis of the levels of decision-making powers in force.

## STRESS TESTS

Stress tests are conducted on a regular basis to ensure that the Bank is able to withstand scenarios of extreme deterioration in country risk and to quantify the impact on the Bank's balance sheet and profitability.

## PROVISIONING

A provision is recognised for country risk whenever it materialises, in the event of debt rescheduling, a political crisis or any other factor which may negatively impact the Bank's profitability.

An annual review is systematically carried out to reassess the country supposedly in default, which may potentially require the Group to recognise a provision.

## OPERATIONAL RISK

### OPERATIONAL RISK MANAGEMENT POLICY

The Group has adopted an operational risk management policy that aims to:

- Identify, measure and evaluate operational risks;
- Control the risks and evaluate the controls;
- Steer and monitor implementation of preventive and/or corrective action for major risks.

## CLASSIFICATION

Operational risks or losses may be analysed and categorised on the basis of three factors: cause, effect (financial impact or otherwise) and event type under Basel.

## LINKS TO CREDIT AND MARKET RISKS

The management of operational risks is potentially linked to managing credit and market risks at two levels:

- At a general level, analysis of the Bank's overall level of risk aversion (in terms of allocation of capital) must be carried out and "trans-risks" monitored;
- At a specific level, some operational risks can be directly linked to market risk and credit risk management.

## OPERATIONAL RISK MANAGEMENT ORGANIZATION

The framework governing operational risk management within BMCE Group of Africa is based on two main objectives:

- Define a target policy consistent with BMCE Bank Group's business organisation inspired by best practice;
- Involve and empower business lines and subsidiaries in the day-to-day management of operational risk management.

Operational risk management at BMCE Bank Group involves four major entities:

- BMCE Bank's Group Operational Risk Department;
- BMCE Bank's branch network;
- BMCE Bank's business divisions;
- Subsidiaries.

Operational risks coordinators have been appointed by the aforementioned entities. These include:

- Operational Risk Correspondents (CRO);
- Operational Risk Coordinators (CORO);
- Operational Risk Liaison Officers (RRO).

The operational risk management's remit also extends to Group subsidiaries such as Salafin, Maghrébail, Maroc Factoring, RM Experts, BMCE Capital, Tangier Offshore (TOS), BMCE Bank International Plc, BMCE International Madrid, La Congolaise des Banques, BOA France, BMCE Euro Services and Eurafric Information (EAI), BOA France, BOA Senegal, BOA Mali, BOA Benin, BOA Ivory Coast, BOA Niger, BOA Togo, BOA Burkina Faso, BOA Madagascar, BOA RDC, BOA Mer Rouge, BOA Kenya, BOA Uganda, BOA Ghana and BOA Tanzania.

## GOVERNANCE OF OPERATIONAL RISK MANAGEMENT

Governance of operational risks within BMCE Bank Group is organised by three operational risk Committees:

- Group Operational Risk Committee – incorporated within the Group Risks Committee;
- Operational Risk Monitoring (Business Lines) Committee;
- Operational Risk (Subsidiaries) Committee.

These committees are tasked with periodically:

- Reviewing changes in operational risk exposure and in the environment for controlling such risks;
- Identifying the main areas of risk in terms of activities and risk types;
- Defining preventive and corrective action required and its monitoring to contain the level of risk;
- Reviewing the amount of capital to be allocated to operational risks, the cost of preventive action required and the cost of insurance.

## FUNDAMENTAL METHODOLOGY PRINCIPLES

BMCE Bank Group's operational risk management policy has two strategic objectives:

- Reduce exposure to operational risks;
- Optimise capital requirements relating to hedging operational risks.

The internal system for measuring operational risks is closely linked to the Group's day-to-day risk management process via:

- Collecting risk events;
- Mapping operational risks;
- Key risk indicators.

The senior management of the entity in question, General Management and the Board of Directors are regularly notified of operational risk exposure and any losses incurred.

The management system is properly documented, ensuring compliance with a formalised set of controls and internal procedures and corrective measures in the event of non-compliance.

Internal and/or external auditors are invited to periodically review management processes and systems for measuring operational risk. These audits relate to units' activities and the independent operational risk management function.

Management of operational risks at BMCE Bank Group of Africa has been entirely automated by means of specialised software. This software is used to collect risk events and map operational risks and key risk indicators by the Bank, its Moroccan subsidiaries and, increasingly, its African subsidiaries. To support its implementation, a number of awareness-raising and training initiatives were organised for operational risk staff across the entire Group.

Internal data usage will become a major feature of the in-house model for calculating shareholders' equity. Internal data must therefore satisfy the following criteria:

- **Completeness:** internal loss data take into account all activities and exposures of business lines, units and departments in all the geographical regions in question;
- **Consolidation:** historical loss data are reproduced under two categories relating to the eight types of business line and the seven risk categories advocated by the Basel Committee in accordance with properly documented objective criteria.

The operational risk management policy is liable to change as a function of developments in operational risk management methodologies.

The same is true for the Operational Risk Management Compendium which has been produced to ensure consistency in implementing policy at Group level as well as acting as a useful reference guide.

## OPERATIONAL RISK CONTROL AND MITIGATION

Several types of action may be taken to manage operational risks:

- Reinforce checks;
- Hedge risks, especially via insurance contracts;
- Avoid risks, in particular, by redeploying activities;
- Draw up business continuity plans.

BMCE Group of Africa has a very strong control policy, resulting in a significant reduction in operational risks.

However, in terms of operational risk management, over and above its risk control policy, the Group is at liberty to find the best possible solution on a case by case basis, depending on the different types of risks described above.

Additionally, the Group has insurance policies to mitigate risks such as damage to office buildings, fraud, theft of valuable items and third-party liability cover etc.

Every major risk identified is reported to the Bank's senior management and will result in a corrective and/or preventive action plan whose implementation is monitored by the Operational Risk Monitoring Committee which meets on a quarterly basis.

## RISK AGGREGATION

Under the organisational policy adopted by the Bank which is based on Operational Risk Correspondents, risk events are reported by Basel type (eight business lines) and by loss category for all business lines as well as for Group subsidiaries.

## BUSINESS CONTINUITY PLAN

The Business Continuity plan is a response to the rising demand to minimise the impact in the event of any interruption to the Bank's activities. This is due to increasing reliance on the resources underpinning those activities including human, IT or logistics resources.

The Business Continuity Plan is a set of measures and procedures aimed at ensuring that the Bank, under different crisis scenarios such as a major shock, maintains essential services in fail-soft mode on a temporary basis, prior to a planned resumption of normal operations.

The strategic principles underpinning the Business Continuity Plan are as follows:

- BMCE Bank has a moral responsibility to allow its customers access to the funds that they have entrusted to it. Any breach of this obligation in times of crisis may have an impact on public order. This principle prevails above any other;
- BMCE Bank must guarantee its commitments towards Morocco's interbank clearing system;
- BMCE Bank intends, first and foremost, to comply with all existing legal and contractual commitments entered into - relating to loans and other commitments - prior to entering into any other commitment;
- BMCE Bank intends to maintain its international credibility by guaranteeing, first and foremost, its commitments vis-à-vis foreign correspondents;

BMCE Bank of Africa Group's existing customers take priority over all others.

Services are executed in their entirety, beginning in the front-office and culminating in the back-office (e.g. from branch level up until recognition in accounting terms).

## COMPOSITION OF SHARE CAPITAL AND CAPITAL ADEQUACY

### MAIN CHARACTERISTICS OF ITEMS CONSTITUTING SHAREHOLDERS' EQUITY

At 31 December 2017, BMCE Bank's share capital stood at MAD 1,794,633,900 made up of 1,794,633,900 ordinary shares, each with a nominal value of 10 dirhams. The shares are fully paid-up. Each ordinary share entitles the holder to one voting right.

At 31 December 2017, fixed maturity subordinated debt stood at almost MAD 6.6 billion.

### MEASUREMENT OF CAPITAL ADEQUACY

BMCE Bank Group has opted for the standardised approach to calculating risk-weighted assets as prescribed by Bank Al-Maghrib (BAM) circulars:

Since 30 June 2014, capital adequacy ratios have been calculated in accordance with Basel III regulatory standards as defined by BAM.

The method for calculating capital was reviewed in the light of these new regulations and temporary measures have been adopted for a period until 2019.

The circulars governing these declarations are as follows:

- Circular No. 26/G/2006 relating to calculating capital requirements based on the standardised approach for hedging credit institutions' credit, market and operational risks;
- Circular No. 8/G/2010 relating to calculating capital requirements based on internal approaches for hedging credit institutions' credit, market and operational risks;
- Circular No. 14/G/13 relating to capital requirements for credit institutions

## COMPOSITION OF CAPITAL AND CAPITAL ADEQUACY RATIO

<b>Fonds propres de base</b>	<b>19 045 920</b>
<b>Eléments à inclure dans les fonds propres de base</b>	<b>22 295 260</b>
Capital social ou dotation	1 794 634
Réserves consolidées y compris les primes liées au capital et non compris dans les réserves latentes	14 772 499
Report à nouveau créditeur	
Résultat net bénéficiaire du dernier exercice comptable	1 139 005
Intérêts minoritaires créditeurs	4 589 122
<b>Elément à déduire des fonds propres</b>	<b>3 249 340</b>
Goodwill	852 310
Autres Ajustements des CET1	1 609 535
Immobilisations	573 559
Autres déductions	213 936
<b>Fonds propres additionnels</b>	<b>2 200 000</b>
Dettes subordonnées à durée indéterminée	2 200 000
<b>Elément à déduire des fonds propres</b>	<b>191 186</b>
Immobilisations	191 186
<b>Fonds propres complémentaires</b>	<b>7 533 434</b>
Dettes subordonnées à durée déterminée	6 580 888
Ecart de réévaluation	748 058
Réserves latentes	204 488
<b>Elément à déduire des fonds propres</b>	<b>220 186</b>
Immobilisations	191 186
Autres déductions	29 000
<b>Total</b>	<b>28 367 982</b>
<b>Capital Requirements by Risk Type</b>	<b>Déc. 2017</b>
Risk-weighted credit risks	194 544 001
Risk-weighted market risks	9 304 885
Risk-weighted operational assets	22 597 721
Total risk-weighted assets	226 446 607
Tier 1 Capital	21 054 734
Tier 1 Capital ratio	9,3%
Total admissible capital	28 367 982
Capital adequacy ratio	12.5%

BMCE Bank Group's capital adequacy ratio stood at 12.5% at 31 December 2017.



Parent company	dec-17	june-18	dec-18	june-19
Tier 1 capital	12 124	12 271	12 403	13 138
Total capital ratio	17 532	17 880	18 413	19 389
Total risk-weighted assets	127 923	128 514	128 930	132 089
Tier 1 capital ratio	9.50%	9.50%	9.60%	9.90%
Capital adequacy ratio	13.70%	13.90%	14.30%	14.70%

Group	dec-17	june-18	dec-18	june-19
Tier 1 capital	21 055	21 629	21 945	23 738
Total capital ratio	28 368	28 775	29 492	31 119
Total risk-weighted assets	226 447	232 197	237 947	247 341
Tier 1 capital ratio	9.30%	9.30%	9.20%	9.60%
Capital adequacy ratio	12.50%	12.40%	12.40%	12.60%

#### MONITORING OVERSEAS SUBSIDIARIES

The Convergence Programme's implementation phase progressed well in 2017 in line with the Group's goals. This involved new subsidiaries continuing to implement systems so as to expand geographical coverage to the entire Group.

#### CREDIT RISK MANAGEMENT SYSTEM

##### Batch 1: Organisation, scheme of delegation, steering and reporting

The roll-out of the credit risk management system was completed at 15 BOA subsidiaries (Burkina Faso, Benin, Ivory Coast, Senegal, Niger, Madagascar, Mali, Kenya, Uganda, Tanzania, Mer Rouge, Ghana, DRC, Togo and France), the Moroccan subsidiaries (Salafin. Maghrebail and Maroc Factoring), LCB and BBI London.

A number of key change management initiatives were carried out throughout 2017 at each subsidiary.

The system will be rolled out at BCB during first half 2018.

The roll out at BBI Madrid is scheduled to be completed in first half 2018.

The reengineering of 'lending' processes were completed at 14 BOA subsidiaries (Benin, Burkina-Faso, Ivory Coast, Niger, Senegal, Madagascar, Togo, Red Sea, Kenya, Uganda, DRC, Mali, Tanzania and Ghana).

The roll-out of Batch 1 at BOA Rwanda and BCB is scheduled to begin in 2018.

In addition, IT-related work on the Third-party and Group Commitments Database was completed by BMCE IT staff. This Group database is an essential tool in steering and monitoring credit risk at the consolidated level:

■ Third-party and Group Commitments data from BMCE Bank Group's 23 subsidiaries (BMCE Bank, 16 BOA subsidiaries, 3 Moroccan subsidiaries, LCB, BBI Madrid and BBI London) were integrated into the Group Commitments Database, which now covers more than 98% of the Group's commitments.

■ In addition, so as to meet Bank Al-Maghrib's regulatory requirements, Basel II/Basel III regulatory requirements for the WAEMU region and BMCE Bank Of Africa Group's internal steering needs, the Group Risks Division, working closely with the IT and Risk departments of two pilot subsidiaries, BOA Burkina Faso and BOA Benin pilots, set up a back-up solution as part of the business continuity plan for the Group Commitments Database at these two subsidiaries.

■ This back-up solution will be rolled out at other BOA subsidiaries from March 2018.

##### Batch 2: Stress tests and concentration limits

Work carried out during 2017 resulted in a new and more simplified model for managing concentration limits.

The initial results regarding concentration limits and stress tests for the BOA Benin pilot site were presented at the Risk Seminar held in May 2017.

A roll-out schedule has been approved so as to provide support to subsidiaries in 2018. A roll-out kit comprising a presentation about methodology, calculation tools and procedures regarding stress tests and concentration limits will be produced and distributed to BOA Group. The roll-out will be completed by June 2018 at the 7 WAEMU regional subsidiaries and before the end of 2018 for the remaining subsidiaries.

The roll-out at the Maroc Factoring subsidiary was completed at the end of 2017 and is scheduled for second half 2018 for the other Moroccan subsidiaries.

## OPERATIONAL RISK MANAGEMENT SYSTEM

### Batch 1: Payment means, Customer accounts management, Loans, International Operations and Accounting

The roll-out of the operational risk management system was completed at 15 BOA subsidiaries (Burkina Faso, Benin, Ivory Coast, Senegal, Niger, Madagascar, Mali, Kenya, Uganda, Tanzania, Mer Rouge, Ghana, DRC, Togo and France), the Moroccan subsidiaries (Salafin, Maghrebail, Maroc Factoring, BMCE Capital), BMCE Euroservices, LCB, BBI Madrid and BBI London.

Batch 1 operational risk mapping is scheduled for first half 2018 at BOA Rwanda.

### Batch 2: HR, IT, General means, Savings, Remote banking, Financial management, Legal, Marketing & Communications, Cash management, Debt recovery, Security & Insurance

In 2017, operational risk mapping was extended to all other remaining areas within Batch 2 and completed for all French- and English-speaking BOA subsidiaries except BOA DRC and Rwanda. The roll-out of Batch 2 operational risk mapping at the latter is scheduled for first half 2018.

The roll-out of areas not covered by BMCE Bank, the Moroccan subsidiaries and BBI London are scheduled to be finalised in early 2018.

## GROUP RISK COMMUNITY

The Group Risk Community has now reached a certain level of maturity as a result of a common set of risk policies and practices. The Group Risk Community's main achievements in 2017 were as follows:

- Training leading to the Group Risk Community's Associate in Risk Management (ARM) certificate provided by the Business Risk Academy
- The 3rd Group Risk Community Annual Seminar held in May 2017 in Casablanca to foster a risk culture across the Group.

## GROUP RISK PROJECTS STEERING

### RISK PROJECTS MANAGEMENT POLICY

The Group Risks Division centralises project steering and management and Group systems administration within a dedicated Group Risk Projects Steering unit. This provides a comprehensive overview of the progress made at the Group level in terms of the Group's cornerstone projects.

The Risk projects management policy, which is implemented across the entire Group, aims to ensure effective and efficient management of Risk projects in line with BMCE Bank of Africa Group's divisional strategy.

### Responsibilities of the Group Risk Projects Steering unit

The Group Risk Projects Steering unit, consistent with the Group Risks Division's strategy, has the following responsibilities:

- Assume a project management role for all internal and regulatory projects in relation to risk management at the Bank level
- Centralise the Group risk projects portfolio – ensure that projects are complete, identify the extent to which projects are interdependent, help select and prioritise projects, maintain a consolidated roadmap etc.
- Steer and oversee the design, production and implementation of risk management IT systems at BMCE Bank SA and at the Group's subsidiaries
- Ensure that the needs of business lines are catered for in risk projects and draw up appropriate strategies in conjunction with the Risk and TPOG functions
- Help design and improve risk management processes and procedures
- Present a project status report to the Group Risks Division's management (provide feedback on decisive issues, arbitrages and alerts and produce indicators on the consolidated projects portfolio)
- Assume day-to-day administration of the Group Commitments Database
- Monitor data reliability initiatives as part of the Risk Data Quality Committee

**Risk projects portfolio:**

The various Group Risk projects are structured into four blocks:

1. Standards and methods
2. Organisation and processes
3. IT systems
4. Risk functions

These projects relate to the work carried out by the Group Risks Division's different departments in relation to BMCE Bank SA as well as Group projects.

The Group Risks Division's project portfolio consists of about 40 projects.

A dozen or so projects were completed in 2017 while the others remain outstanding.

The main risk projects overseen in 2017 were as follows:

- Back-up solution rolled out as part of the business continuity plan for the Group Commitments Database so as to meet Bank Al-Maghrib's regulatory requirements, Basel II/Basel III regulatory requirements for the WAEMU region and BMCE Bank Of Africa Group's internal steering needs:
  - Solution rolled out at two pilot sites, BOA Burkina Faso and BOA Benin
  - To be rolled out at other BOA subsidiaries within the WAEMU region from March 2018
- Migration project from Fermat to Risk Authority (software solution for calculating capital requirements and for producing regulatory declarations):
  - Solution rolled out at BMCE Bank SA
  - To be rolled out at other BOA subsidiaries within the WAEMU region from March 2018
- Work involving cleaning up accounts in arrears within the loan downgrading system with the help of consulting firm Mazars
- Work involving the introduction of a new scheme of delegation for credit approval and overshoots
- Work involving implementing new ratings models
- Work involving stabilising and improving the OSCA solution for monitoring accounts showing anomalies

- Work involving enhancing and cleaning up the BGI incidents database – automating processes for dealing with frozen accounts and persistent overshoots

- Work involving migration towards the new version of MEGA GRC for operational risk management