

# **EFG EUROBANK ERGASIAS S.A.**

FOR THE YEAR ENDED

31 DECEMBER 2008



# Index to the Eurobank EFG Group Pillar 3 Report

)(	ection	Page
1	General information	3
	1.1 Basel II framework	
	1.2 Implementation of the Basel II framework at Eurobank EFG Group	
	1.3 Scope of Pillar 3	
	1.4 Regulatory versus accounting consolidation	
	1.5 Impediments to the prompt transfer of capital	
2	Capital management	5
	2.1 Regulatory capital - definition	
	2.2 Capital base	
	2.3 Capital requirement under Pillar 1	
	2.4 Capital requirement under Pillar 2	
3	Risk management overview	8
	3.1 Risk management	
	3.2 Risk management policies	
	3.3 Types of risk	
	3.4 Organisation	
4	Credit risk	9
	4.1 Definition of credit risk	
	4.2 Credit risk organisation	
	4.3 Credit risk reporting	
	4.4 Credit exposures	
	4.5 Past due and impaired loans	
	4.6 Provision for impairment losses	
	4.7 Standardised approach	
	4.8 Internal Ratings Based (IRB) approach	
	4.9 Credit risk mitigation	
	4.10 Securitisations	
5	Market risk	22
•	5.1 Definition and policies	
	5.2 Internal model - Value at Risk (VaR) model	
	5.3 Standardised approach for market risk	
	5.4 Equity exposures not included in the trading book	
	5.5 Interest rate risk not included in the trading book	
	5.6 Counterparty risk	
6	Operational risk	25
-	6.1 Governance	_,
	6.2 Operational risk management framework	
	6.3 Operational risk measurement	
	and the state of t	

#### 1. General information



## 1.1 Basel II framework

In 1988, the Basel Committee on Banking Supervision developed a set of rules (the Basel Capital Accord, or Basel I) regarding the capital adequacy requirements for Banks. The main focus of Basel I was on credit risk with banks being required to hold capital of at least 8% of the risk weighted assets and off balance sheet commitments. Additional rules related to trading risk were added in 1996, in a European directive related to market risk.

The need for a more risk sensitive approach to capital requirements, as well as the need to enhance the soundness and stability of the international banking system, led the Basel Committee on Banking Supervision to design a new worldwide framework known as Basel II. The new framework introduced a three pillar concept that seeks to align regulatory requirements with the economic principles of risk management.

The Basel II framework is based on three mutually re-inforcing pillars:

- Pillar 1 defines the minimum regulatory capital requirements, based on principles, rules and methods specifying and measuring credit, market and operational risk. These requirements are covered by regulatory own funds, according to the rules and specifications of Pillar 1.
- Pillar 2 addresses the internal processes for assessing overall capital adequacy in relation to risks (Internal Capital Adequacy Assessment Process ICAAP). Pillar 2 also introduces the Supervisory Review & Evaluation Process (SREP), which assesses the internal capital adequacy of credit institutions.
- Pillar 3 deals with market discipline by developing a set of disclosure requirements, which allow market participants to assess key pieces of information on the scope of application, capital, risk exposures, risk assessment processes and hence the capital adequacy of credit institutions.

In June 2006 the European Parliament and the Council, published in the Official Journal of the European Union the Capital Requirements Directive (CRD), which comprises of the following two directives:

- Directive 2006/48/EC on the taking up and pursuit of the business of credit institutions; and
- Directive 2006/49/EC on the capital adequacy of investment firms and credit institutions.

In August 2007 and following adoption of the Banking Law, which transposed the above Directives into Greek law, the Bank of Greece issued a series of acts specifying the provisions of the above law and transposing the remaining provisions of the above Directives into the New Legal and Regulatory Framework.

#### 1.2 Implementation of the Basel II framework at Eurobank EFG Group

#### 1 2 1 Credit risk

Eurobank EFG Group (the "Group") first applied the Basel II framework under the Standardised approach in January 2007 and included the respective risk asset ratio figures in its published results. Until that date the Group had been applying the Basel I rules.

In June 2008, the Group received the approval of Bank of Greece to use the Internal Ratings Based (IRB) approach to calculate the capital requirement for credit risk. Therefore, with effect from 1 January 2008 the Group applies:

- The Foundation IRB approach to calculate risk weighted assets for the corporate loans' portfolio of EFG Eurobank Ergasias S.A. in Greece (the "Bank").
- The Advanced IRB for the majority of the retail loans' portfolio of the Bank, i.e. mortgages, small business lending, credit cards and revolving credits in consumer lending.

The application of IRB covers approximately 72% of the Group's lending portfolio, excluding portfolio segments which are immaterial in terms of size and risk profile, against a 50% coverage requirement upon the first year of implementation prescribed by the Bank of Greece. The remaining portfolios of the Group are covered by plans for phased transition to the IRB approach within the next 3-4 years.

There is a permanent exemption from the IRB approach, up to 10% of risk weighted assets, for which the Standardised approach is applied. In addition to the exemption or up to 10% of risk weighted assets, permanent exemption has been granted for the following exposure classes as prescribed in the CRD:

- exposures to/or guaranteed by central governments and central banks;
- exposures to/or guaranteed by credit and financial institutions; and
- exposures to administrative bodies and non-commercial undertakings.

The Standardised approach is applied for these exposures.

For all banks using the IRB approach there is a period during which transitional capital requirements apply (known as the capital floor). Under Bank of Greece regulations the capital floor for 2008 amounted to 90% of the capital requirement under Basel I rules, whereas for 2009 the respective floor amounts to 80%. As of 1 January 2009, this is not expected to affect the Risk Weighted Assets calculation.

## 1.2.2 Market risk

The Bank uses its own internal Value at Risk (VaR) model to calculate capital requirements for market risk in its trading book, for the Bank's activities in Greece and Poland. The Bank received the official validation of its model for market risk by the Bank of Greece in July 2005. The model is subject to periodic review by the regulator.

For the measurement of market risk exposure and the calculation of capital requirements for the Bank's subsidiaries in Greece and New Europe, the Standardised approach is applied.

Furthermore, the Bank calculates and monitors the market risk of the banking book for its operations in Greece on a daily basis using the internal VaR model. For its operations abroad Eurobank EFG applies sensitivity analysis, whereas the VaR methodology is applied on a monthly basis.

## 1.2.3 Operational risk

Capitalising on the provisions of Directive 2006/48/EC (Annex X, part 4.2), the Group uses a combination of the Standardised approach (STA) and the Basic Indicator approach (BIA) to calculate the Pillar 1 regulatory capital charge for operational risk.

The Group has adopted the STA for Pillar 1 regulatory capital for operational risk for its consolidated operations and the BIA in the Ukraine.

## 1.3 Scope of Pillar 3

EFG Eurobank Ergasias S.A. is a banking institution based in Greece and is a member of EFG Group which consists of banks and financial services' companies. It's ultimate parent company, EFG Bank European Financial Group is a banking institution based in Switzerland.

The Bank is supervised on a stand alone and consolidated basis by the Bank of Greece. In addition, it is indirectly supervised by the Financial Markets Authority (FINMA), which supervises the EFG Group on a consolidated basis.

Pillar 3 disclosures are provided on a consolidated basis based on Bank of Greece Act 2592/2007 and according to the regulatory consolidation framework, which is described in the following paragraph.

#### 1. General information



## 1.4 Regulatory versus accounting consolidation

## 1.4.1 Accounting consolidation

The accounting consolidation of the Group is based on the International Financial Reporting Standards (IFRS) and more specifically IAS 27 Consolidated and Separate Financial Statements, IAS 28 Investments in Associates, IAS 31 Interests in Joint Ventures, as well as SIC-12 Consolidation - Special Purpose Entities.

Subsidiary undertakings are all entities over which the Group, directly or indirectly, has the power to exercise control over the financial and operating policies. Usually the Group holds more than half of the voting rights. The existence and effect of potential voting rights that are currently exercisable or convertible are considered when assessing whether the Group controls another entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group and are no longer consolidated from the date that control ceases.

Investments in joint ventures (contractual agreements whereby the Group and other parties undertake an economic activity that is subject to joint control) and investments in associates (investments in which the Group has a significant influence, but which it does not control, generally holding between 20% and 50% of the voting rights) are also part of the accounting consolidation scope, but are accounted for using the equity method.

The Group sponsors the formation of special purpose entities, which may or may not be directly owned subsidiaries for the purpose of asset securitisation. The entities may acquire assets directly from the Bank. These companies are bankruptcy-remote entities and are consolidated in the Group's Financial Statements when the substance of the relationship between the Group and the entity indicates that the entity is controlled by the Group.

### 1.4.2 Regulatory consolidation

The regulatory consolidation applied for reporting to the Bank of Greece follows the principles used for the accounting consolidation with certain differences, which are described below:

- Participations in insurance companies are excluded from regulatory consolidation and are accounted for using the equity method and under certain conditions partly deducted from equity (refer to paragraph 2.1).
- The investment in the associated undertaking Dias S.A. is fully consolidated under the regulatory consolidation framework.
- Financial institutions with a holding percentage of more than 10% but less than 20% are deducted from equity for the calculation of Basel II regulatory capital.
- Special purpose entities for the purpose of asset securitisation are included in the regulatory consolidation except for Karta 2005 -1 PLC, Karta APC Ltd, Karta Holdings Ltd, Karta LNI 1 Ltd and Karta Options Ltd, which fall under the securitisation framework (refer to paragraph 4.10).

The following table presents a list of the Group's subsidiaries and associated undertakings at 31 December 2008 for which regulatory consolidation is different compared to the accounting consolidation:

	Regulatory consolidation		tion	Accounting consolidation		
	Full consolidation	Equity method	Deduction from equity	Full consolidaton	Equity method	Description of Business
Subsidiary undertakings						
EFG Eurolife General Insurance S.A. (100%)		X	X	X		Insurance services
EFG Eurolife Life Insurance S.A. (100%)		X	x	X		Insurance services
EFG Insurance Services S.A. (100%)		Х		X		Insurance brokerage
S.C. EFG Eurolife Asigurari De Viata S.A (100%)		X	X	X		Insurance services
S.C. EFG Eurolife Asigurari Generale S.A (100%)		x	X	X		Insurance services
Activa Insurance S.A. (100%)		X	x	X		Insurance services
Bancpost Fond de Pensii S.A. (77,55%)		X		X		Pension fund
Karta 2005 -1 PLC				X		Special purpose financing vehicle (SIC-12)
Karta APC Ltd				X		Special purpose financing vehicle (SIC-12)
Karta Holdings Ltd				X		Special purpose financing vehicle (SIC-12)
Karta LNI 1 Ltd				X		Special purpose financing vehicle (SIC-12)
Karta Options Ltd				X		Special purpose financing vehicle (SIC-12)
Associated undertakings Dias S.A. Investment Company (25,11%)	x				x	Closed-end investment fund

Based on law 3601/1.8.2007 article 32 (solo consolidation), EFG Hellas Funding Ltd and EFG Hellas Plc are included in the calculation of capital requirements and regulatory own funds on a solo basis.

## 1.5 Impediments to the prompt transfer of capital

Subordinated loans given by the Bank to its subsidiaries, financial institutions operating outside Greece, are subject to local regulations and subsequently restrictions set by local laws and supervisory authorities. The most common of all restrictions is minimum duration (5 to 7 years in most cases) with no possibility of prepayment without prior permission by the respective supervisory authority.

#### 2. Capital management



31 December 2008

The Group holds adequate capital to cover its risks. The amount and quality of the capital held by the Group is subject to certain rules and guidelines. The composition of the Group's available regulatory capital under Pillar 1, as well as the definition of capital requirements under Pillar 2 is as follows:

## 2.1 Regulatory capital - definition

The Pillar 1 regulatory capital of the Group at consolidated level is calculated on the basis of IFRS figures and according to the rules set by the Bank of Greece, in line with the CRD.

The available regulatory capital is classified under two main categories: Tier I and Tier II capital. Tier I consists of Core and Supplementary Tier I capital. Core Tier I capital is composed of Ordinary shareholders' equity and regulatory minority interest, after deduction of:

- fixed assets' revaluation reserve formed after 31 December 2003 (transition to IFRS);
- · proposed dividends:
- · unrealised gains and losses on market valuation of available-for-sale (AFS) bonds and cash flow hedge derivatives;
- · unrealised gains on market valuation of AFS equities;
- · unrealised gains and losses on market valuation of liabilities designated as fair-value-through-profit-or-loss attributable to own credit risk;

Supplementary Tier I capital includes Preferred shareholders' equity, as well as the following deductions:

- · goodwill;
- · intangible assets;
- 50% of participating interests and subordinated loans (and other capital instruments qualifying as own funds) of more than 10% in not fully consolidated credit or other financial institutions;
- 50% of participating interests and subordinated loans (and other capital instruments qualifying as own funds) of more than 20% in insurance companies acquired or established after 31 December 2006;
- 50% of the set-off reserve account of securitisations; and
- 50% of provision shortfall (i.e. accounting provision shortage compared to IRB measurement of Expected Loss).

Expected Losses (EL) derived under Basel II rules represent losses that would be expected in a downturn scenario over a 12 month period. This definition differs from accounting loan impairment allowances, which only address losses incurred within lending portfolios at the balance sheet date and are not permitted to recognise the additional level of conservatism that the regulatory measure requires by the adoption of through-the-cycle, downturn conditions that may not exist at the balance sheet date.

Tier II capital is composed of the following items:

- long term subordinated liabilities that meet certain regulatory specified criteria.
- fixed assets' revaluation reserve formed after 31 December 2003 (transition to IFRS); and
- 45% of unrealised gains on market valuation of AFS equities;

Further to the above the following items are deducted from Tier II capital:

- 50% of participating interests and subordinated loans (and other capital instruments qualifying as own funds) of more than 10% in not fully consolidated credit or other financial institutions;
- 50% of participating interests and subordinated loans (and other capital instruments qualifying as own funds) of more than 20% in insurance companies acquired or established after 31 December 2006;
- 50% of provision shortfall;
- 50% of the set-off reserve account of securitisations; and
- 100% of participating interests of more than 20% in insurance companies acquired or established before 31 December 2006.

## 2.2 Capital base

The table below shows the Group's capital base at 31 December 2008:

	•	or Docombor Loop	
	Excluding capital floor <u>€ million</u>	Proforma <sup>(1)</sup> <u>€million</u>	Including capital floor <u>€million</u>
inary and Preferred shareholders' equity (per IFRS)	4,292	5,242	4,292
: Regulatory Minority Interest	404	404	404
s: Goodwill	(573)	(573)	(573)
s: Other regulatory adjustments	(255)	(255)	(255)
l Tier I capital	3,868	4,818	3,868
Il capital - subordinated debt	1,258	1,258	1,258
ss: Other regulatory adjustments	(100)	(100)	(100)
egulatory Capital	5,026	5,976	5,026
ighted Assets	48,375	48,375	51,630
i e			
Tier I	8.0%	8.3%	7.5%
	8.0%	10.0%	7.5%
al Adequacy Ratio	10.4%	12.4%	9.7%

For banks using the IRB approach for credit risk, there are statutory limits to the percentage by which the capital requirement may be reduced in the first two years of implementation. In 2008, the requirement may not be reduced by more than 10% of the requirement under the Basel I rules, whereas in 2009 not more than 20%. As of January 2009, this is not expected to affect the Risk Weighted Assets calculation. IRB provisions' shortfall amounts to € 166 million which is 50% deducted from Tier I capital.

The primary objectives of the Group's capital management are to ensure that the Group complies with regulatory imposed capital requirements and that the Group maintains strong credit ratings and healthy capital ratios in order to support its business and to maximise shareholders' value.

## EFG EUROBANK ERGASIAS S.A.

#### Consolidated Pillar 3 Report

#### 2. Capital management



The Group manages its capital structure and makes adjustments to it in the light of changes in economic conditions and the risk characteristics of its activities. In order to maintain or adjust the capital structure, the Bank may adjust the amount of dividend payment to shareholders, return capital to shareholders or issue capital securities (i.e. subordinated debt, hybrid capital, etc).

On 12 January 2009 the Extraordinary General Meeting approved the issue of 345,500,000 non-voting, non-listed, non-transferable 10% Preference shares, with nominal value € 2.75 each, under Law 3723/2008 'Greek Economy Liquidity Support Program' which will be subscribed to by the Greek Government. The proceeds of the issue total € 950 million and are expected to be paid shortly.

(¹) Accounting for the € 950 million new preference shares issued to the Hellenic Republic, the Core Tier I ratio improves to 8.3%, the Tier I ratio becomes 10% and the Capital Adequacy Ratio increases to 12.4%.

## 2.3 Capital requirement under Pillar 1

The table below shows the Group's capital requirements at 31 December 2008. The capital requirement under Pillar 1 is calculated as 8% of risk weighted assets.

	2008
	€million
Credit risk (pursuant Standardised approach)	
Central governments and central banks	173
Regional governments and local authorities	2
Administrative bodies & non-commercial undertakings	3
Credit and financial institutions	56
Corporate customers (excluding past due and secured by real estate property)	666
Retail customers (excluding past due and secured by real estate property)	538
Secured by real estate property (excluding past due) Past due items	157 40
Exposures in the form of covered bonds	5
Shares in undertakings for collective investment in transferable securities (UCITS)	7
Exposures belonging to high risk regulatory categories	11
Other items	182
Credit risk total, Standardised approach	1,840
Credit risk (pursuant IRB approach)	
Corporate customers	936
Retail exposures	
- Residential real estate property retail exposures	54
- Qualifying revolving retail exposures	269
- Other retail exposures	171
Equity	17
Securitisation	9
Credit risk total, IRB approach	1,456
Credit risk total	3,296
Counterparty risk	64
Market risk (pursuant Standardised approach)	
- Interest rate instruments in the trading book	7
- Equity instruments in the trading book	2
- Currencies and gold	8
Internal model approach (Value at Risk)	135
Market risk total	152
Operational risk	358
Total capital requirement excluding capital floor	3,870
Additional capital requirement according to transition rules (capital floor 90%) - no impact expected after 1 January 2009	261
Total capital requirement 31 December 2008	4,131
Regulatory Capital 31 December 2008	5,026
regulatory Suprial of Escottable 2000	3,020

# 2.4 Capital requirement under Pillar 2

The Internal Capital Adequacy Assessment Process (ICAAP) aims to identify risks that are inherent in the Group's business model, assess their materiality and allocation on an entity level, evaluate risk monitoring and mitigation processes and quantify the relevant internal capital charge where appropriate. All previous actions help ensure that the Group remains adequately capitalised on an ongoing basis. Essentially, the ICAAP is a set of well-established management processes for risk management and capital planning.

The Group's internal capital is the amount of capital it needs to hold for the purpose of absorbing potential unexpected losses deriving from its risk profile. Internal capital better represents the Group's risk profile, compared to regulatory capital, since it takes into account a wider range of risks.

Under the ICAAP, current and emerging risks at the Group level are identified and assessed in terms of their materiality. Throughout this process, relevant mitigation processes are taken into account and the origin of different risks is traced to the entities of the Group.

All categories of risk are continuously managed. The relevant framework is also continuously evaluated in order to identify ways of strengthening the risk management structure, enhance existing policies, establish new mitigation techniques or improve the internal capital charges calculation.

#### 2. Capital management



The Group has decided to use the regulatory calculation of its required capital ('Pillar I required capital') as a starting point for setting its internal capital, adjusting for additional capital where appropriate. This allows the Group to leverage its advanced infrastructure to cover a wide range of risks. Regular scenario-based simulations and stress tests are being used to assess specific risks, as well as the overall risk profile. These include simulations of historic market downturns, significant adverse changes in risk parameters, as well as an overall deterioration of the macroeconomic environment.

The risk appetite of the Group describes the maximum amount of risk, which the Group is willing to assume and is revisited formally once a year and whenever it is required.

The Group also develops forecasts on capital consumption and availability and integrates them to the strategic planning process so as to optimise capital return and allocation, whilst maintaining adequate capital levels. Alternative action plans are also developed to assess potential (including adverse) developments. Risk-adjusted metrics are being used in decision-making, product pricing and capital allocation.

The responsibility for risk management and capital management including compliance with regulatory requirements and corporate policies lies with the Group's management. The Board of Directors has oversight and ultimate responsibility for the ICAAP.

Finally, the Group's ICAAP is constantly refined to ensure high standards of capital assessment and management.

The 2008 ICAAP concludes that the Group maintains a strong capital base, high and stable earnings and robust risk management practices. As a result, the Group is in a position to support the risk profile of its balance sheet, and its business operations going forward, even under further extreme adverse conditions, should they materialise.

## 3. Risk management overview



## 3.1 Risk management

Effective risk management is a top priority, as well as a major competitive advantage, for the Group. The Group has allocated ample resources for upgrading its policies, methods and infrastructures, in order to ensure compliance with best international practices and the guidelines of the Basel Committee for Banking Supervision. The Group implements a well defined credit approval process, independent credit reviews and overall effective risk management policies for credit, market and operational risk, both in Greece and in each country of New Europe. The risk management policies implemented by the Bank and its subsidiaries, as well as by the Internal Audit and Compliance units, are reviewed annually.

#### 3.2 Risk management policies

The Group's risk management policies are formulated by the Board's Risk Committee.

The Risk Committee is appointed by the Board of Directors and is composed of the Chairman of the Board of Directors, the Chief Executive Officer, the Deputy Chief Executive Officer Wholesale Banking, the Deputy Chief Executive Officer Retail Banking, the Deputy Chief Executive Officer Risk Executive and three non-executive Directors. The Deputy Chief Executive Officer Risk Executive is Head of Risk Management.

The Risk Committee makes strategic risk management decisions to maximise earnings while identifying, assessing and minimising risks and unforeseen losses. The Risk Committee meets quarterly and reports directly to the Board of Directors, while the local Risk Committees, which meet with the same frequency in each country of New Europe, report to the Risk Committee.

## 3.3 Types of risk

The Group is exposed to various types of risk that are managed at various levels of the organisation.

The most important types of risk are:

- · credit risk:
- · market risk; and
- · operational risk.

The individual risk types are defined in the subsequent sections.

#### 3.4 Organisation

The risk management functions of the Risk Committee are performed by the Group's three operating sectors, which cover the following areas:

- Credit risk
- Market risk that covers both market and liquidity risk; and
- · Operational risk.

# Deputy Chief Executive Officer Risk Executive (Member of the Board of Directors) Credit Risk Market Risk

## Basel II IRB approach compliance for significant part of Group loan portfolios;

- Advanced IRB for all retail portfolios (consumer, mortgage, small business) and Foundation IRB for Corporate;
- Basel II IRB projects for New Europe countries in progress;
- Independent and centralised approval system;
- Systematic follow up of credits;
- Differentiated credit scoring system for consumer and small business banking, full financial and sectoral analysis for corporates;
- Disciplined provisioning policy based on independent credit rating (wholesale) and statistical portfolio behaviour (retail);
- Regular and ad hoc reporting to Senior Management (Executive Committee, Board of Directors, Executive Risk Committee) regarding progress of portfolios and evolution of provisions.

- First Greek bank with complete and validated market risk management system by local regulator (Bank of Greece), which covers both trading and banking books;
- All market risks monitored daily against approved VaR limits;
- VaR methodology used for business decisions:
- Considerable stress testing development for non normal market conditions:
- Liquidity ratios monitored on a continuous basis;
- Daily monitoring of credit risk of derivatives' positions using potential future exposure methodology;
- Interbank credit risk monitored daily through the implementation of Credit Support Annex (CSA) and Global Master Repurchase Agreements (GMRA);
- New Europe: market risk for all New Europe countries managed centrally in Greece.

## Operational Risk

- · Basel II Standardised approach;
- Documented and functioning operational risk framework & risk management system;
- Risk & control self assessment program in progress;
- Operational loss events collection system;
- Key Risk Indicator (KRI) program in progress;
- Top-down operational risk scenario analysis used for ICAAP purposes;
- Operational risk reporting system (internal & external);
- A number of operational risk mitigation programs under way throughout the Group.



## 4.1 Definition of credit risk

Credit risk is the risk of losses because counterparties fail to meet all or part of their payment obligations towards the Group. Credit risk also includes country, dilution and settlement risk.

Country risk is the risk of losses arising from economic difficulties or political unrest in a country, including the risk of losses following nationalisation, expropriation and debt restructuring.

Settlement risk is the risk arising when payments are settled, for example for trades in financial instruments, including derivatives and currency transactions. The risk arises when the Group remits payments before it can ascertain that the counterparties' payments have been received.

#### 4.2 Credit risk organisation



The diagram above depicts the organisational structure of credit risk of the Bank. The functions of each sector are described below.

The organisation of the credit risk divisions of the Group's subsidiary banks in New Europe (Bulgaria, Romania, Serbia, Poland, Turkey, Cyprus and Ukraine) also follows the model of the Bank depicted above. The Risk Executive of each subsidiary bank reports directly to Deputy Chief Executive Officer Risk Executive.

#### 4.2.1 Credit approval process

The credit approval and credit review processes are centralised both in Greece and in New Europe. The segregation of duties implies independence among the officers responsible for the customer relationship, the approval process and the disbursement, as well as monitoring of the loan during its lifecycle.

Since 2004, the Bank has been analysing corporate customer creditworthiness by using, for the big majority of the portfolio, the Moody's Risk Advisor ('MRA') model, which categorises customers according to 11 grades on a borrower rating scale. Since 2007, the overall evaluation of wholesale lending customers is based on a 14 grade rating system that takes into account the characteristics of both the obligor (borrower's rating) and the collateral or the guarantees provided.

The Credit Sector independently reviews credit proposals for large and medium size corporate entities and prepares an assessment (credit opinion) prior to their submission to the appropriate Credit Committees, in which it participates with a voting right. It also approves credits for retail customers (small business lending and mortgages) in case the total customer exposure exceeds a predefined threshold.

The loan approval process for small business lending customers (turnover up to € 2.5 million) is based on a framework of centralised procedures, clear guidelines on collateral and the 'four-eyes' principle. The evaluation is based on an analysis of the customer's financial position, past relationship with the Bank and statistical scorecards.

The consumer lending approval process is also centralised. The Bank uses advanced application and behavioral credit scoring models, as well as underwriting criteria based on sophisticated data monitoring and analysis. Each area of the Consumer Lending Business Unit and the respective products have been analysed externally to develop bespoke credit scoring models.

The mortgage lending approval process is centralised as well and is based on the customer's global exposure and income, the value of the property and the 'four eyes' underwriting standard. The Bank implements a comprehensive set of underwriting criteria, along with a statistical model for evaluating new mortgage loan applications.

Lending approval processes in all bank subsidiaries throughout New Europe comply in full with the standards applicable to the parent Bank in Greece. In order to ensure full harmonisation with Group standards and in the light of increased credit risk management demands for the corporate business in New Europe countries, International Credit Division was established in April 2008. The primary activities of the Division are:

- analysis and approval of all New Europe corporate credits in excess of the country's approval authority level, as well as review of all credit proposals submitted for approval to the Regional Credit Committee (RCC);
- creation and maintenance of all management acts relating to credit approval levels and credit processes;
- · creation, implementation and maintenance of uniform International Credit Policy in line with the Group's credit policy;
- · monitoring of corporate borrowers classified credits; and
- provision of training on corporate banking credit policies and procedures.

#### 4. Credit Risk



#### 4.2.2 Credit monitoring

Following approval, the quality of the Group's wholesale and retail banking loans in Greece and New Europe is monitored and assessed by the Credit Control Sector.

The Credit Control Sector is also responsible for monitoring the credit review policy. The Credit Control Sector operates independently from all the business units of the Bank and reports to the Deputy Chief Executive Officer Risk Executive.

The main activities of the Credit Control Sector include:

- reviewing and monitoring the performance of all loan portfolios of the Bank and those of the Group's subsidiaries;
- · conducting field reviews of the loan portfolios of all business units;
- supervising and directly controlling the risk management functions in subsidiary banks and financial institutions in New Europe;
- participating in the development, review, approval and implementation of various models designed according to the characteristics of each portfolio;
- independently validating the models and regularly monitoring and reporting on their performance;
- supervising, supporting and maintaining the Moody's Risk Advisor (MRA), which is used for the analysis of corporate customer's borrower rating (creditworthiness);
- creating, monitoring and supporting the Transactional Rating System, the system that measures the overall risk of the relationship (approved limit) taking into consideration both customer's creditworthiness and required collaterals;
- regular monitoring and quarterly reporting of the risk exposures to the Board of Directors and the Risk Committee, as well as producing various analyses;
- forming the provisioning policy and regularly reviewing the adequacy of provisions for all portfolios;
- · approving credit policies and new lending products;
- attending meetings of Credit Committees, as well as the Non-Performing Loans Committee, with a voting member right in cases of customer downgrading or upgrading; and
- the responsibility for the implementation of the Basel II IRB approach in the Group, in accordance with the roll out plan.

The Bank has set limits and controls regarding the concentration of risk to individual parties, groups or industries. Such risks are monitored on a revolving basis and are subject to quarterly or semi annual reviews and approvals by the Board of Director's Risk Committee.

#### 4.2.3 Collections

Each business unit employs a dedicated department to monitor and collect past due loans that are not yet in non-performing status. The target is to reinstate customers' solvency, reduce overall handling costs for delinquent accounts and improve the portfolio profitability by maintaining low portfolio delinquency rates and facilitating negotiations with delinquent customers. This approach is supported by a combination of experienced personnel and statistical analysis which highlights the trends and the high risk areas

The consumer lending collections operation has become a key area of focus for the Bank in recent years, and significant investments have been made both in expertise, as well as technology. As a result, subsidiary company, Financial Planning Services S.A. ('FPS'), established in 2006, is responsible for the collections of overdue consumer lending products. FPS ensures that internal and external collection resources are focused and allocated appropriately and efficiently. The installation of a customised account management system and an automated dialer has enhanced the operational efficiency of collections.

Non-performing loans are managed by the Non-Performing Loans' Sector, which reports to the Deputy Chief Executive Officer Risk Executive. It handles all the loans that have been transferred to a denounced status (excluding consumer lending). This applies for all portfolios (corporate, small business and mortgage lending), with the exception of non-performing consumer loans that are 90 days past due, which are managed by FPS. The above mentioned framework has proven successful in achieving satisfactory delinquency ratios and improvement of recovered amounts.

## 4.3 Credit risk reporting

Credit Control Sector regularly prepares a detailed analysis of information to quantify, monitor and evaluate risks, as well as provides support to implement the Risk Committee's risk management decisions. It has a fixed reporting cycle to ensure that the relevant management bodies, including the Board of Directors, the Strategic Planning and the Risk Committee, are updated on an ongoing basis of the developments in the credit portfolio.

The principal risk reports submitted to the relevant management bodies, on a quarterly basis, deal with the following topics:

The quality of the Bank's portfolio:	Analysis of provisions for impairment and losses by business unit and portfolio breakdowns by rating category, size, delinquency, industry, tenor, vintage and collateralisation (e.g. LTV bands) etc.
Large exposures:	An overview of the twenty largest exposures (for Greece and New Europe), as well as the credit limits above € 60 million
The Bank's risk management models and	Update on the use of risk models, including risk parameters applied and the key results of the models' validation
parameters:	Update on capital adequacy
	Stress testing scenarios

In addition, there are reports which are prepared on a monthly basis, in order to inform the relevant management bodies on the evolution of each business area's balances, delinquencies and provisions required.



## 4.4 Credit exposures

Credit exposures for regulatory purposes before any credit risk mitigation are significantly differentiated from equivalent balances presented in IFRS balance sheet, due to different basis of consolidation (refer to par. 1.4.2), inclusion of off balance sheet exposures and potential future exposures for derivative financial instruments, as well as inclusion of repos' collaterals. The table below shows the Group's credit exposures (before any credit risk mitigation) for regulatory purposes at 31 December 2008:

	2008 €million
Credit risk (pursuant Standardised approach)	
Central governments and central banks	24,190
Regional governments and local authorities	30
Administrative bodies & non-commercial undertakings	83
Credit and financial institutions	10,024
Corporate customers (excluding past due and secured by real estate property)	8,996
Retail customers (excluding past due and secured by real estate property)	8,939
Secured by real estate property (excluding past due)	5,066
Past due items	414
Exposures in the form of covered bonds	399
Shares in undertakings for collective investment in transferable securities (UCITS)	88
Exposures belonging to high risk regulatory categories	116
Other items	2,882
Credit risk exposures relating to off balance sheet items	707
Credit risk total, Standardised approach	61,934
- W. 1. ( ) 175	Refer to par.4.7 for exposures after
Credit risk (pursuant IRB approach)	credit risk mitigation
Corporate customers	40.007
- Corporate exposures (Foundation IRB approach)	12,837
- Retail exposures that exceed € 1 million (Advanced IRB approach)	522
Retail exposures  - Residential real estate property retail exposures	9.189
- Qualifying revolving retail exposures	4,458
- Other retail exposures	7.565
Equity	78
Securitisation	1,172
Credit risk exposures relating to off balance sheet items	3,689
Credit risk total, IRB approach	39,510
Credit risk total	101,444

The off balance sheet items included in the above exposures consist of the credit equivalent of:

- · letters of guarantee;
- standby letters of credit; and
- · undrawn credit facilities.

## 4.4.1 Geographic analysis

The table below shows the geographical break down of the Group's credit exposures at 31 December 2008, as disclosed for IFRS purposes, according to the debtor's country of domicile:

		31 December 2008				
	Greece <u>€million</u>	Other West. European countries <u>€million</u>	New Europe countries <u>€million</u>	Other countries <u>€million</u>	Total <u>€million</u>	
Loans and advances to banks Loans and advances to customers:	1,590	2,438	479	106	4,613	
- Wholesale lending	14,770	969	5,652	186	21,577	
- Consumer lending	8,310	2	3,425	1	11,738	
- Mortgage lending	10,491	336	4,036	21	14,884	
- Small business lending	7,082	0	2,007	0	9,089	
Debt securities	4,480	3,486	3,989	395	12,350	
Derivative financial instruments	507	817	85	109	1,518	
Other assets	487	17	89	0	593	
Total exposures	47,717	8,065	19,762	818	76,362	



#### 4.4.2 Industry analysis

The table below shows the industry break down of the Group's credit exposures, as disclosed for IFRS purposes at 31 December 2008:

		31 December 2008					
	Commerce and services <u>€million</u>	Private individuals <u>€million</u>	Manufacturing <u>€million</u>	Shipping <u>€million</u>	Construction <u>€million</u>	Other <u>€million</u>	Total <u>€million</u>
Loans and advances to banks Loans and advances to customers:	4,613	-	-	-	-	-	4,613
- Wholesale lending	12,431	486	5,319	1,088	1,719	534	21,577
- Consumer lending	-	11,738	-	-	-	-	11,738
- Mortgage lending	-	14,884	-	-	-	-	14,884
- Small business lending	7,240	38	918	22	671	200	9,089
Debt securities	3,348	-	34	-	1	8,967	12,350
Derivative financial instruments	1,459	-	3	26	-	30	1,518
Other assets	408	28	2	1	1	153	593
Total exposures	29,499	27,174	6,276	1,137	2,392	9,884	76,362

Credit exposure to other industry sectors includes mainly sovereign assets (debt securities and loans and advances).

## 4.4.3 Maturity analysis

The table below shows the maturity break down of the Group's credit exposures (before any provisions for impairment losses on loans) for regulatory purposes, at 31 December 2008:

	31 December 2008					
	Up to 1		3 months to 1	1 year to 5		
	month	1 to 3 months	year	years	> 5 years	Total
	<u>€million</u>	<u>€million</u>	<u>€million</u>	<u>€million</u>	<u>€million</u>	<u>€million</u>
Credit risk exposures relating to on balance sheet assets:						
Cash and balances with Central banks	3,179	861	0	0	0	4,040
Loans and advances to banks	2,910	159	3	15	171	3,258
Loans and advances to customers:						
- Wholesale lending	3,326	2,980	2,895	7,476	4,890	21,567
- Consumer lending	3,366	493	303	4,842	2,108	11,112
- Mortgage lending	65	130	417	2,133	11,905	14,650
- Small business lending	2,302	190	370	3,476	2,889	9,227
Debt securities	0	88	270	4,279	7,271	11,908
Derivative financial instruments	5	458	149	779	1,218	2,609
Repos/reverse repos	21	1,210	142	0	0	1,373
Other assets	31	74	49	154	233	541
On balance sheet exposures	15,205	6,643	4,598	23,154	30,685	80,285
Credit risk exposures relating to off balance sheet items	15	570	2,333	1,409	68	4,395
Total exposures	15,220	7,213	6,931	24,563	30,753	84,680

Credit exposures shown above do not include fixed assets, intangible assets and goodwill, whereas the total credit exposure arising from repos and reverse repos is shown separately.

## 4.5 Past due and impaired loans

## 4.5.1 Past due exposures

A financial asset is past due if a counterparty has failed to make a payment when contractually due. Exposures more than 90 days past due presented in the table below (refer to paragraph 4.5.2) include the assets for which counterparties have failed to make a contractual payment for more than 90 days, irrespective of whether the asset is considered as impaired or not.

# 4.5.2 Impaired exposures

The Group assesses at each balance sheet date whether there is objective evidence that a financial asset or group of financial assets is impaired. A financial asset or a group of financial assets is impaired and impairment losses are incurred if there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a 'loss event') and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated. Objective evidence that a financial asset or group of assets is impaired includes observable data that comes to the attention of the Group about the following loss events:

- (a) significant financial difficulty of the issuer or obligor;
- (b) a breach of contract, such as a default or delinquency in interest or principal payments;
- (c) the Group granting to the borrower, for economic or legal reasons relating to the borrower's financial difficulty, a concession that the lender would not otherwise consider;
- (d) it becoming probable that the borrower will enter bankruptcy or other financial reorganisation;
- (e) the disappearance of an active market for that financial asset because of financial difficulties; or
- (f) observable data indicating that there is a measurable decrease in the estimated future cash flows from a group of financial assets since the initial recognition of those assets, although the decrease cannot yet be identified with the individual financial assets in the group, including:
  - adverse changes in the payment status of borrowers in the group; or
  - national or local economic conditions that correlate with defaults on the assets in the group.



The Group first assesses whether objective evidence of impairment exists individually for financial assets that are individually significant and individually or collectively for financial assets that are not individually significant. If the Group determines that no objective evidence of impairment exists for an individually assessed financial asset, whether significant or not, it includes the asset in a group of financial assets with similar credit risk characteristics and collectively assesses them for impairment. Assets that are individually assessed for impairment and for which an impairment loss is or continues to be recognised are not included in a collective assessment of impairment.

The following table below presents as at 31 December 2008, total loans and advances to customers before any provisions, past due more than 90 days, impaired exposures to customers, balance of impairment, impairment charges for the year and additional provisions for the effect of the financial turmoil, broken down by major asset class:

		31 December 2008				
		Credit exposure		Provision	for impairment	losses
	Total loans	Total loans				Additional
	and					provision for
	advances to	Past due more	Impaired	Balance of	Impairment	financial
	customers	than 90 days	exposures	impairment	charges	turmoil
	<u>€million</u>	<u>€million</u>	<u>€million</u>	<u>€million</u>	<u>€million</u>	€million
Wholesale	21,577	713	767	394	49	18
Consumer	11,738	547	632	623	478	178
Mortgage	14,884	372	189	51	24	9
Small business	9,089	604	638	342	95	35
Total	57,288	2,236	2,226	1,410	646	240

In view of the worsening macroeconomic conditions the Bank has reflected the effects of the financial turmoil in the estimates of expected future cash flows as part of its loan impairment assessment. As a result, an additional collective loan loss provision amounting to € 240 million was recorded in 2008, increasing the total provision balance to € 1,410 million.

The following table presents the geographic break down of total, past due and impaired loans and advances to customers at 31 December 2008:

31 December 2008		
Total loans and Past due advances to more than 90 customers days <u>€million</u> <u>€million</u>	customers	
42,556 1,786	42.556	
14,732 450		
57,288 2,236	57,288	

## 4.5.3 Past due but not impaired exposures

Loans that are past due may not be impaired in case there is no objective evidence substantiating such an action. Based on past experience, consumer and small business loans less than 90 days past due - for mortgage loans and fully collareralised wholesale loans 180 days past due - are not considered impaired, unless specific information indicates to the contrary.

## 4.6 Provision for impairment losses

If there is objective evidence that an impairment loss on loans and receivables carried at amortised cost has been incurred, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at the financial asset's original effective interest rate. The carrying amount of the asset is reduced through the use of an allowance account and the amount of the loss is recognised in the income statement. If a loan has a variable interest rate, the discount rate for measuring any impairment loss is the current effective interest rate determined under the contract. As a practical expedient, the Group may measure impairment on the basis of an instrument's fair value using an observable market price.

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

For the purposes of a collective evaluation of impairment, financial assets are grouped on the basis of similar credit risk characteristics (i.e., on the basis of the Group's grading process that considers asset type, industry, geographical location, collateral type, past due status and other relevant factors). Those characteristics are relevant to the estimation of future cash flows for groups of such assets by being indicative of the debtors' ability to pay all amounts due according to the contractual terms of the assets being evaluated.

Future cash flows in a group of financial assets that are collectively evaluated for impairment are estimated on the basis of the contractual cash flows of the assets in the group and historical loss experience for assets with credit risk characteristics similar to those in the group. Historical loss experience is adjusted on the basis of current observable data to reflect the effects of current conditions that did not affect the period on which the historical loss experience is based and to remove the effects of conditions in the historical period that do not exist currently.

Estimates of changes in future cash flows for groups of assets should reflect and be directionally consistent with changes in related observable data from period to period (for example, changes in unemployment rates, property prices, payment status, or other factors indicative of changes in the probability of losses in the group and their magnitude). The methodology and assumptions used for estimating future cash flows are reviewed regularly by the Group to reduce any differences between loss estimates and actual loss experience.

When a loan is uncollectible, it is written off against the related provision for loan impairment. Such loans are written off after all the necessary procedures have been completed and the amount of the loss has been determined. Subsequent recoveries of amounts previously written off decrease the amount of the provision for loan impairment in the income statement.

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



24 December 2000

The table below presents the movement of the provision for impairment losses on loans and advances for the year ending 31 December 2008:

	31	31 December 2008			
	Individual impairment <u>€million</u>	Collective impairment <u>€million</u>	Total impairment <u>€million</u>		
nce at 1 January 2008	581	450	1,031		
ent losses on loans and advances charged in the year	119	527	646		
llective provision for future effect of financial turmoil	-	240	240		
covered during the year	3	30	33		
ten off during the year as uncollectible	(117)	(415)	(532)		
change differences	(3)	(5)	(8)		
31 December 2008	583	827	1,410		

### 4.7 Standardised approach

The Group applies the Standardised approach for all subsidiaries exposures and for a part of the Bank's retail loans. Moreover, the Standardised approach is applied for credit exposures with sovereign and institutional counterparties, as well as with corporate bond issuers, for which a permanent exemption has been granted by the Bank of Greece.

Credit ratings are retrieved from External Credit Assessment Institutions (ECAIs), such as Moody's or Standard & Poor's or Fitch. In the cases where more than one rating is available, the second better rating is used.

ECAIs are not used for loans' portfolios directly, but only in cases when they are guaranteed by central governments or institutions (risk substitution). In such a case the ECAIs used are the same as the ones described above.

In the case of corporate bond issues, the corresponding issue rating by these agencies is used. In case that an issue rating is not available, rating for other issues by the same issuer is used, if they relate to an exposure with equal or better seniority. Furthermore, the issuer's rating is used if the seniority of the corporate bond exposure is higher than that of a senior unsecured issue.

The table below presents the credit exposures (after credit risk mitigation, i.e. collaterals) for which the standardised approach is applied, at 31 December 2008, broken down by supervisory risk weights:

		Supervisory risk weightings - 31 December 2008						
	0% <u>€million</u>	10% - 20% <u>€million</u>	35% <u>€million</u>	50% <u>€million</u>	75% <u>€million</u>	100% <u>€million</u>	150% <u>€million</u>	Total <u>€million</u>
Credit risk (pursuant Standardi	sed approach)							
Central governments and central banks	11,484	105	-	151	-	2,070	-	13,810
Regional governments and local authorities	-	-	-	0	-	30	-	30
Administrative bodies & non-commercial undertakings	-	-	-	82	-	-	-	82
Credit and financial institutions	2,586	1,880	-	604	-	246	24	5,340
Corporate customers	-	238	-	219	-	8,274	17	8,748
Retail customers	-	-	-	-	8,986	-	-	8,986
Secured by real estate property	-	-	3,949	1,166	-	-	-	5,115
Past due items	-	-	-	7	-	213	189	409
Exposures in the form of covered bonds	-	399	-	-	-	-	=	399
Shares in undertakings for								
collective investment in transferable securities (UCITS)	-	-	-	-	-	88	-	88
Exposures belonging to high risk regulatory categories	-	-	-	-	-	74	42	116
Other items	535	110	-	-	-	2,239	-	2,884
Total	14,605	2,732	3,949	2,229	8,986	13,234	272	46,007

Credit exposures shown in the above table do not include goodwill, intangible assets and participations in insurance companies that are deducted from regulatory own funds.



## 4.8 Internal Ratings Based (IRB) approach

#### 4.8.1 Risk classifications

The Bank's risk classifications can be divided into the following main categories:

- rating of large corporate and medium size customers; and
- · credit scores assigned to retail customers.

## (a) Rating of large corporate and medium size customers

The Bank has decided upon the differentiation of rating models for corporate banking, in order to better reflect the risk for customers with different characteristics. Hence, various rating models are employed for a number of general, as well as specific customer segments:

- · Traditional corporate lending:
- Moody's Risk Advisor (MRA).
- Internal credit rating for those customers that cannot be rated by MRA.

MRA is a rating system that aggregates quantitative and qualitative information on individual obligors to perform the assessment of their creditworthiness and determine the credit rating for the obligor. It takes into account the company's past and forecasted financial performance, its cashflows, industry sector trends, peers' performance, as well as qualitative assessment of management, the company's status, market and industry structural factors.

MRA is used for the assessment of all legal entities with full financial statements' availability irrespective of their legal form, for both obligors and corporate guarantors. Certain types of companies cannot be analysed with MRA due to the special characteritsics of their financial statements such as insurance companies, state owned organisations, brokerage firms, companies active in real estate and start ups.

In such cases an internal credit rating system is applied. It is based on the system employed by the Bank prior to MRA implementation and it has been enhanced so as to improve its granularity and comply with borrower rating criteria. It is an expert judgment borrower rating system and, similarly to MRA, it combines quantitative and qualitative assessment criteria.

Customers are classified with respect to their credit worthiness to 11 rating categories. Categories 1 to 3 correspond to low risk customers, whereas categories 4 to 6 to customers with medium credit risk. Categories 7 to 9 apply to customers with higher risk who are monitored more closely. Categories 10 and 11 apply to non-performing exposures and write offs respectively.

· Specialised lending (shipping and project finance): slotting methodology.

For the specialised lending portfolios fulfilling the criteria set out by CRD i.e. the primary source of repayment of the obligation is the income generated by the asset(s), rather than the independent capacity of the commercial enterprise, the Bank utilises the slotting method by adapting and refining the new accord criteria to the Bank's risk practices. Customers falling in the specialised lending category (shipping, project finance) are classified in 5 categories: strong, good, satisfactory, weak and default. Each of the 5 categories is associated with a specific risk weight and EL percentage.

The fundamental standards underlying the Group's centralised loan approval and rating processes are to review the global exposure of the customer and to use the 'four-eyes' principle, which requires each credit limit/rating to be evaluated by more than one individual. Ratings are approved by Credit Committees according to the level of exposure involved and each committee has its own specific approval limit. Ratings of customers whose exposure exceed Credit Committees' thresholds are reviewed by the Group's Central Committee. The Credit Committees are composed of senior managers from different business units, as well as from risk management and each committee has its own independent chairman.

As a general rule, each corporate customer is rated separately. For major corporate customers – where it is customary to assign a rating based on the customer's affiliation to a group or parent company – the rating of the parent company is transferred to the subsidiaries, if the Group believes that the parent company can and will guarantee the fulfilment of the obligations of its subsidiaries.

The rating systems described above are an integral part of the corporate banking decision making and risk management processes. The ratings and associated probablities of default are crucial in:

- the credit approval process, both at the origination and review process;
- the calculation of Economic Value Added (EVA) and risk-adjusted pricing; and
- the quality assessment of issuers of cheques prior to their pledge as collateral.

## (b) Credit scores assigned to retail customers

The Bank assigns credit scores to its retail customers. A number of statistically based models have been developed to predict, on the basis of available information, the probability of default, loss given default and credit exposure as defined for regulatory purposes.

Apart from the application scorecards that are in use for over a decade by the Bank in retail lending, behavioral scoring models have been developed per product category as follows:

- Credit cards
- Open line (consumer lending unsecured revolving credits)
- · Small business loans
- Mortgages

The models were developed in cooperation with specialised companies with international presence, based on the Bank's historical data and credit bureau data. Behavioral scores are calculated automatically on a monthly basis, thus ensuring that credit risk assessments are up to date.

The models are used in the credit approval process, in credit limit management, as well as in the collections' process for the prioritisation of the accounts in terms of handling. Furthermore, the models have been often used for the segmentation of the customers for various marketing activities (i.e. cross-selling, up-selling). They are also utilised for risk based pricing in particular segments or new products introduced. In 2008, pilot programmes for extending their use in risk adjusting pricing have been initiated.

All of the above processes are centralised and based on the 'four-eyes' principle.

Retail exposures are grouped into homogeneous pools (refer to credit risk measurement in paragraph 4.8.3(e)).

#### 4. Credit Risk



### 4.8.2 Rating process and models' monitoring

The Bank considers the process and periodic review of credit policy implementation to be of critical importance, as they enable both the integration of the latest market information and analysis into the decision process and ensure the necessary uniformity in the face of the customer. Accordingly, a comprehensive credit policy manual is utilised on the extension and monitoring of credit, detailing the guiding principles, as well as specific rules relating to lending policies.

Credit exposure is subject to detailed reviews by the appropriate approval level of the Bank based on the respective ratings. Low risk corporate customers are reviewed at least once a year, whereas higher risk customers are reviewed either on a semi annual (watchlist, e.g., deterioration of financial conditions of the customer or market, delays in payments of principal/interest) or quarterly basis (substandard and distressed). High risk corporate customers with an exposure over €1 million rated as distressed are followed up by the Non-Performing & Special Handling Sector. Moreover, corporate customers rated as watchlist or substandard are monitored by the business units with the collaboration of the Corporate Risk Monitoring Division, which is under Corporate Banking Sector. All high risk corporate customers with exposures over €5 million are reviewed by the Special Handling Committee on a weekly basis.

The credit rating process is also monitored by the Credit Control Sector in the following ways: with a member's voting right, in cases of downgrading or upgarding the customer's rating (thus ensuring its accuracy) while attending Credit Committees and with post approval control and evaluation of all credit portfolios. Credit Control Sector evaluates the quality of the portfolios through field reviews (case by case) for corporate lending and statistical analysis for retail lending.

Credit Control Sector also independently monitors the capacity of rating models and scoring systems to classify customers according to risk, as well as to predict the number of defaults, loss given default and credit exposure as defined for regulatory purposes.

The Bank's validation policy follows a procedure that complies with the recommendations of the Committee of European Banking Supervisors (CEBS). The Bank verifies the validity of the rating models and scoring systems on an annual basis and the validation includes both quantitative and qualitative aspects.

The quantitative validation includes statistical tests relating to the following:

- · Model stability reports such as population stability, comparison of actual and expected score distributions and characteristic analysis.
- Discriminatory power of rating models i.e. the ability to distinguish default risk on a relative basis.
- Accuracy, i.e. comparison of ex ante probabilities of default and other risk parameters and ex post observed default/loss/credit exposure as defined for regulatory purposes level.

The validation of risk parameters is based on historical in house data utilising confidence intervals or market data/benchmarks, where such benchmarks exist. The qualitative assessment includes the use of the models, data, model design, structures and processes underlying the rating systems. In addition to the annual validation of the models, the Bank has established a quarterly monitoring procedure to assess the significance of any changes.

Procedures are documented and regularly reviewed. Group Internal Audit reviews the validation yearly.

#### 4.8.3 Credit risk measurement

The credit risk framework is articulated around two measures: expected loss (EL) and unexpected loss (UL) for credit risk.

- EL is the expected annual credit loss over an economic cycle.
- UL is defined as the volatility (or one standard deviation) of annual losses. If losses always equalled their expected levels then there would be no uncertainty. UL outlines the risk arising from volatility in loss levels and thus in earnings.

The core credit risk parameters included in the estimation of expected loss, unexpected loss and credit risk weighted assets are: Probability of Default (PD), Loss Given Default (LGD), credit exposure as defined for regulatory purposes (EAD) and Effective Maturity (M).

## (a) Probability of Default (PD)

The PD represents the probability that a customer will default on his credit obligation within the next 12 months. The definition of default used by the Bank is consistent with the requirements of the CRD and Bank of Greece.

The Bank's historical default data have been used in developing PD estimates. For each grade or pool, the long term average default rate is used as reference when assessing the PD values.

Under the Bank's validation framework, models are validated at least annually and in particular, the expected versus actual PDs are calculated on a monthly basis. This back testing is performed in order to timely identify possible misalignments of the model or possible reverse trends of the PDs. In this way, the Bank reassures that the PDs used are representative of the portfolios' quality and no underestimation underlies the information disclosed.

## (b) Loss Given Default (LGD)

LGD represents the loss on an exposure after a customer defaults. It is expressed as a percentage of the exposure that the Bank expects to lose at the point of default .

The first step in the development process of behavioral LGD models or segments for the Retail portfolios of the Bank was to calculate realised (historical) LGD. Data was collected and realised losses were calculated taking into account the concept of economic loss. To calculate historical LGD values for retail exposures, the workout LGD method was employed.

The statistical modelling technique employed for the development of behavioral LGD models for consumer lending was Stepwise Linear Regression. This technique is used to first select the most predictive characteristics, and then to determine the weights for each variable. For the remaining portfolios the segmentation approach was used for estimating the LGD, based on material loss drivers.

When determining the final parameter, the Bank allows for uncertainty in the data and also applies an additional margin for economic downturn, by reference to external data

For corporate lending which is under Foundation IRB, the supervisory LGD parameters are applied.

## (c) Credit exposure as defined for regulatory purposes (EAD)

For estimating credit exposures for regulatory purposes, future draw downs are taken into account through the use of Credit Conversion Factors (CCFs).

This is meaningful only for products with a risk of drawings that is loan commitments, credit cards and the like, as ordinary loans do not involve a risk of future drawings. Conversion factors are influenced by the Bank's ability to identify slow paying borrowers at an early stage and reduce their access to additional drawings.

CCF estimates for the retail portfolios of the Bank are based on the Bank's historical data. As in the LGD estimation, the Bank employed statistical modelling techniques for consumer lending products (credit cards and open line) and segmentation analysis for small business revolving and overdraft facilities, based on key drivers.



It is noted that in some cases credit exposure as defined for regulatory purposes is observed to be lower than the current balance outstanding. In these cases a capping has been applied at the pool design stage and credit exposure as defined for regulatory purposes has been set to equal current balance outstanding, as stipulated by CRD, thus allowing for an additional margin of conservatism.

For corporate lending which is under Foundation IRB, the supervisory CCF parameters are applied.

## (d) Effective Maturity (M)

For corporate lending which is under Foundation IRB, the supervisory parameter is applied (i.e. 2.5 years).

## (e) Pools (retail asset classes)

For retail lending portfolios, after building the models, ratings have been defined for the risk parameters (PD, LGD and CCF) with the purpose of smoothing out fluctuations by score in the development sample and help the derivation of statistically reliable estimates of the relationship between the score and PD, LGD and CCF, respectively.

The functional relationship between the score and the risk parameter was used to create a harmonised rating scale of PD, LGD and CCF across all retail portfolios. For example, the harmonised PD Rating 1 corresponds to the same PD range regardless of unit, product or scorecard in use.

Rated exposures have been assigned into particular pools, each containing groups of sufficiently homogenous exposures to allow for accurate and consistent estimation of loss characteristics at pool level.

Pools' setting for the retail lending portfolios was driven by a number of segmentation variables (product, financial status, time on books, current delinquency status, etc), as well as the score. All these provide for a meaningful differentiation of risk as the score is based on the assessment of numerous variables (borrower and transaction characteristics).

Back testing and comparison analysis with external data, where available, are conducted at least annually to validate the risk parameters' estimations and pools, as described in rating process and models' monitoring in paragraph 4.8.2.

The Group has received approval for using the internal rating models and all detailed validations of the parameters were submitted to and reviewed by the regulator, as part of the IRB approval process.

#### 4.8.4 Exposures subject to IRB approach

The following table shows the credit exposures after guarantees' deduction as defined for regulatory purposes, subject to the IRB approach, broken down by supervisory asset classes at 31 December 2008:

Credit risk (pursuant IRB Approach) Corporate customers	2008 €million
- Corporate exposures (Foundation IRB approach) and specialised lending (Slotting methodology)	14.487
	, -
- Retail exposures that exceed € 1 million (Advanced IRB approach)	526
Retail exposures	
- Residential real estate property retail exposures	9,189
- Qualifying revolving retail exposures	5,828
- Other retail exposures	7,719
Equity	78
Securitisation	1,172
Credit risk total, IRB approach	38,999

The following table shows credit exposures after guarantees' deduction as defined for regulatory purposes and the corresponding weighed average risk weight, weighted average probability of default (PD) or weighted average expected loss (EL), broken down by PD band at 31 December 2008:

	-	Corporate exposures (Foundation IRB)			Retail exposures that exceed €1 million (Advanced IRB)			
PD bands	Weighted average PD %	€million	Weighted average risk weight %	€million	Weighted average risk weight %	Weighted average EL %		
0.00% - 0.03%	0.03%	2,644	14%	11	7%	0.01%		
0.03% - 0.50%	0.31%	1,352	48%	49	19%	0.07%		
0.50% - 1.00%	0.98%	1,732	84%	124	25%	0.13%		
1.00% - 2.00%	1.87%	1,507	101%	105	40%	0.31%		
2.00% - 3.00%	-	-	-	16	48%	0.57%		
3.00% - 4.00%	3.06%	2,247	102%	9	38%	0.55%		
4.00% - 5.00%	4.36%	1,790	112%	22	50%	0.88%		
5.00% - 10.00%	8.36%	1,559	142%	73	46%	1.09%		
10.00% - 20.00%	16.50%	286	170%	31	60%	2.13%		
20.00% - 30.00%	21.61%	37	212%	18	92%	4.95%		
30.00% - 50.00%	-	-	-	22	81%	6.30%		
50.00% - 99.99%	<u></u> _	-	<u> </u>	29	50%	10.58%		
Sub total - non defaulted	2.91%	13,154	84%	509	41%	1.50%		
100.00%		553	0%	17	0%	27.96%		
Total	_	13,707	81%	526	39%	2.32%		



The table below presents the specialised lending credit exposures (shipping and project finance) broken down by supervisory risk weights:

Weights	2008 <u>€million</u>
50%	401
70%	298
90%	82
115%	-
250%	-
Total	781

The following table shows credit exposures as defined for regulatory purposes and the corresponding weighted average risk weight and weighted average expected loss (EL), broken down by PD band at 31 December 2008:

	Residenti	al real estate pro	perty retail	Ouglifying	rovelvina retail ev		Otho	u notoil ovenouse	
		exposures		Qualifying revolving retail exposures		Otne	r retail exposure	S	
		Weighted	Mainlete d		Weighted	Mainbead		Weighted	Mainbead
		average risk	Weighted		average risk	Weighted		average risk	Weighted
PD bands	€million	weight %	average EL %	€million	weight %	average EL %	€million	weight %	average EL %
r D ballus	Cillinon	/0	70	Cililion	70	70	Cililion	70	70
0.00% - 0.03%	2,006	1%	0.003%	141	1%	0.01%	334	1%	0.004%
0.03% - 0.10%	3,238	2%	0.005%	211	2%	0.02%	345	2%	0.005%
0.10% - 0.50%	1,976	4%	0.02%	684	8%	0.15%	717	11%	0.06%
0.50% - 1.00%	447	10%	0.06%	1,224	15%	0.34%	959	19%	0.16%
1.00% - 2.00%	305	14%	0.11%	562	33%	0.89%	1,254	29%	0.34%
2.00% - 3.00%	290	24%	0.26%	757	54%	1.69%	590	38%	0.68%
3.00% - 4.00%	-	-	-	324	63%	2.16%	225	27%	0.62%
4.00% - 5.00%	183	33%	0.45%	309	82%	3.08%	502	41%	1.18%
5.00% - 10.00%	199	44%	0.82%	542	110%	4.85%	732	32%	1.37%
10.00% - 20.00%	93	57%	1.61%	436	158%	9.22%	589	46%	3.27%
20.00% - 30.00%	166	60%	2.01%	103	213%	17.84%	258	53%	5.09%
30.00% - 50.00%	70	61%	3.66%	99	229%	27.11%	393	62%	8.03%
50.00% - 99.99%	78	22%	8.11%	187	185%	45.43%	326	37%	11.16%
100%	138	-	10.00%	249	-	83.99%	495	-	41.23%
Total	9,189	7%	0.35%	5,828	58%	7.64%	7,719	28%	4.30%

The following table presents the impairment losses, by asset class subject to the IRB approach, charged in the year ending 31 December 2008:

		December 2008	31	
	Corporates /			
	Retail		Qualifying	
	exposures		revolving	Residential real
	that exceed €	Other retail	retail	estate property
Total	1 million	exposures	exposures	retail exposures
<u>€million</u>	<u>€million</u>	<u>€million</u>	<u>€million</u>	<u>€million</u>
550	41	83	403	23

The following table presents the equity exposures, broken down by risk weights at 31 December 2008:

Weights	2008 <u>€million</u>
190%	8
290%	70
370%	-
Total	

## 4.9 Credit risk mitigation

Impairment losses

A key component of the Group's business strategy is to reduce risk by utilising various risk mitigating techniques. The most important risk mitigating means are collaterals' pledges, guarantees and netting arrangements in master agreements for derivatives.

## 4.9.1 Types of collateral commonly accepted by the Bank

Internal policies include specific instructions for the collateral types that could be accepted:

- residential real estate, commercial real estate and land;
- receivables (trade debtors) and post dated cheques;
- financial collateral, listed shares, listed bonds and other specific securities accepted;
- deposits;
- guarantees and letters of support;
- insurance policies; and
- machinery and equipment, vehicles and vessels.

For each collateral type, a specific coverage ratio is specified in our policies.

For Treasury exposures (i.e. repos, reverse repos, derivatives, etc) the Group accepts only cash or liquid bonds as collaterals.

#### 4. Credit Risk



## 4.9.2 Valuation principles of collateral

For loan products, the valuation principle for collateral is regarded as a conservative approach, taking long term market value and volatility into account when defining the maximum collateral ratio. Valuation and hence eligibility is based on the following principles:

- · Market value is assessed; markets must be liquid, quoted prices must be available and the collateral is expected to be liquidated within a reasonable time frame.
- A reduction of the collateral value is considered if the type, location or characteristics (such as deterioration and obsolescence) of the asset indicate uncertainty regarding the sustainability of the market value.
- Forced sale principle; assessment of market value or the collateral value must reflect that realisation of a collateral in a distressed situation is initiated by the Bank.
- · No collateral value is assigned if a pledge is not legally enforceable.

Real estate properties for all units are valued by Eurobank Property Services S.A., a subsidiary of the Bank, that reports to the Deputy Chief Executive Officer Risk Executive. Internal or external qualified appraisers are used in accordance with the standards set by the subsidiary. All appraisals take into account, among other things, the region, age and marketability of the property, and are further reviewed and countersigned by experienced staff of the subsidiary. The centralisation and standardisation of the property collateral valuation process ensures maximum objectivity. Valuations of real estate properties have to be reviewed within two to three years, so as to reflect current market conditions. In 2006, we initiated a project in collaboration with other banks in Greece to develop a real estate property index (Prop. Index) for residential property. The methodology, which was developed by a specialised statistical company, has been approved by the Bank of Greece and its use enables a dynamic monitoring of property values and market trends.

For the monitoring of post dated cheques valuation, the Bank uses advanced statistical reports on a monthly basis with detailed information regarding recoverability of cheques, referrals and bounced cheques, per issuer broken down by business unit (corporate and small business banking).

In case of reverse repos, the bonds received as collateral are valuated on a daily basis by the official valuation system. All these are monitored via credit exposure measurement system that takes into account the specific characteristics of every contract.

#### 4.9.3 Collateral policy and documentation

For loan products, Group instructions emphasise that practices and routines followed are timely and prudent in order to ensure that collateral items are controlled by the Group's entities and that the loan and pledge agreement, as well as the collateral is legally enforceable. Thus, the Group's entities hold the right to liquidate collateral in the event of the obligor's financial distress and can claim and control cash proceeds from a liquidation process.

The Group uses to a large extent standard loan and pledge agreements, ensuring legal enforceability.

The application of CSA (Credit Support Annex) and GMRA (Global Master Repurchase Agreements) contracts determines the cash that should be paid or received in case of derivatives and repos contracts.

#### 4.9.4 Guarantees and credit derivatives

The guarantees used as credit risk mitigation by the Group are largely issued by central and regional governments in the countries in which it operates. Banks and insurance companies are also important guarantors of credit risk.

The Bank enters into credit derivative transactions with both retail and investment banks. The lowest counterparty rating is A, whereas the average counterparty rating is AA (Standard & Poor's rating scale).

Only eligible providers of guarantees and credit derivatives can be recognised in the Standardised and Foundation IRB approach for credit risk. All central governments, regional governments and institutions are eligible. Guarantees issued by corporate entities can only be taken into account if their rating corresponds to A- (Standard & Poor's rating scale) or better.

## 4.9.5 Netting ageements

The Group further restricts its exposure to credit losses by entering into master netting arrangements with counterparties with which it undertakes a significant volume of transactions. Master netting arrangements do not generally result in an offset of balance sheet assets and liabilities, as transactions are usually settled on a gross basis. However, the credit risk is reduced by a master netting agreement to the extent that if an event of default occurs, all amounts with the counterparty are terminated and settled on a net basis. The Group's overall exposure to credit risk on derivative instruments subject to master netting arrangements can change substantially within a short period, as it is affected by each transaction subject to the arrangement.

For treasury exposures the Group uses standardised ISDA (International Swaps and Derivatives Association) contracts and GMRA contracts for the application of netting agreements on derivatives and repos, respectively. An exposure measurement system is used for the daily monitoring of the net exposure after netting application and collateral exchange.

## 4.9.6 Concentration risk on collaterals

For loan products, the most commonly accepted collaterals for credit risk mitigation purposes is real estate and post dated cheques. The corporate and small business banking portfolios are covered at 44% and 63% respectively. Consumer loans are not collateralised, except for car loans where the Bank retains ownership until full loan repayment. Mortgage loans are fully collateralised.

The Bank does not undertake significant market or credit risk on collaterals of Treasury transactions. In case of cash collateral in foreign currency transactions, the Bank manages the respective foreign exchange exposure accordingly.

Furthermore since the Bank uses GMRAs for the risk mitigation of repos and reverse repos, the market risk exposure is minimal. In case of reverse repo transactions the Bank generally accepts Greek government issues (A rated issues) as collaterals. The collateral amount on corporate bonds is immaterial.



## 4.9.7 Analysis of collaterals

The table below show collateral received broken down by primary type of collateral at 31 December 2008:

	31 December 2008					
	Recognized financial collateral <u>€million</u>	Real estate property <u>€million</u>	Guarantees <u>€million</u>	Other collaterals <u>€million</u>	Credit Derivatives <u>€million</u>	Total <u>€million</u>
Credit risk (pursuant Standardised approach)						
Central governments and central banks	11,140					11,140
Administrative bodies & non-commercial undertakings	1	-	-	-	-	1
Credit and financial institutions	4,973	-	-	-	-	4,973
Corporate customers (excluding past due and secured by real estate property)	615	-	39	-	-	654
Retail customers (excluding past due and secured by real estate property)	178	-	12	-	-	190
Secured by real estate property (excluding past due)	-	7,636	-	-	-	7,636
Past due items	4	141	-	-	-	145
Credit risk total, Standardised approach	16,911	7,777	51		-	24,739
Credit risk (pursuant IRB approach)						
Corporate customers						
- Corporate exposures	834	2,206	61	1,225	-	4,326
- Retail exposures that exceed € 1 million	46	454	3	56	-	559
Retail exposures						
- Residential real estate property retail exposures	41	9,148	-	-	-	9,189
- Other retail exposures	577	3,851	62	721	-	5,211
Credit risk total, IRB approach	1,498	15,659	126	2,002	-	19,285
Credit risk total	18,409	23,436	177	2,002	-	44,024

#### Note:

- 1. The value of collaterals shown above is the allocated value of securities.
- 2. For real estate property the lower between market value and the pledged amount is considered.
- 3. Specialised lending exposures covered by vessels of € 506 million are not included in the table above.

## 4.10 Securitisations

# 4.10.1 Bank's objectives and role

The Bank has securitised various financial assets. Up to August 2007 the objective of the Bank in each of its securitisation transactions was to convert illiquid receivables to "tradeable" securities, to be placed with investors for long-term funding. Since then the objective of the Bank in each securitisation transaction is to convert illiquid receivables to 'tradeable' securities that are eligible for European Central Bank (ECB) financing.

In all the securitisation transactions the Bank acts, among other, as the Originator, the Servicer and the Sponsor. The Bank also provides the issuer with the subordinated reserve loan in order to fund the reserve account up to the initial required amount.

## 4.10.2 Methodology for risk weightings

The Bank applies the Ratings Based Approach (RBA) for the risk weighting of asset backed securities. According to this approach the risk weight factor that applies is a function of the rating and seniority of the security.

# 4.10.3 Accounting policies

The Group sponsors the formation of special purpose entities, which may or may not be directly owned subsidiaries for the purpose of asset securitisation. The entities may acquire assets directly from the Bank. These companies are bankruptcy-remote entities and are consolidated in the Group's Financial Statements when the substance of the relationship between the Group and the entity indicates that the entity is controlled by the Group.

The Group securitises various financial assets, which generally results in the sale of the assets to special purpose entities, which, in turn issue securities to investors. Interests in the securitised financial assets may be retained in the form of subordinated tranches or other residual interests.



## 4.10.4 Securitised exposures

The following table presents the securitised initial exposures of the Group, as well as the outstanding balance of the notes issued at 31 December 2008:

31 December 2008				
Securitised				
initial	Outstanding			
exposures	balance			
<u>€million</u>	<u>€million</u>			

Credit Card Asset Backed Securities (Karta - July 2005)

750 1,009

The following table presents the impaired or contractually past due more than 90 days exposures, as well as the losses incurred by the Group at 31 December 2008:

04 D 1 0000					
31	December 2008				
Impaired or cont	ractually past				
due expo	sures				
Retained	Not retained	Losses			
exposures	exposures	incurred			
<u>€million</u>	<u>€million</u>	€million			

Credit Card Asset Backed Securities (Karta - July 2005)

38 36

The following table presents the investor and the transferor interest for revolving securitisation exposures at 31 December 2008:

31 December 2008				
Investor	Trasferor			
interest	interest			
<u>€million</u>	€million			

Credit Card Asset Backed Securities (Karta PLC - July 2005)

750 259

The following table presents the risk weights of the retained and the purchased securitised exposures of the Group, based on the IRB approach, at 31 December 2008:

	2008 <u>€million</u>
Risk weight: to 10%	951
Risk weight: over 12% to 18%	191
Risk weight: over 20% to 35%	3
Risk weight: over 50% to 75%	26
Risk weight: over 100% under 250%	1
Total	1,172

 $For securitisation\ exposures\ the\ Group\ uses\ one\ or\ more\ of\ the\ following\ external\ rating\ agencies:\ Moody's,\ Standard\ \&\ Poor's\ and\ Fitch.$ 

#### 5. Market Risk



2008

### 5.1 Definition and policies

Market risk is the potential loss occuring from changes in interest and foreign exchange rates, share and commodity prices, as well as market volatilities.

In order to ensure the efficient monitoring of market risks that emanate from its overall activities, the Group adheres to certain principles and policies. The objectives of the market risk policies applied by the Group are to:

- establish an effective market risk monitoring and management framework at Group level;
- ensure regulatory compliance; and
- · create a competitive advantage over competition through more accurate assessment of the risks assumed.

### 5.2 Internal model - Value at Risk (VaR) model

The Bank uses its own internal VaR model to calculate capital requirements for market risk in its trading book, for the Bank's activities in Greece and Poland. VaR is a statistical risk measure of the maximum loss that the Bank may, under normal market conditions, incur over a certain period of time with a certain confidence level. For example, a 99% 10 day VaR of € 1 million means that there is a 99% probability that the Bank will not lose more than € 1 million within the next ten days. In other words, there is a 1% probability that the Bank will incur a loss exceeding € 1 million.

The internal model described above covers the following risks:

- Interest rate risk: the risk of losses because of changes in interest rates.
- Foreign exchange risk: the risk of losses on foreign currency positions because of changes in exchange rates.
- Equity risk: the risk of losses because of changes in equity prices.
- · Commodity risk: the risk of losses because of changes in commodity prices.
- Volatility risk: the risk of losses on option positions because of changes in implied volatility levels.

The Bank uses the VaR model for its operations in Greece on a daily basis and is preparing to implement the model in subsidiary banks abroad.

The internal VaR model is based on the Monte Carlo simulation. The VaR is calculated on 99% confidence level and for a 10 day holding period. Full repricing is applied on every position of the portfolio. This means that the model covers all types of non linear instruments (i.e. options).

VaR models are designed to measure market risk under normal market environment. It is assumed that any changes in the risk factors follow a normal distribution. The distribution is calculated using exponentially weighted moving average (EWMA) of 6 months historical data.

Since VaR constitutes an integral part of the Group's market risk control regime, VaR limits have been established for all (trading and non trading portfolio) operations and actual exposure is reviewed daily by management.

The Bank's exposure to commodities and volatilities is immaterial.

The following table presents the capital charge, per risk factor, in relation to VaR and after the application of the relevant multiplier for the Bank's trading book at 31 December 2008:

 Foreign exchange risk
 98

 Interest rate risk
 55

 Equity risk
 3

 Volatility risk
 1

 Total capital requirements on total diversified position
 135

The aggregate of the capital requirements, per risk factor does not constitute the Bank's total capital requirements due to correlations and consequent diversification effects between risk factors.

## 5.2.1 Stress testing

Given that the VaR approach does not cover extreme market conditions, the Group has been applying stress tests, to simulate the effect of many standard deviation movements of risk factors and the breakdown of historical correlations.

The main types of stress tests performed include:

- · Historical stress tests, which are based on selected historical scenarios in financial markets since 1990 (i.e. September 11th, Russian crisis, etc).
- · Subjective stress tests, where the portfolios are exposed to scenarios for risk factors that are deemed particularly relevant.
- Sensitivity tests, which are conducted on interest rates, equities' prices, foreign exchange rates and implied volatilities.

# 5.2.2 Back testing

The Bank employs back testing controls in order to test the calibration and predictive capabilities of its internal risk assessment model. Back testing is applied through comparison of daily VaR readings to portfolio value changes. Back testing for 2008 revealed one exception out of a total of 250 working days. According to the regulatory framework this number of exceptions results to the minimum multiplier (3) for capital adequacy calculations for market risk.

## 5.3 Standardised approach for market risk

The Bank uses the Standardised approach for the measurement of market risk exposure and capital requirements of its subsidiaries in Greece and New Europe. The following table summarises the capital requirements for market risk per risk factor, based on the Standardised approach, at 31 December 2008:

	2008
	€million
General and specific risks of traded debt instruments	7
General and specific risks of equities	2
Foreign exchange risk	8
Total	17

#### 5. Market Risk



## 5.4 Equity exposures not included in the trading book

Available-for-sale equity investments are those intended to be held for an indefinite period of time, which may be sold in response to needs for liquidity or changes in equity prices. Purchase and sales of equity available-for-sale investments are recognised on trade date, the date on which the Group commits to purchase or sell the equity investment. Initial recognition is at fair value plus transaction costs. Derecognition occurs when the rights to receive cash flows from those investments have expired or where the Group has transferred substantially all risks and rewards of ownership.

Available-for-sale equity investments are subsequently carried at fair value. Gains and losses arising from changes in fair value are recognised directly in equity until the financial asset is derecognised or impaired at which time the cumulative gain or loss previously recognised in equity is recognised in profit or loss.

The fair values of quoted investments in active markets are based on current bid prices. If the market for an equity is not active (and for non-listed securities), the Group establishes fair value by using valuation techniques. These include the use of recent arm's length transactions, reference to the current fair value of another instrument that is substantially the same, a discounted cash flow analysis, option pricing models and other valuation techniques commonly used by market participants.

In case of equites classified as available-for-sale, a significant or prolonged decline in the fair value of the security below its cost is considered in determining whether the assets are impaired. If any such evidence exists for available-for-sale equities, the cumulative loss - measured as the difference between the acquisition cost and the current fair value, less any impairment loss on that equity investment previously recognised in profit or loss - is removed from equity and recognised in the income statement. Impairment losses recognised in the income statement on equity investments are not reversed through the income statement.

The following table presents equity holdings belonging to the available-for-sale portfolio and included in regulatory exposures at 31 December 2008:

	€million
Held for:	
Strategic investments	94
Equity investments for capital appreciation	295
Total	389
Listed	218
Non-listed	171
Total	389

The table below presents the realised gains/(losses) before tax from disposal of available-for-sale equity investments, as well as the unrealised gains/(losses) from revaluations, at 31 December 2008:

	2008
	<u>€million</u>
Realised gains/(losses)	(16)
Unrealised gains/(losses)	(286)

The amount of unrealised losses of available-for-sale equity investments, recognised in reserves as at 31 December 2008 is deducted from Tier I capital.

## 5.5 Interest rate risk not included in the trading book

The Bank calculates and monitors the interest rate risk of the banking book for the Bank's operations in Greece and Poland on a daily basis using, the internal VaR model. For the operations abroad the Group applies sensitivity analysis and is preparing to implement the same methodology in New Europe subsidiaries.

The system takes into account all assets, liabilities and off balance sheet items, which are sensitive to interest rates. The interest rate exposure is calculated using the contractual maturity dates or the next repricing dates in case of floating rate instruments. This is also applied to lending instruments, where no prepayment adjustments are made since this type of risk is immaterial. The major part of non maturity accounts has a short term repricing structure and therefore treated accordingly.

At 31 December 2008 the average interest rate VaR for 2008 for a 99% confidence level and a holding period of 10 days for the Bank's operations in Greece and Poland, was as follows:

	2008 <u>€million</u>
Interest rate VaR of the banking book	164
Total interest rate VaR (trading and banking book)	162

Furthermore, the Bank calculates sensitivity on interest rates applying 100 bps parallel shifts on interest rates. The following table presents sensitivity analysis for the Bank at 31 D

December 2008:	The following table presents sensitivity analysis for the bank
	2008 €million
Interest rate risk (banking book): +100 bps parallel shift	(20)
Interest rate risk (trading and banking book): +100 bps parallel shift	2.5

#### 5. Market Risk



The following table presents the sensitivity analysis for interest rate sensitive position of the banking book in the major New Europe subsidiaries at 31 December 2008, by applying a 100bps parallel shifts:

	31 December 2008		
	Sensitivity	Sensitivity	Total
	trading book	banking book	sensitivity
	<u>€million</u>	<u>€million</u>	<u>€million</u>
Romania (Bancpost S.A., EFG Retail Services IFN S.A. and EFG Leasing IFN S.A.)	(1)	(0)	(1)
Bulgaria (Eurobank EFG Bulgaria A.D., Bulgarian Retail Services A.D., EFG Leasing E.A.D.)	5	2	7
Serbia (Eurobank EFG Stedionica A.D. Beograd, EFG Leasing A.D. Beograd, Prospera Securities A.D. Beograd)	(0)	(1)	(1)
Turkey (Eurobank Tekfen A.S., EFG Istanbul Menkul Degerler A.S.)	(1)	(11)	(12)

#### 5.6 Counterparty risk

#### 5.6.1 Definition

Counterparty risk is the risk that a counterparty in an off balance sheet transaction (i.e. derivative transaction) defaults prior to maturity and the Bank has a claim over the counterparty (the market value of the contract is positive for the Bank).

## 5.6.2 Mitigation of counterparty risk

To reduce the exposure towards single counterparties, risk mitigation techniques are used. The most common is the use of closeout netting agreements (usually based on standardised ISDA contracts), which allow the bank to net positive and negative replacement values in the event of default of the counterparty.

Furthermore, the Bank also applies margin agreements (CSAs) in case of counterparties. Thus, collateral is paid or received on a daily basis to cover current exposure. In case of repos and reverse repos the Bank applies netting and daily margining using standardised GMRA contracts.

#### 5.6.3 Counterparty risk monitoring

The current exposure for counterparty risk at 31 December 2008 is presented in the table below:

	31 December 2008				
	Current exposure before netting €million	Current exposure after netting € million	Netting effect €million	Collateral received / (paid) €million	Total exposure after netting and CSA application € million
Contracts under ISDA and CSA (derivatives)	615	10	605	(1,926)	127
Contracts under GMRA (repos and reverse repos)	422	75	347	(81)	156
Other contracts (derivatives and repos outside ISDA and CSA, GMRA)	797	797	0	Ó	797
Total	1,834	882	952	(2,007)	1,080

## Notes:

- 1. Netting and collateral posting is applied per counterparty only for contracts under ISDA, CSA or GMRA.
- 2. Repo and reverse repos with central banks (Bank of Greece, European Central Bank, etc) are excluded.
- 3. In case of exposure caclulation on transactions under GMRA, haircuts are taken into account and increase the exposure.
- 4. In case of exposure calculation on transactions under CSA threshold amounts are taken into account and increase the exposure.

## 5.6.4 Wrong way risk

The Bank prevents the initiation of derivative transactions in cases that the value of the underlying instrument is highly correlated with the credit quality of the counterparty.

## 5.6.5 Implications under rating downgrade

The Bank's financial collateral agreements (CSAs covering derivative transactions) with other banks contain in some cases rating triggers. For these agreements, the minimum exposure level (threshold amount) for further posting of collateral will be lowered in case of a downgrading. The total effect is considered immaterial.

## 5.6.6 Credit derivatives

The Group has a limited portfolio of Credit Default Swaps (CDSs) which are mainly used for hedging part of its corporate bond portfolio or for trading purposes.

The Bank does not have any brokerage activity in this market. Furthermore, the Bank does not hedge its loan portfolio with CDSs as this market in Greece is not developed.

The following table summarises the notional amount per type of protection:

- Protection Buyer : € 340 million
- Protection Seller : € 100 million

The current exposure in CDSs was € 16.7 million at 31 December 2008.

#### 6. Operational risk



#### 6.1 Governance

Acknowledging the fact that operational risk is embedded in every business activity undertaken, the organisational governance stems from the Board of Directors through the Executive Committee and Senior Management to the Heads and staff of every Business Unit. The organisational governance is applicable to all jurisdictions accordingly.

An Operational Risk Unit is formed in every Group's banking subsidiary, each being responsible for applying the Group's operational risk strategy and framework in the jurisdiction the bank operates.

The Board of Directors monitors, through the Risk Committee, the operational risk level and profile including the level of operational losses, their frequency and severity, and through the Audit Committee, the status of operational risk-related control issues. The Operational Risk Committee assesses the operational risks arising from the activities of the Group, ensures that each business entity has appropriate policies and procedures for the control of its operational risk and that prompt corrective action is taken whenever a high risk area is identified.

The Deputy Chief Executive Officer Risk Executive is the sponsor of any operational risk related initiative and ensures implementation of the operational risk policy. The Deputy Chief Executive Officer Risk Executive has the overall responsibility and oversight of the operational risk units in every country where Eurobank EFG operates.

The prime responsibility for operational risk management lies with the respective Heads of each business unit. To this end, every business unit.

- identifies, evaluates and monitors its operational risks and implements risk mitigation techniques;
- · assesses control efficiency;
- · reports all relevant issues; and
- has access to and uses the common methods and tools introduced by Operational Risk Sector, in order to facilitate identification, evaluation and monitoring of operational risk.

The Operational Risk Sector is responsible for defining and rolling out the methodology for the identification, assessment, reporting of operational risk within Board/ Risk Committee decisions, implementing regulatory requirements and Group guidelines, monitoring the operational risk level and profile and reporting thereon to the Risk Committee, and defining and rolling out the methodology for the calculation of the regulatory capital charge for operational risk.

## 6.2 Operational risk management framework

The Group Operational Risk Framework is built on four elements:

- Principles
- · Governance & Organisation
- Processes
- Infrastructure

The operational risk management framework and related policies are designed to:

- establish the operational risk framework and governance, aligning our structure and processes with best international banking practices;
- introduce risk identification processes such as risk assessment, key risk indicators where appropriate and historic risk events collection;
- establish a common definition and consistent approach for operational risk to enable common identification and aggregation of operational risk across our business;
- establish a proactive operational risk management culture across our business, linking business operations with the objectives of risk control;
- · establish comprehensive and integrated operational risk reporting;
- adhere to the Group guidelines and meet local regulatory requirements and practices relating to operational risk of the jurisdictions in which we operate;
- · allow us to achieve a competitive advantage in terms of operational risk management through risk-based decision making; and
- leverage international knowledge and best practices on operational risk management.

Operational risk processes consist of risk identification, assessment (including measurement and valuation), control management & risk mitigation and reporting & performance improvement. These processes are supported by and implemented with the operational risk tools/ methods, which are the following:

- Risk & Control Self Assessment (RCSA) is a technique aiming to identify, assess and ultimately mitigate operational risk. Risks are assessed using the methodology adopted and then processed in order to rank identified operational risks, reveal high operational risk areas activities/processes, create operational risk profiles and support capital adequacy calculations. The approach adopted by the Group is risk oriented controls will be evaluated as supplementary elements of specific operational risks. The RCSA exercise is carried out annually if however major changes take place, the exercise is performed more often.
- Operational risk indicators are metrics based on historical data relevant to specific and measurable activities indicating operational risk exposures. They are developed in every area according to its unique characteristics. Operational risk indicators are quantifiable and expressed as an amount, a percentage or a ratio, assigned to specific operational risks and linked with tolerance.
- Operational risk events are identified and reported with the purpose to populate the internal loss tracking/ reporting database. Operational risk events are classified according to their owner, cause, risk category, consequence, impact, and business line.
- Operational risk scenario analysis is the structure within which scenarios are identified, documented and selected for analysis, the analysis process itself and the measurement of results.
- Operational risk reporting, whereby reports are produced for internal and regulatory purposes.
- Operational risk capital charge calculation and allocation, using the appropriate methodology and assumptions.

# 6.3 Operational risk measurement

The Group's business activities have been divided into business lines and the annualised gross operating income (as defined under Basel II) for 2006, 2007 and 2008 is calculated for each business line. The required business line beta factors are then applied to the relevant business line gross operating income, to establish the required regulatory capital per business line, with these numbers summed together, as well as with the relevant figures for Ukrainian operations according to BIA to establish the overall Pillar 1 regulatory capital requirements for operational risk.

This calculation represents a revenue based proxy of the Group's operational risk.