

BARCLAYS PLC  
Form 6-K  
March 30, 2010

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549**

**FORM 6-K**

**REPORT OF FOREIGN PRIVATE ISSUER  
PURSUANT TO RULE 13A-16 OR 15D-16  
UNDER THE SECURITIES EXCHANGE ACT OF 1934**

March, 2010

**Barclays PLC and  
Barclays Bank PLC**  
(Names of Registrants)

**1 Churchill Place  
London E14 5HP  
England**  
(Address of Principal Executive Offices)

Indicate by check mark whether the registrant files or will file annual reports  
under cover of Form 20-F or Form 40-F.

Form 20-F  Form 40-F

Indicate by check mark whether the registrant by furnishing the information  
contained in this Form is also thereby furnishing the information to the  
Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes  No

If "Yes" is marked, indicate below the file number assigned to the registrant  
in connection with Rule 12g3-2(b):

This Report is a joint Report on Form 6-K filed by Barclays PLC and Barclays  
Bank PLC. All of the issued ordinary share capital of Barclays Bank PLC is  
owned by Barclays PLC.

This Report comprises:

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Information given to The London Stock Exchange and furnished pursuant to  
General Instruction B to the General Instructions to Form 6-K.

EXHIBIT INDEX

Consolidated Basel II Pillar 3 Disclosure for 2009

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, each of the registrants has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BARCLAYS PLC  
(Registrant)

Date: March 30, 2010

By: /s/ Patrick Gonsalves  
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Patrick Gonsalves  
Deputy Secretary

BARCLAYS BANK PLC  
(Registrant)

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Date: March 30, 2010

By: /s/ Patrick Gonsalves

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Patrick Gonsalves  
Joint Secretary

**Barclays PLC**  
**Consolidated Basel II Pillar 3 Disclosure for 2009**

## **Notes about this report**

### **Overview of Basel II and Pillar 3**

Since 2008, Barclays has applied the Basel II framework as part of its capital management strategy. The accord is made up of three pillars:

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Pillar 1 covers the calculation of risk-weighted assets for credit risk, market risk and operational risk.

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Pillar 2 allows firms and supervisors to take a view on whether the firm should hold additional capital to cover the three Pillar 1 risk types, or to cover other risks. A firm's own internal models and assessments support this process.

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Pillar 3 covers external communication of risk and capital information by banks. Basel II also provides for different approaches to calculating capital requirements.

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The first is the Standardised approach, where the risk weights used to assess requirements against credit exposures are consistent across the industry.

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The second approach is the Internal Ratings Based approach (IRB) which relies on the bank's internal

models to derive the risk weights. Throughout this report the tables distinguish between these two approaches. The IRB approach is further sub-divided into two alternative applications, Advanced and Foundation:

- Under Advanced IRB (AIRB), Barclays uses its own estimates of probability of default (PD), loss given default (LGD) and credit conversion factor to model a given risk exposure. This is similar to the Basel I framework, but with a more detailed classification of asset types to enable better risk sensitivity.
- Under Foundation IRB, Barclays applies its own PD as for Advanced, but it uses standard parameters for the LGD and the credit conversion factor. The Foundation IRB approach is specifically designed for wholesale credit exposures. Hence retail, equity, securitisation positions and non-credit obligations asset exposures are treated under Standardised or AIRB.

Barclays lead regulator is the UK Financial Services Authority (FSA). Pillar 3 principles can be found within its "Prudential Sourcebook for Banks, Building Societies and Investment Firms" ("BIPRU" Section 11).

The report is prepared once a year, except in exceptional circumstances, in accordance with the Group's Pillar 3 Policy. It is available from the Barclays investor relations web site ([www.investorrelations.barclays.com](http://www.investorrelations.barclays.com)).

#### **Presentation of risk data, verification and sign-off**

This document discloses Barclays assets both in terms of exposures and capital requirements. For the purposes of this document, credit exposure is defined as the estimate of the amount lost in the event of a default or through the decline in value of an asset. This estimate takes account of contractual commitments related to undrawn amounts. In contrast, an asset in the Group's balance sheet, as published in the Annual Report, is reported as a drawn balance only. This is one of the reasons why exposure values in the Pillar 3 report can differ from asset values as reported in the published accounts.

Where this document discloses credit exposures or capital requirements, Barclays has followed the scope and application of its Pillar 1 capital adequacy calculations. Where figures for impairment or losses are disclosed within this document, Barclays has followed the IFRS definitions used in the Barclays Annual Report. Throughout this report, tables show credit exposures or capital requirement split into various exposure classes (for instance, industry or type of borrower). Some of these classes are specified in the FSA rules. Where the regulations are not explicit, such as in industry and geographic analyses, Barclays shows the exposure class splits on the same basis as its Annual Report.

The 2009 Pillar 3 disclosure describes the Group's credit risk exposures covering both the Standardised and the Internal Ratings Based (IRB) approaches. In many cases, a material factor in the year on year movements is the change in treatment of credit risk portfolios, from the Standardised to the IRB approach. Where this is the case, this is noted in the commentary to the disclosures. The process of transferring portfolios to the IRB approach is expected to remain a significant driver of year on year movements for the next year. In addition, some year on year movements have been driven by updates in regulatory guidance, changes in regulatory treatment of certain portfolios and reclassifications of data. These cases are noted where relevant.

This report was verified and approved internally by Barclays in line with its Pillar 3 policy. There are no requirements for external auditing of these disclosures.

#### **Basis of consolidation**

In this report, Barclays PLC information is presented on a consolidated basis. All of these disclosures are published for Barclays PLC for the year ended 31<sup>st</sup> December 2009. The consolidation basis used is the same as that used for regulatory capital adequacy. Certain overseas subsidiaries operate under local regulatory capital regimes which are recognised as equivalent by the FSA. In these cases, Barclays has used these local capital calculations in its Group consolidation. The scope of consolidation is similar to that used for statutory accounting reporting for most of the Group's activities (see Appendix for differences). Barclays had no subsidiaries outside the scope of regulatory consolidation which had capital resources less than their required minimum at 31<sup>st</sup> December 2009.

## Capital Risk Management

Capital adequacy is the degree to which capital resources on the Group's balance sheet are sufficient to cover the businesses' capital requirements now and in the foreseeable future. The Group's authority to operate as a bank is dependant upon the maintenance of adequate capital resources. Capital risk management is the process for reviewing capital requirements to enable the Group to:

- Meet minimum regulatory requirements in the UK and in other jurisdictions such as the United States and South Africa where regulated activities are undertaken;

- Support its credit rating and maintain cost of funds;

- Support its growth.

Barclays ensures that it is sufficiently capitalised by continually assessing its capital resources and requirements given current financial projections. This takes into account material risks to the projections as the strategies employed to manage those risks.

### Capital risk management organisation and structure

Treasury Committee manages compliance with the Group's capital management objectives. The Committee reviews actual and forecast capital requirements and resources on a monthly basis. The Risk Oversight Committee (GROC) and the Board Risk Committee (BRC) annually review and set risk appetite and analyse the impacts of stress scenarios in order to understand and manage the Group's projected capital adequacy. More generally they are responsible for the risk management processes of the bank.

### Measurement of capital requirements

Barclays capital management considers both economic and regulatory capital.

Regulatory capital requirements are calculated on the basis of Pillar 1 and Pillar 2 of the Basel framework. Pillar 1 capital covers credit, market and operational risks. The calculation methods (including formulae and ratings per exposure category) are specified by Basel II rules. Pillar 2 capital can also be held against the three risk types above, but mainly covers other types of risk. Barclays uses its own internal economic capital framework (described below) and stress testing processes to help determine Pillar 2 capital, though the final decision rests with the regulator.

Barclays calculates economic capital requirements based on its own internal framework, which is regularly enhanced and benchmarked to external reference points. It therefore represents the Group's view of the risk profile of the firm. While it is used to support the assessment of Pillar 2 regulatory requirements, its main purpose is to drive business decision-making. The Group assigns economic capital primarily within the following risks: retail and wholesale credit risk, market risk, operational risk, fixed assets, private equity and pension risk.

### Management of capital resources

The Group's objective in managing its capital resources is to maintain sufficient and adequate capital resources given current and future requirements. This is achieved via a number of activities, described below.

The Group manages requirements for capital from organic and inorganic growth which ensures that resources remain in excess of minimum regulatory requirements and internal targets (which provide a buffer above minimum requirements). Robust governance and operational processes are in place to support this.

Barclays continuously assesses market capacity for any planned capital issuance, both in business-as-usual and stressed conditions. Even during the severe crisis of 2008 and 2009 the Group has demonstrated that it can raise debt and equity capital from investors, without capital investments by the UK Government.

The Group manages its capital resources to ensure that those Group entities that are subject to local capital adequacy regulation in individual jurisdictions meet their minimum capital requirements. Local management ensures compliance with minimum regulatory capital requirements by reporting to local Asset and Liability Committees with oversight by Treasury Committee, as required. Injections of capital resources into Group entities are approved by Treasury Committee, under authorities delegated from the Group Executive Committee. The Group's policy is for capital held in Group entities in excess of local regulatory requirements to be repatriated to Barclays Bank PLC in the form of dividends and/or capital repatriation, subject to local regulatory requirements, exchange controls and tax implications. Other than as indicated above, the Group is not aware of any material impediments to the prompt transfer of capital resources or repayment of intra-group liabilities when due.

Regulators have set a range of minimum levels for regulatory capital ratios. There are also limits relating to the structure and quality of capital resources. Barclays ensures that Barclays maintain sufficient buffers above these regulatory minima at all times. The adequacy of these buffers is assessed via the medium-term planning (MTP) process, the risk appetite setting process and Group-wide stress testing (these processes are described below).

**Activities to support the management of capital requirements and resources**

**Managing capital risk ensures that Barclays achieves an adequate balance between capital requirements and resources. Barclays uses several tools to ensure that capital risk is properly assessed and mitigated. The main elements are summarised below.**

The

*medium-term planning process*

(MTP), performed annually, requires each business unit to present its plans for business performance over the coming three years.

Achieving the planned performance in each business is dependent upon the ability of the business to manage its risks. Risk managers support the MTP by providing robust review and challenge of the business plans to ensure that the financial projections are internally consistent, achievable given risk management capabilities and that they present a suitable balance between risk and reward.

The plans comprise projections of capital resources and requirements given profit generation, dividend policy and capital issuance. This serves to verify profits will produce sufficient capital given requirements, and that the bank will satisfy internal objectives and regulatory guidance relating to the structure and quality of capital resources.

The Group's

*Risk Appetite framework*

is embedded within its decision-making processes, and is used to understand the relationship between risk and reward. This understanding helps the Board's assessment of the medium-term plans for which it is responsible. The aim of this framework is to achieve the Group's financial performance objectives without exposing the Group to levels of risk that are outside of its appetite.

The framework considers Risk Appetite from two perspectives:

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Financial Volatility is defined as the level of risk Barclays is prepared to accept in order to achieve its objectives where risk relates to an amount of loss at a given confidence level

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Mandate and Scale comprises a range of limits and triggers with the aim of avoiding risk concentrations. During the annual MTP process, the Group sets its appetite for Financial Volatility arising from volatility in revenues, costs and impairment over the forecast horizon. The aim of this framework is to enable returns to be maximised without exposing the Group to levels of risk that are outside of its appetite. The Group defines Risk Appetite as the level of risk it is prepared to accept in order to achieve its objectives where risk relates to an amount of loss at a given confidence level.

The appetite is expressed in terms of a set of objectives in a business-as-usual (BAU) environment as well as in stress environments (currently 1-in-7 and 1-in-25 statistical confidence levels as determined by our economic capital models). For example, at a given level of stress these objectives could be expressed as:

- The minimum profit that Barclays is willing to accept in stress environments

- The maximum loan loss rate (credit losses as a proportion of loans) that the Group will tolerate

- The target return on equity

- Minimum Group regulatory capital ratios

- Capacity for dividend payment

- Ability to achieve an appropriate level of growth in the loan book.

The central Group Risk function verifies that the objectives can be attained under the medium-term plans by forecasting stressed financial results over the next year. The Board is responsible for approving Risk Appetite and the Board Risk Committee monitors the Group's risk profile against the agreed appetite.

The Mandate and Scale framework operates through limits and triggers, which work in tandem with clearly defined lending criteria for specific sectors, industries and products, in order to maintain asset quality.

Barclays uses the Mandate and Scale framework to:

- Limit concentration risk and manage large exposures

- Keep lending within Group and individual business mandate

- Ensure activities remain of an appropriate scale relative to the underlying risk and reward

- Ensure risk-taking is supported by appropriate expertise and capabilities

The Board Risk Committee is responsible for approving the Group's Mandate and Scale limits and triggers annually and ratifying any changes. Mandate and Scale frameworks are currently in place for retail and wholesale credit risk and for traded and non-traded market risk.

The *Group-wide stress testing process* forecasts the Group's projected capital requirements and resources in a range of stress scenarios. This enables the Group to ensure it can meet its minimum regulatory capital requirements in a stressed environment, meaning that Barclays capital planning buffer is adequate. It also allows senior management to gain a better understanding of how portfolios are likely to react to changing economic conditions and how the Group can best anticipate and mitigate them. The Group-wide stress testing process contributes to the strategic planning of the Group and forms a key component of the internal capital adequacy assessment process (ICAAP).

The components of the stress testing process are:

- A central view of the likely direction of the economy, and a baseline set of financial projections. These are produced as part of the medium-term planning process.

- A stress scenario combining an array of economic and financial parameters, for instance GDP, interest rates, and credit spreads.

- A narrative to ensure understanding of the scenario.

Managing capital risk ensures that Barclays achieves an adequate balance between capital requirements and resources.



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A set of financial projections, including detailed capital plans under stress. The effect of mitigating actions are clearly identified and supported.

The analysis of the stress losses is done by risk managers and relevant experts within the business units. Group centre functions provide scenario parameters, coordinate the process, perform the review and challenge of the analysis (including any models and assumptions used) and prepare a capital plan based on the results. In this manner, the process combines subject matter expertise from the businesses with robust challenge from Group centre. Mitigating actions identified as part of the process are also incorporated in the Group's ongoing contingency plans should a stress develop similar in severity to the scenarios.

A

*reverse stress test*

, which shows the amount of losses that would lead to the complete consumption of the capital buffer, is presented to the Treasury Committee on a regular basis. This framework is continuously developed to allow the committees and management to better understand the events that would lead to such losses, and ensure that capital levels are sufficient to mitigate them.

The Group has used its

*economic capital framework*

in its business decision-making process since 1995. This creates a high degree of senior management awareness of the relationship between risk and capital. This use of economic capital is designed to optimise economic profit generation whilst balancing the need to manage the Group's capital ratios within regulatory capital constraints. The importance and visibility of economic capital ensures that models are continuously reviewed and refined, and that our portfolio of businesses evolves to support our strategy of balanced growth.

Specifically, Barclays uses economic capital to satisfy the following objectives:

.  
Capital adequacy assessment

.  
Communication of risks on a like-for-like basis

.  
Measurement of risk-adjusted performance

.  
Senior management compensation

.  
Strategic planning

.  
Pricing transactions

.  
Supporting growth decisions

Barclays ensures it manages the  
*effects of foreign exchange volatility*

in the requirements for, and resources denominated in local currency capital.

The Group has capital resources and risk weighted assets denominated in foreign currencies. Changes in foreign exchange rates result in changes in the sterling equivalent value of foreign currency denominated capital resources and risk weighted assets. As a result, the Group's regulatory capital ratios are sensitive to foreign currency movements.

The Group's capital ratio hedge strategy is to minimise the volatility of the capital ratios caused by foreign exchange rate movements. To achieve this, the Group aims to maintain the ratio of foreign currency Core Tier 1, Tier 1 and Total Capital resources to foreign currency RWAs the same as the Group's capital ratios. The Group's foreign currency capital resources include investments in subsidiaries and branches, intangible assets, non-controlling interest, deductions from capital and debt capital instruments.

Managing capital risk ensures that Barclays achieves an adequate balance between capital requirements and resour

The Group's investments in foreign currency subsidiaries and branches create Core Tier 1 capital resources denominated in foreign currencies. Changes in the sterling value of the investments due to foreign currency movements are captured in the currency translation reserve, resulting in a movement in Core Tier 1 capital.

To create foreign currency Tier 1 and Total Capital resources additional to the Core Tier 1 capital resources, the Group issues, where possible, debt capital in non-sterling currencies. This is primarily achieved by the issuance of debt capital from Barclays Bank PLC, but can also be achieved by subsidiaries issuing capital in local currencies.

In some circumstances, investments in foreign currency subsidiaries and branches are hedged. In these circumstances, foreign currency capital resources are not created. Hedging decisions take into account the impact on capital ratios, the strategic nature of the investment, the cost of hedging, the availability of a suitable foreign exchange market and prevailing foreign exchange rates. Depending on the value of foreign currency net investments, it is not always possible to maintain the ratio of Core Tier 1 capital to RWAs consistent with the Group's Core Tier 1 ratio in all currencies, leaving some capital ratio sensitivity to foreign currency movements.

The investment of proceeds from the issuance of equity accounted foreign currency preference shares also contributes to foreign currency capital resources. If a preference share issuance is redeemed, the cumulative movement from the date of issuance in the currency translation reserve will be offset by an equal and opposite movement in reserves reflecting the revaluation of the preference shares to prevailing foreign exchange rates. Issuance of a replacement Tier 1 instrument in the same currency will maintain the hedge of the Tier 1 ratio.

## Barclays Capital Adequacy

### Capital Resources

The following table represents the Group's capital position at 31 December 2009. Details on capital resources, including share capital, reserves and non-controlling interests are found in notes i to l in the annual report. Details on the terms and conditions of subordinated liabilities are contained in note 27 of the 2009 Annual Report.

**Table 1: Tier 1 and Tier 2 Capital Resources**

	<b>As at 31.12.09</b>	<b>As at 31.12.08</b>
	£m	£m
<b>Tier 1 (excluding innovative tier 1)</b>		
Called up share capital	2,853	2,093
Eligible reserves	44,408	31,156
Non-controlling interests	8,609	8,172
Tier 1 Notes	1,017	1,086
Less: Intangible assets	(8,345)	(9,964)
Less: Deductions from Tier 1 capital - Expected loss in excess of impairment on IRB approach portfolios	(25)	(159)
Less: Deductions from Tier 1 capital - Other	(5,604)	(877)
<b>Total qualifying tier 1 capital (excluding innovative tier 1)</b>	<b>42,913</b>	<b>31,507</b>
<b>Innovative Tier 1 Capital</b>	<b>6,724</b>	<b>7,087</b>
<b>Tier 2</b>		
Revaluation reserves	26	26
Available for sale equity gains	309	122

Collectively assessed impairment allowances	2,443	1,654
Non-controlling interests	547	607
Qualifying subordinated liabilities		
Undated loan capital	1,350	5,401
Dated loan capital	15,657	14,215
<b>Total innovative tier 1 capital and tier 2 capital</b>	<b>27,056</b>	<b>29,112</b>
Less: Deductions from Tier 2 capital - Expected loss in excess of impairment on IRB approach portfolios	(25)	(159)
Less: Deductions from Tier 2 capital - Other	(5,604)	(877)
<b>Total innovative tier 1 capital and tier 2 capital after deductions</b>	<b>21,427</b>	<b>28,076</b>
Less: Regulatory deductions from the total of tier 1 and tier 2 capital		
Investments not consolidated for supervisory purposes	(624)	(403)
Less: Other deductions	(256)	(453)
<b>Total deductions from the total of tier 1 and tier 2 capital</b>	<b>(880)</b>	<b>(856)</b>
<b>Total net capital resources</b>	<b>63,460</b>	<b>58,727</b>

The Capital Requirements Directive requires Tier 1 capital to be calculated excluding innovative capital. This is the basis on which we have disclosed the Group's Tier 1 capital above. The FSA's capital requirements permit the inclusion of innovative Tier 1 capital subject to a limit of 15% of the total Tier 1 capital. Innovative capital in excess of the 15% limit can be included in Tier 2 capital.

#### Minimum Capital Requirements and Risk Weighted Assets (RWA) analysis

Capital requirements can be converted into RWAs by multiplying them by 12.5. The following table shows a breakdown of the Group's RWAs by risk type.

**Table 2: Minimum capital requirement and risk weighted assets**

<b>As at 31.12.09</b>	<b>Capital Requirement</b>	<b>RWA</b>
<b>Risk Type</b>	<b>£m</b>	<b>£m</b>
Standardised Approach Credit Risk	7,242	90,525
Advanced and Foundation IRB Approach Credit Risk	12,922	161,529
Counterparty Credit Risk	3,636	45,450
Total Credit Risk	23,800	297,504
Market Risk	4,362	54,526
Operational Risk	2,450	30,623
<b>Total</b>	<b>30,612</b>	<b>382,653</b>
<b>As at 31.12.08</b>	<b>Capital Requirement</b>	<b>RWA</b>
<b>Risk Type</b>	<b>£m</b>	<b>£m</b>
Standardised Approach Credit Risk	8,877	110,975
Advanced and Foundation IRB Approach Credit Risk	12,475	155,937
Counterparty Credit Risk	5,672	70,902
Total Credit Risk	27,024	337,814
Market Risk	5,230	65,372

Operational Risk	2,409	30,116
<b>Total</b>	<b>34,663</b>	<b>433,302</b>

The Group's minimum capital requirements decreased £4,051m in the year to 31st December 2009 mainly due to lower credit risk requirements. This was largely driven by a decline in the size of the balance sheet as well as by foreign exchange movements.

Note that the capital requirement for Standardised Approach Credit Risk is different from that shown in table 3. This small difference is accounted for by the inclusion of capital requirements against positions falling under the "aggregation plus" method in the table above.

#### Capital Requirements for credit risk

The following table represents the Group's credit risk capital requirement for exposures measured under the Standardised approach method. More details on the calculation of exposure and risk weighting under the Standardised approach may be found in the Credit Risk Management section of this document.

**Table 3: Minimum capital requirement for credit risk under the Standardised approach**

Standardised Credit Risk Exposure Class	Minimum Capital	
	As at 31.12.09	As at 31.12.08
	£m	£m
Central governments or central banks	191	129
Regional government or local authorities	11	1
Administrative bodies and non-commercial undertakings	6	5
Multilateral development banks	-	-
International organisations	-	-
Institutions	99	80
Corporates	3,328	3,837
Retail	1,732	1,791
Secured on real estate property	943	1,367
Past due items	450	295
Private Equity <sup>1</sup>	413	635
Covered bonds	-	-
Securitisation positions <sup>2</sup>	-	-
Short term claims on institutions and corporates	-	538
Collective investment undertakings	11	48
Other items	50	151
<b>Total Standardised Requirement</b>	<b>7,234</b>	<b>8,877</b>

Capital requirements decreased £1,643m in the year to 31st December 2009, driven mainly by lower capital requirements for corporates (£509m), short-term claims on institutions and corporates (£538m), and assets secured on real estate property (£424m). These movements were driven by reduction in balance sheet and migration of certain portfolios to the IRB approach. Short-term claims on institutions and corporates were reclassified into corporates and institutions following availability of greater granularity in data.

Notes on Table 3:

<sup>1</sup> In the above table, the "Private Equity" category is comprised of exposures that would fall under the "Items belonging to regulatory high risk categories" in the FSA rules.

<sup>2</sup> Securitisation positions under the Standardised approach are treated as capital deductions and are therefore not included in the table above.

**Table 4: Minimum capital requirement for credit risk under the IRB approach**

IRB Exposure Class	Minimum Capital	
	As at 31.12.09	As at 31.12.08
	£m	£m
Central governments or central banks	109	44
Institutions	242	692
Corporates	7,140	5,671
Retail		
- Small and medium enterprises (SME)	683	689
- Secured by real estate collateral	1,521	1,238
- Qualifying revolving retail	995	813
- Other retail	817	835
Equity - Simple Risk Weight Approach		
- Exchange traded exposures	34	48
- Private equity exposures	158	171
- Other exposures	-	-
Securitisation positions	299	1,273
Non-credit obligation assets	924	1,001
<b>Total IRB Requirement</b>	<b>12,922</b>	<b>12,475</b>

Minimum capital requirements under the IRB approach increased £447m in 2009, driven by increased corporate exposures. This was partly offset by a decrease in securitisation positions following reduced application of RWA relief trades and some changes in regulatory treatment. The capital requirement against retail credit risks increased by £441m mainly due to the roll out to Advanced IRB of certain portfolios.

#### Capital for Market Risk

Information on the management of market risk is found in the "Market Risk Management" section. Barclays market risk capital requirements comprise three elements;

- 1) Trading book positions where the market risk is measured under an FSA approved Daily Value at Risk (DVaR) model. A detailed description of the DVaR model and its controls may be found on page 123 of Barclays 2009 Annual Report.
- 2) Positions within overseas subsidiaries which operate under the capital requirements of their local regulators and are recognised as equivalent regimes by the FSA. In such cases, the FSA requires that the local capital requirement is aggregated with the Group total.
- 3) Trading book positions which have not yet met the conditions for inclusion within the approved DVaR model. Their capital requirement is calculated using Standardised rules.

**Table 5: Minimum capital requirement for market risk and counterparty risk**

Market Risk	Minimum Capital	
	As at 31.12.09	As at 31.12.08
	£m	£m
DVaR Model Based PRR <sup>1</sup>	1,280	1,778
Interest rate PRR	1,304	1,790
Equity PRR	184	84
Option PRR	24	2
Collective investment schemes PRR	101	162
Commodity PRR	87	75

Foreign exchange PRR	1	1
Local Regulatory Aggregated PRR	1,381	1,338
<b>Total Market Risk Capital Requirement</b>	<b>4,362</b>	<b>5,230</b>

<b>Concentration risk capital component</b>	-	-
<b>Counterparty risk capital component</b>	<b>3,636</b>	<b>5,672</b>

The total market risk requirement decreased £868m in the year to December 31<sup>st</sup> 2009 driven by lower DVaR model based PRR<sup>1</sup> and interest rate PRR. The reduction in the DVaR model based requirement was mainly due to a lower general market risk DVaR, and a decrease in specific risk due to a decrease in correlation risk. The decline in interest rate PRR followed a reduction in business activity.

Capital requirements for counterparty risk reduced by £2,036m as interest rate cuts and foreign exchange movements contributed to reducing the Group's exposure. In addition, Barclays received permission from the FSA to use the Internal Model Approach for power and gas trades which lowered requirements.

Note on Table 5:

<sup>1</sup>Position Risk Requirement (PRR)

### Capital for Operational Risk

The following table shows the Group's operational risk capital requirement. Barclays has approval from the FSA to calculate its operational risk capital requirement using a Basel II Advanced Measurement Approach (AMA). Recently acquired businesses are excluded from the approval. Barclays uses the Basic Indicator Approach or the Standardised approach while it transitions these areas to the Advanced Measurement Approach. More information about Barclays operational risk modelling may be found in the "Operational Risk Management" section of this report.

**Table 6: Minimum capital requirement for operational risk**

<b>Operational Risk</b>	<b>Minimum Capital</b>	
	<b>As at 31.12.09</b>	<b>As at 31.12.08</b>
	<b>£m</b>	<b>£m</b>
Operational Risk - Basic Indicator Approach	136	125
Operational Risk - Standardised Approach	26	22
Operational Risk - Advanced Measurement Approach	2,288	2,262
<b>Total Operational Risk Capital Requirement</b>	<b>2,450</b>	<b>2,409</b>

Barclays operational risk capital requirements increased by £41m during 2009. The two main drivers were updated external industry data (which are used in the capital requirement model) and foreign exchange movements, partially offset by the net effect of acquisitions and disposals.

### Credit Risk Management

#### Credit Risk Management Strategy

Credit risk is the risk of suffering financial loss should any of the Group's customers, clients or market counterparties fail to fulfil their contractual obligations to the Group. The granting of credit is one of the Group's major sources of income and, as the most significant risk, the Group dedicates considerable resources to controlling it. The importance of credit risk is illustrated by noting that it accounts for over 60% of the Group's risk-based economic capital. The credit risk that the Group faces arises mainly from wholesale and retail loans and advances together with the counterparty credit risk arising from derivative contracts entered into with our clients. Barclays is also exposed to other credit risks arising from its trading activities, including debt securities, settlement balances with market counterparties and reverse repurchase agreements. Credit risk management objectives are:

- .  
To establish a framework of controls to ensure credit risk taking is based on sound credit risk management principles

- .  
To identify, assess and measure credit risk clearly and accurately across the Group and within each separate business, from the level of individual facilities up to the total portfolio.

- .  
To control and plan credit risk taking in line with external stakeholder expectations and avoiding undesirable concentrations.

- .  
To monitor credit risk and adherence to agreed controls.

- .  
To ensure that risk-reward objectives are met.

#### **Organisation and structure**

Barclays has structured the responsibilities of credit risk management so that decisions are taken as close as possible to the business, whilst ensuring robust review and challenge of performance, risk infrastructure and strategic plans.

The credit risk management teams in each business are accountable to the business risk directors in those businesses who, in turn, report to the heads of their businesses and also to the Chief Risk Officer.

The role of the Group Risk function is to provide Group-wide direction, oversight and challenge of credit risk-taking. Group Risk sets the Credit Risk Control Framework, which provides a structure within which credit risk is managed together with supporting Group Credit Policies.

Group Risk Policies currently in force include:

- .  
Maximum Exposure Guidelines to limit the exposures to an individual customer or counterparty

- .  
Country Risk policies to specify risk appetite by country and avoid excessive concentration of credit risk in individual countries

- .  
Aggregation Policy to set out the circumstances in which counterparties should be grouped together for credit risk purposes

- .  
Expected Loss policies to set out the Group approaches for the calculation of Expected Loss, i.e. Group measure of anticipated loss for exposures

- .  
Repayment Plans policy for setting the standards for repayment plans and restructures within retail portfolios

- .  
Impairment and Provisioning policies to ensure that measurement of impairment accurately reflects incurred losses and that clear governance procedures are in place for the calculation and approval of impairment allowances

The largest credit exposures are approved at the Group Credit Committee which is managed by Group Risk, under delegated authority from the Board Risk Committee. Group Risk also manages and approves the Mandate and Scale limits and triggers which mitigate concentration risk and define appetite in risk sensitive areas of the portfolio such as commercial property finance.

In addition, Group Risk provides technical support, review and validation of credit risk measurement models across the group.

The principal Committees that review credit risk management, approve overall Group credit policy and resolve all significant credit policy issues are the Board Risk Committee, the Group Risk Oversight Committee, the Wholesale Credit Risk Management Committee and the Retail Credit Risk Management

Committee. Senior Group and business risk management are represented on the Group Risk Oversight Committee, the Wholesale Credit Risk Management Committee and the Retail Credit Risk Management Committee.

On a semi-annual basis, the Credit Risk Impairment Committee (CRIC) obtains assurance on behalf of the Group that all businesses are recognising impairment in their portfolios accurately, promptly and in accordance with policy, accounting standards and established governance.

CRIC is chaired by the Group credit risk director and reviews the movements to impairment in the businesses, including those already agreed at Credit Committee, as well as potential credit risk loans, loan loss rates, asset quality metrics and impairment coverage ratios.

CRIC makes twice-yearly recommendations to the Board Audit Committee on the adequacy of Group impairment allowances. Impairment allowances are reviewed relative to the risk in the portfolio, business and economic trends, current policies and methodologies, and our position relative to peer banks.

#### **Scope of permission to use standardised and advanced approaches**

The Advanced IRB approach uses internal estimates of probability of default (PD), loss given default (LGD) and credit conversion factor to model the exposure while the Foundation IRB approach uses proprietary PD and regulatory standard parameters for LGD and credit conversion factor. The Foundation IRB approach is only used for wholesale credit exposures and is not applicable to retail, equity, securitisation position and non-credit obligation asset exposures.

For exposures falling under the Standardised approach, the regulator supplies risk weights for all asset types. This is similar to the Basel I framework, but with a more detailed classification of asset types.

## **Credit Internal Ratings Based Approach**

### **Advanced IRB Wholesale Grade Disclosures**

Barclays has regulatory approval to use its internal credit models in the calculation of the majority of its credit risk and counterparty credit risk exposures (OTC derivatives, repurchase and reverse repurchase and stock borrow loan transactions).

#### **Measurement, reporting and internal ratings**

The principal objective of credit risk measurement is to produce the most accurate possible quantitative assessment of the credit risk to which the Group is exposed, from the level of individual facilities up to the total portfolio. Integral to this is the calculation of internal ratings, which are used in numerous aspects of credit risk management and in the calculation of regulatory and economic capital. The key component models are:

.

Probability of default (PD)

.

Exposure at default (EAD)

.

Loss given default (LGD)

To calculate probability of default (PD), Barclays assesses the credit quality of borrowers and other counterparties and assigns them an internal risk rating. Multiple rating methodologies may be used to inform the overall rating decision on individual large credits, such as internal and external models, rating agency ratings, and, for wholesale assets, market information such as credit spreads. For smaller credits, a single source may suffice such as the result from an internal rating model. Barclays recognises the need for two different expressions of PD depending on the purpose for which it is used. For the purposes of



calculating regulatory and economic capital, long-run average through-the-cycle (TTC) PDs are required. However, for the purposes of pricing, PDs should represent the best estimate of probability of default given the current position in the credit cycle. Hence, point-in-time (PIT) PDs are also required.

Each PD model outputs an estimate of default probability that is PIT, TTC or a hybrid (e.g. a 50:50 blend). Bespoke conversion techniques, appropriate to the portfolio in question, are then applied to convert the model output to pure PIT and TTC PD estimates. In deriving the appropriate conversion, industry and location of the counterparty and an understanding of the current and long-term credit conditions are considered. Both PIT and the TTC PD estimates are recorded for each client.

Within Barclays, the calculation of internal ratings differs between wholesale and retail customers. For wholesale portfolios, the rating system is constructed to ensure that a client receives the same rating regardless of the part of the business with which they are dealing. To achieve this, a model hierarchy is adopted which requires a specific approach to rating each counterparty depending upon the nature of the business and its location. A range of methods are utilised for estimating wholesale counterparty PDs. These include bespoke grading models developed within the Group (internal models), vendor models, and a conversion of external alphabet ratings from rating agencies. Retail models, especially those used for capital purposes, are almost exclusively built internally using Barclays data. In many cases bureau data is used to complement internal data and in rare cases models developed by the credit bureau themselves are used in conjunction with internal models. In addition, in some low data/low default environments, external developments may also be used.

A key element of the Barclays Wholesale framework is the PD Masterscale. Multiple rating methodologies may be used to inform the rating decision on individual large credits, such as internal and external models, rating agency ratings, and for wholesale assets market information such as credit spreads. This scale has been developed to distinguish meaningful differences in the probability of default risk throughout the risk range. For smaller credits, a single source may suffice such as the result from an internal rating model. For retail clients PD models use application and behavioural scorecards which are derived from historically observed performance of new clients. They are built utilising customer demographic and financial information, supplemented by credit bureau information where available. Through statistical techniques the relationship between these candidate variables and the default marker is quantified to produce output scores reflecting a PD. Barclays internal credit grading differentiates credit risk into 21 grades as well as a category of "in default".

**Table 7: Internal default grade probabilities**

DG/ TTC Band	Default Probability			Financial statements description
	>=Min	Mid	<Max	
1	0.00%	0.01%	0.02%	Strong
2	0.02%	0.03%	0.03%	
3	0.03%	0.04%	0.05%	
4	0.05%	0.08%	0.10%	
5	0.10%	0.13%	0.15%	
6	0.15%	0.18%	0.20%	
7	0.20%	0.23%	0.25%	
8	0.25%	0.28%	0.30%	
9	0.30%	0.35%	0.40%	
10	0.40%	0.45%	0.50%	
11	0.50%	0.55%	0.60%	Satisfactory
12	0.60%	0.90%	1.20%	
13	1.20%	1.38%	1.55%	
14	1.55%	1.85%	2.15%	
15	2.15%	2.60%	3.05%	
16	3.05%	3.75%	4.45%	
17	4.45%	5.40%	6.35%	

18	6.35%	7.50%	8.65%	
19	8.65%	10.00%	11.35%	
20	11.35%	15.00%	18.65%	Higher risk
21	18.65%	30.00%	100.00%	

Exposure at default (EAD) represents the expected level of usage of the credit facility should default occurs. At the point of default, the customer exposure can vary from the current position due to the combined effects of additional drawings, repayment of principal and interest and fees. EAD parameters are all derived from internal estimates and are determined from internal historical behaviour. The lower bound of EAD for regulatory capital purposes is the current balance at calculation of EAD. For derivative instruments, exposure in the event of default is the estimated cost of replacing contracts with a positive value should counterparties fail to perform their obligations.

Should a customer default, some part of the exposure is usually recovered. The part that is not recovered, the actual loss, together with the economic costs associated with the recovery process, comprise the loss given default (LGD), which is expressed as a percentage of EAD. The Group estimates an average LGD for each type of exposure using historical information. The level of LGD depends principally on: the type of collateral (if any); the seniority or subordination of the exposure; the industry in which the customer operates (if a business); the length of time taken for the recovery process and the timing of all associated cash flows; and the jurisdiction applicable and work-out expenses. The outcome is also dependent on economic conditions that may determine, for example, the prices that can be realised for assets, whether a business can readily be refinanced or the availability of a repayment source for personal customers. For the purposes of regulatory capital, an adjustment is made to the modelled LGD to account for the increased losses experienced under downturn conditions, giving a 'downturn LGD'

#### **Applications of internal ratings**

The three components described above - the PD, EAD and LGD - are used in a variety of applications that measure credit risk across the entire portfolio. These parameters can be calculated incorporating different aspects of the credit cycle into the estimates:

- PD estimates can be calculated on a through-the-cycle (TTC) basis, reflecting the predicted default frequency in an average 12 month period across the credit cycle, or on a point-in-time (PIT) basis, reflecting the predicted default frequency in the next 12 months.

- LGD and EAD estimates can be calculated as downturn measures, reflecting behaviour observed under stressed economic conditions, or as business-as-usual (BAU) measures, reflecting best modelled behaviour under actual conditions.

These parameters are used in a wide range of credit risk measurement and management and as our understanding and experience have developed, we have extended the use and sophistication of internal ratings into the following:

- **Credit Approval:** PD models are used in the approval process in both retail and wholesale portfolios. In high-volume retail portfolios, application and behaviour scorecards are frequently used as decision-making tools. In wholesale and some retail mortgage portfolios, PD models are used to direct applications to different credit sanctioning levels, so that credit risks are reviewed at appropriate levels.

- **Credit Grading:** originally introduced in the early 1990s to provide a common measure of risk across the Group using an eight point rating scale; wholesale credit grading now employs a 21 point scale of default probabilities.

Risk-Reward and Pricing: PD, EAD and LGD metrics are used to assess profitability of deals and portfolios and to allow for risk-adjusted pricing and strategy decisions.

Risk Appetite: measures of expected loss and the potential volatility of loss are used in the Group's Risk Appetite framework.

IAS 39: many of our collective impairment estimates incorporate the use of our PD and LGD models, adjusted as necessary.

Collections and Recoveries: model outputs are frequently used to segment portfolios allowing for suitably prioritised collections and recoveries strategies in retail portfolios.

Economic capital (EC) allocation: most EC calculations use the same PD and EAD inputs as the regulatory capital (RC) process. The process also uses the same underlying LGD model outputs as the RC calculation, but does not incorporate the same economic downturn adjustment used in RC calculations.

Risk management information: Group Risk and the business units generate risk reports to inform senior management on issues such as the business performance, Risk Appetite and consumption of EC.

#### **The control mechanisms for the rating system**

Each of the business risk teams is responsible for the design, oversight and performance of the individual credit rating models - PD, LGD and EAD - that comprise the credit rating system for a particular customer within each asset class. Group-wide standards in each of these areas are set by Group Risk and are governed through a series of committees with responsibility for oversight, modelling and credit measurement methodologies.

Model governance standards apply to ratings models to minimise the risk of loss through model failure. The Group Model Risk Policy (GMRP) is managed by the independent Group Risk function.

The GMRP helps reduce the potential for model failure by setting Group-wide minimum standards for the model development and implementation process. The GMRP also sets the Group governance processes for all models, which allows model performance and risk to be monitored, and seeks to identify and escalate any potential problems at an early stage.

To ensure that the governance process is effective, and that management time is focused on the more material models, each model is provided with a materiality rating. The GMRP defines the materiality ranges for all model types, based on an assessment of the impact to the Group in the event of a model error. The final level of model sign-off is based on materiality, with all of a business unit's models initially being approved in business unit committees. The more material models are also approved at the Group-level Material Models Technical Committee, and the most material models require further approval by the Executive Models Committee, a sub-committee of Group Executive Committee.

This process ensures that the most significant models are subject to the most rigorous review, and that senior management have a good understanding of the most material models in the Group. Although the final level of model sign-off will vary, depending on model materiality, the standards required by the GMRP do not change with the materiality level.

The GMRP also sets detailed standards that a model must meet during development and subsequent use. For new models, documentation must be sufficiently detailed to allow an expert to understand all aspects of model development such that they could reproduce the model. It must include a description of the data used for model development, the methodology used (and the rationale for choosing such a methodology), a description of any assumptions made, as well as details of the strengths and weaknesses of the model. All new models are subject to validation and independent review before they can be signed off for implementation. The model validation exercise must demonstrate that the model is fit for purpose and provides accurate estimates. The independent review ensures that the model development has followed a robust process and that the standards of the GMRP have been met, as well as ensuring that the model

satisfies business and regulatory requirements. In addition, the most material models are subject to independent review by Group Risk. Once implemented, all models are subject to post-implementation review. This confirms that the model has been implemented correctly and behaves as predicted.

The GMRP also sets the requirements for ongoing performance monitoring and the annual review process. Once implemented, all models within the Group are subject to ongoing performance monitoring to ensure that any deficiencies are identified early, and that remedial action can be taken before the decision-making process is affected. As part of this process, model owners set performance triggers and define appropriate actions for their models in the event that a trigger level is breached.

In addition to regular monitoring, models are subject to an annual validation process to ensure that they will continue to perform as expected, and that assumptions used in model development are still appropriate. In line with initial sign-off requirements, annual validations are also formally reviewed at the appropriate technical committee.

Within Barclays Capital, where models are used to value positions within the trading book, the positions are subject to regular independent price testing which covers all trading positions. Prices are compared with direct external market data where possible. When this is not possible, more analytic techniques are used, such as industry consensus pricing services. These services enable peer banks to compare structured products and model-input parameters on an anonymous basis. The conclusions and any exceptions to this exercise are communicated to senior levels of business management.

Externally developed models are subject to the same governance standards as internal models, and must be approved for use following the validation and independent review process. External models are also subject to the same standards for ongoing monitoring and annual validation requirements.

Through their day-to-day activities, key senior management in Group Credit Risk, the businesses and the business risk teams have a good understanding of the operation and design of the rating systems used.

The respective business risk heads or equivalents are responsible for supplying a robust rating system.

The bank ensures that senior executives at group level (including the Chief Risk Officer, credit risk director and wholesale and retail credit risk directors) as well as in the businesses (including CEOs and managing directors in the relevant areas) understand the operation and design of the rating system used to assess and manage credit risk. This enables them to carry out their responsibilities effectively.

Within Barclays Capital, where models are used to value positions within the trading book the positions are subject to regular independent price testing which covers all trading positions. Prices are compared with direct external market data where possible. When this is not possible, more analytic techniques are used, such as industry consensus pricing services. These services enable Barclays to verify structured products and model-input parameters against those of other banks engaged in the trading of the same financial products. The conclusions and any exceptions to this exercise are communicated to senior levels of business and infrastructure management.

#### **The ratings process**

The term 'internal ratings' usually refers to internally calculated estimates of PD. These ratings are combined with EAD and LGD in the range of applications described previously. The 'ratings process' refers to the use of PD, EAD and LGD across the Group. In Barclays, the rating process is defined by each business. For central government and banks, institutions and corporate customers many of the models used in the rating process are shared across businesses as the models are customer specific. For retail exposures, the ratings models are usually unique to the business and product type e.g. mortgages, credit cards, and consumer loans.

#### **Ratings process: Wholesale approaches**

A bespoke model has been built for PD and LGD for sovereign ratings. For sovereigns where there is no externally available rating, we use an internally developed PD scorecard. The scorecard has been developed using historic data on sovereigns, including external data, covering a wide range of qualitative

and quantitative information. Our LGD model is based on resolved recoveries in the public domain, with a significant element of conservatism added to compensate for the small sample size.

To construct ratings for institutions, corporates, specialised lending and purchased corporate receivables and equity exposures, we use external models, rating agencies and internally constructed models. To validate each of these approaches we apply the same high standards as we do when developing internal ratings. The data used in validating these primary indicators are representative of the population of the bank's actual obligors and exposures and its long-term experience.

PD models built solely from internally produced data are also widely used. We employ a range of methods in the construction of these models. The basic types of PD modelling approaches used are:

- Structural

- Expert lender

- Statistical

Structural models incorporate in their specification the elements of the industry-accepted Merton framework to identify the distance to default for a counterparty. This relies upon the modeller having access to specific time series data or data proxies for the portfolio. Data samples used to build and validate these models are typically constructed by adding together data sets from internal default observations with comparable externally obtained data sets from commercial providers such as rating agencies and industry gathering consortia.

Expert lender models are used for parts of the portfolio where the risk drivers are specific to a particular counterparty, but where there is insufficient data to support the construction of a statistical model. These models utilise the knowledge of credit experts that have in depth experience of the specific customer type being modelled.

For any of the portfolios where we have a low number of default observations, we adopt specific rules to ensure that the calibration of the model meets the Basel II and FSA criteria for conservatism.

We have developed our own internal policy which describes specific criteria for the use of parametric and non-parametric low default portfolio calibration techniques.

Statistical models such as behavioural and application scorecards are used for our high volume portfolios such as Small/Medium Enterprises (SME). The model builds typically incorporate the use of large amounts of internal data, combined with supplemental data from external data suppliers. Where external data is sourced to validate or enhance internally-held data as part of the risk assessment process or to support model development and BAU operation, a similar approach is adopted towards ensuring data quality to that applied to the management of internal data. This entails adherence to the Group's procurement and supplier management process, including the agreement of specifications and service level agreements.

In wholesale portfolios, the main approaches to calculate LGD aim to establish the affects of drivers (including industry, collateral coverage, recovery periods, seniority and costs) by looking at Barclays historical experience, supplemented with other external information where necessary. Estimates built using historical information are reviewed to establish whether they can be expected to be representative of future loss rates, and adjusted if necessary.

In a similar fashion, wholesale EAD models estimate the potential utilisation of headroom based on historical information also considering the future outlook of client behaviour.

Typically, modellers do not apply adjustments to external data before using it as input to the model estimation or validation procedure. Changes required in the estimation and validation process are documented in the model build papers.

For all the above asset classes, we use the Basel II definition of default, utilising the 90 day past due criteria as the final trigger of default.

## **Derivative counterparty credit risk measurement**

The economic value associated with the trading exposure is determined by considering the current mark to market of the contract, the historic volatility of the underlying asset and the time to maturity. This allows calculation of a credit equivalent exposure (CEE) for such exposures using a stochastic method.

### **Ratings process: Retail approaches**

Our retail banking operations have long and extensive experience of using credit models in assessing and managing risk in their businesses and, as a result, models play an integral role in customer approval and management processes.

Models used include PD models, mostly in the form of application and behavioural scorecards, as well as LGD and EAD models.

Application scorecards are derived from the historically observed performance of new clients. They are built using customer demographic and financial information, supplemented by credit bureau information where available. Through statistical techniques, the relationship between these candidate variables and the default marker is quantified to produce output scores reflecting a PD. These scores are used primarily for new customer decisioning but are, in some cases, also used to allocate PDs to new customers for the purposes of capital calculation.

Behavioural scorecards are derived from the historically observed performance of existing clients which is supplemented by data used for application scoring (including bureau data). The techniques used to derive the output are the same as for application scoring. The output scores are used for existing customer management activities as well as for allocating PDs to existing customers for the purposes of capital calculation.

Barclays embeds Basel II models as extensively as possible in the portfolio management process. This is an ongoing initiative and we expect greater convergence over time. However, in some cases there are sound business reasons for having different models for capital allocations and internal processes.

Barclays employs two broad methodological approaches to modelling EAD factors for retail portfolios. The less complex models derive product level credit conversion factors (CCFs) from historical balance migrations; these are frequently further segmented at a delinquency bucket level. The most sophisticated EAD models are behavioural based, determining customer level CCFs from characteristics of the individual facility.

Retail LGD models are built using bespoke methods chosen to best model the observed recovery process. In a number of secured portfolios, structural models are often used which parameterise the LGD drivers giving models which can easily be updated to reflect current market trends. Models based on historical cash collected curves are often utilised in portfolios where recoveries are not based on the recovery of a single source of collateral. Finally, in some instances regression techniques are used to generate predicted LGDs based on account characteristics. In all instances, bespoke country level factors are derived to discount recovery flows to the point of default. For capital calculations, customised economic downturn adjustments are made to adjust losses to stressed conditions.

Most retail models within Barclays are built in-house, although occasionally external consultants will be contracted to build models on behalf of the businesses. Whilst most models are statistically or empirically derived, some expert lender models (similar to those described above in the wholesale context) are used, particularly where data limitations preclude a more sophisticated approach.

Where models are used in the calculation of regulatory capital, the definition of default is in line with the regulatory definition of default requirements i.e. for UK portfolios the default definition is 180 days past due whilst international regulators may have different rules. In some cases, for models not used in regulatory capital calculations, in order to maximise model suitability, different default definitions are used. However, in all cases EAD and LGD models are appropriately aligned.

The following table shows the relationship between the financial statements description and external ratings on listed or unlisted debt securities

**Table 8: External ratings and financial statements description**

External Ratings	Financial Statements Description
AAA, AA+, AA, AA-, A+, A, A-, BBB+, BBB, BBB-	Strong
BB+, BB, BB-, B+, B	Satisfactory
B-, CCC+, CCC and lower	Higher risk

The following table summarises the principal portfolios within Barclays that use the Standardised, Foundation IRB and Advanced IRB approaches as at December 2009:

**Table 9: The scope of the Standardised and IRB approaches**

Business	Standardised Approach	Foundation IRB Approach	Advanced IRB Approach
Barclays Capital	Emerging markets, fund of funds, insurance	None	Most portfolios
Barclays Wealth	All portfolios	None	None
UK Retail Banking	Certain minor portfolios within personal accounts, mortgages and consumer loans	None	Most portfolios
Barclays Commercial Bank	Non UK portfolios and asset and trade financing and sales portfolios	None	Larger and Medium business portfolios
Barclaycard	Corporate credit cards and non UK portfolios	None	UK retail credit cards
Global Retail & Commercial Banking - Western Europe	All portfolios, except Mortgages Portugal, most Mortgages Italy	None	Mortgages Portugal, most Mortgages Italy
Global Retail & Commercial Banking - Emerging Markets	All portfolios	None	None
Absa	Certain minor portfolios	Wholesale portfolios	Retail portfolios
Head office Functions and other operations	None	None	All portfolios

The following table shows the Group's exposure for Advanced IRB approach and Foundation IRB approach portfolios in its wholesale business in both the Trading and Banking books.

**Table 10: IRB wholesale obligor grade disclosure**

10a: Central Governments and Banks

Obligor Grade	Central Governments & Central Banks				
	Advanced IRB		Foundation IRB		
As at 31.12.09	Exposure-Weighted Average EAD Post CRM	Exposure-Weighted Average LGD Risk Weight	Average Underwritten Commitments	Average EAD Post CRM	Exposure-Weighted Average Risk Weight
	£m	%	%	£m	£m
	120,040	15.81	1.23	918	-

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Default Grade 1-3				1,336,256	
Default Grade 4-5	1,534	12.26	9.13	1561,824	25.17
Default Grade 6-8	469	39.01	38.74	15 235-	-
Default Grade 9-11	28	61.21	113.06	- 1020	69.71
Default Grade 12-14	54	65.37	162.62	16 58-	-
Default Grade 15-19	-	-	-	- 132	139.83
Default Grade 20-21	-	-	-	- --	-
In default	-	-	-	- --	-
<b>Total</b>	<b>122,125</b>	<b>15.89</b>	<b>1.57</b>	<b>1,528,487</b>	<b>1.88</b>

**Central Governments & Central Banks**

Obligor Grade	Advanced IRB			Foundation IRB		
	Exposure-Weighted EAD Post CRM	Exposure-Weighted Average LGD	Exposure-Weighted Average Risk Weight	Average Undrawn Exposure Post CRM	Average Undrawn Exposure Post CRM	Exposure-Weighted Average Risk Weight
As at 31.12.08	£m	%	%	£m	£m	%
Default Grade 1-3	80,831	9.96	0.75	1,484	34,418-	-
Default Grade 4-5	2,653	8.88	5.45	263	2,405-	-
Default Grade 6-8	10	26.13	34.20	-	33-	-
Default Grade 9-11	56	58.60	119.21	-	76-	-
Default Grade 12-14	90	42.30	124.92	-	97-	-
Default Grade 15-19	13	74.39	279.34	-	43	145.12
Default Grade 20-21	-	-	-	-	--	-
In default	-	-	-	-	--	-
<b>Total</b>	<b>83,653</b>	<b>10.01</b>	<b>1.16</b>	<b>1,747</b>	<b>37,033</b>	<b>145.12</b>

AIRB exposures to central governments and central banks have increased by £38,472m reflecting Barclays higher liquidity buffers. This occurred in Default Grades 1 to 3, reflecting the high credit ratings of central governments.

10b: Institutions

Obligor Grade	Institutions				Foundation IRB	
	EAD Post CRM	Exposure-Weighted Average LGD	Exposure-Weighted Average Risk Weight	Undrawn Exposure Post CRM	Average Exposure Value	Exposure-Weighted Average Risk Weight



<b>As at 31.12.09</b>	£m	%	%	£m	£m	£m	%
Default Grade 1-3	57,377	35.37	10.25	2,979	98,825	1,449	8.2
Default Grade 4-5	3,080	35.17	16.59	123	8,126	1,880	8.9
Default Grade 6-8	1,338	49.63	45.84	146	2,233	113	17.1
Default Grade 9-11	385	45.06	54.42	21	4,036	3	60.9
Default Grade 12-14	492	38.89	82.93	27	2,904	45	104.7
Default Grade 15-19	92	43.22	141.82	1	1,622	1	185.3
Default Grade 20-21	7	49.63	270.15	-	992	-	
In default	97	65.81	-	-	922	-	
<b>Total</b>	<b>62,868</b>	<b>35.81</b>	<b>12.36</b>	<b>3,297</b>	<b>119,660</b>	<b>3,491</b>	<b>10.2</b>

## Institutions

<b>Obligor Grade As at 31.12.08</b>	<b>EAD Post CRM</b>	<b>Advanced IRB</b>			<b>Undrawn Commitments</b>	<b>Average Exposure Value</b>	<b>Foundation IRB</b>	
		<b>Exposure-Weighted Average LGD</b>	<b>Exposure-Weighted Average Risk Weight</b>	<b>Post CRM</b>			<b>Exposure-Weighted Average Risk Weight</b>	
	£m	%	%	£m	£m	£m	%	
Default Grade 1-3	120,065	40.98	13.17	8,693	94,935	2,328	3.1	
Default Grade 4-5	13,595	43.67	29.33	1,295	12,651	717	7.1	
Default Grade 6-8	3,701	43.26	39.99	481	5,612	217	12.1	
Default Grade 9-11	6,449	57.74	72.54	98	7,929	1	77.1	
Default Grade 12-14	1,803	40.74	83.31	139	2,548	18	104.1	
Default Grade 15-19	2,255	22.67	87.71	121	1,625	1	154.1	

Default Grade								
20-21	1,009	26.53	152.39	29	522	-		
In default	1,570	50.79	0.01	-	385	3		
<b>Total</b>	<b>150,447</b>	<b>41.73</b>	<b>20.59</b>	<b>10,856</b>	<b>126,207</b>	<b>3,285</b>		<b>5.</b>

Average risk weights have decreased as a result of lower Loss Given Default (LGD).  
2008 figures under Foundation IRB were restated to reflect the effect of collateral in Absa.

## 10c: Corporates

Obligor Grade	Corporates				Undrawn Commitments	Average Exposure Value	Foundation IRB	
	EAD Post CRM	Exposure-Weighted Average LGD	Advanced IRB Exposure-Weighted Average Risk Weight	Exposure-Weighted Average Risk Weight			EAD Post CRM	Exposure-Weighted Average Risk Weight
As at 31.12.09	£m	%	%	£m	£m	£m		
Default Grade 1-3	53,436	36.81	13.43	21,685	41,100	1,141		17
Default Grade 4-5	34,908	33.13	20.91	21,478	34,356	3,771		27
Default Grade 6-8	21,445	37.15	37.84	12,142	19,419	2,051		45
Default Grade 9-11	20,121	43.01	59.25	8,569	15,370	1,928		63
Default Grade 12-14	26,295	39.36	88.81	8,688	24,986	3,989		90
Default Grade 15-19	18,079	39.00	131.97	3,357	17,053	1,724		129
Default Grade 20-21	7,529	37.34	193.00	757	5,067	281		174
In default	4,868	43.20	59.82	378	3,226	685		
<b>Total</b>	<b>186,681</b>	<b>37.59</b>	<b>53.12</b>	<b>77,054</b>	<b>160,577</b>	<b>15,570</b>		<b>62</b>

Obligor Grade	Corporates				Undrawn Commitments	Average Exposure Value	Foundation IRB	
	EAD Post CRM	Exposure-Weighted Average LGD	Advanced IRB Exposure-Weighted Average Risk Weight	Exposure-Weighted Average Risk Weight			EAD Post CRM	Exposure-Weighted Average Risk Weight
As at 31.12.08	£m	%	%	£m	£m	£m		
Default Grade	52,558	35.84	13.60	24,341	30,964	1,051		15

1-3 Default Grade							
4-5 Default Grade	46,007	32.33	21.38	24,830	40,335	2,480	28
6-8 Default Grade	23,564	39.66	42.46	10,766	27,151	1,479	44
9-11 Default Grade	17,274	40.01	57.66	6,985	20,775	1,665	63
12-14 Default Grade	24,545	42.20	90.71	8,472	24,153	4,095	94
15-19 Default Grade	16,048	41.24	131.69	4,135	16,561	1,482	126
20-21 Default Grade	3,322	43.35	206.36	669	2,519	62	190
In default	1,832	35.70	46.96	161	1,142	223	
<b>Total</b>	<b>185,150</b>	<b>37.29</b>	<b>47.56</b>	<b>80,359</b>	<b>163,600</b>	<b>12,537</b>	<b>67</b>

Increase in balances and higher LGD in grades 9 to 21 were driven by re-classification of bank counterparties to corporates.

2008 figures under Foundation IRB were restated to reflect the effect of collateral in Absa.

#### 10d: Central Governments & Central Banks, Institutions and Corporates

Obligor Grade As at 31.12.09	Total IRB Central Governments & Central Banks, Institutions and Corporates						
	EAD Post CRM	Exposure-Weighted Average LGD	Advanced IRB Average Risk Weight	Undrawn Commitments	Average Exposure Value	Foundation IRB EAD Post CRM	Exposure-Weighted Average F Wei
	£m	%	%	£m	£m	£m	
1-3 Default Grade	230,853	25.46	7.32	25,999	226,181	3,508	9
4-5 Default Grade	39,522	32.48	20.12	21,757	44,306	5,655	21
6-8 Default Grade	23,252	37.91	38.32	12,303	21,887	2,164	43
9-11 Default Grade	20,534	43.07	59.23	8,590	19,507	1,951	63
	26,841	39.40	88.85	8,731	27,948	4,034	90

12-14 Default Grade							
15-19 Default Grade	18,171	39.02	132.02	3,358	18,688	1,727	129
20-21 In default	7,536	37.35	193.07	757	6,059	281	174
	4,965	43.64	58.65	378	4,148	685	
<b>Total</b>	<b>371,674</b>	<b>30.16</b>	<b>29.29</b>	<b>81,873</b>	<b>368,724</b>	<b>20,005</b>	<b>50</b>

**Total IRB Central Governments & Central Banks, Institutions and Corporates**

Obligor Grade As at 31.12.08	Advanced IRB			Undrawn Commitments	Average Exposure Value	Foundation IRB	
	EAD Post CRM	Exposure-Weighted Average LGD	Average Risk Weight			EAD Post CRM	Exposure-Weighted Average F Wei
	£m	%	%	£m	£m	£m	
1-3 Default Grade	253,454	29.93	10.35	34,518	160,317	3,379	7
4-5 Default Grade	62,255	33.81	22.44	26,388	55,391	3,197	23
6-8 Default Grade	27,275	40.14	42.12	11,247	32,796	1,696	40
9-11 Default Grade	23,779	44.86	61.84	7,083	28,780	1,666	6
12-14 Default Grade	26,438	42.10	90.32	8,611	26,798	4,113	94
15-19 Default Grade	18,316	38.98	126.38	4,256	18,190	1,486	120
20-21 In default	4,331	39.43	193.78	698	3,041	62	190
	3,402	42.66	25.33	161	1,527	226	
<b>Total</b>	<b>419,250</b>	<b>33.44</b>	<b>28.62</b>	<b>92,962</b>	<b>326,840</b>	<b>15,825</b>	<b>54</b>

Aggregate EAD under the Advanced IRB approach decreased £47,576m. This was due to decreased exposure to institutions; in addition to exposures that were re-classed as corporates, positions with institutions (other banks) were actively managed down during the year.

2008 figures under Foundation IRB were restated to reflect the effect of collateral in Absa.

**Advanced IRB Retail Expected Loss Grade Disclosures**

The tables below show analyses of retail exposures by Expected Loss (EL) Grade bucket in the retail portfolios modelled under the Advanced IRB approach. Secured and unsecured exposures are shown in separate tables to take account of the fact that their risk profiles are different. This is reflected in the different risk buckets used.

Table 11 shows the Group's retail exposures under the Advanced IRB approach by Expected Loss (EL) Grade for exposures secured by real estate collateral.

**Table 11: Analysis of exposures secured on real estate collateral by expected loss grade**

EL Grade	EAD Post CRM	
	Retail exposures secured on real estate collateral	
	As at 31.12.09	As at 31.12.08
	£m	£m
EL Grade => 0 - < 0.15%	102,021	84,070
EL Grade => 0.15 - < 0.3%	13,224	10,356
EL Grade => 0.3 - < 0.8%	7,337	6,867
EL Grade => 0.8 - < 2.15%	3,132	2,596
EL Grade => 2.15 - < 4.45%	681	1,103
EL Grade => 4.45 - < 8.65%	1,135	477
EL Grade => 8.65 - < 18.65%	2,177	1,391
EL Grade => 18.65 - < 100%	207	94
<b>Total</b>	<b>129,914</b>	<b>106,954</b>

The exposure has increased by £22,960m mainly driven by an increase of £17,951m in the lowest-risk bucket. This was driven mainly by the inclusion of certain low credit risk portfolios under the advanced approach.

The following table shows the EAD for unsecured retail exposures.

**Table 12: Analysis of unsecured exposures by expected loss grade**

EL Grade	EAD Post CRM			
	Retail SME	Qualifying revolving retail	Other retail	Total Unsecured Retail
	£m	£m	£m	£m
EL Grade => 0 - < 0.8%	8,290	16,681	3,927	28,898
EL Grade => 0.8 - < 2.15%	2,138	4,890	4,321	11,349
EL Grade => 2.15 - < 3.05%	561	1,207	782	2,550
EL Grade => 3.05 - < 4.45%	494	1,194	1,241	2,929
EL Grade => 4.45 - < 6.35%	473	740	467	1,680
EL Grade => 6.35 - < 8.65%	304	579	386	1,269
EL Grade => 8.65 - < 18.65%	512	1,387	867	2,766
EL Grade => 18.65 - < 100%	482	2,113	1,842	4,437
<b>Total</b>	<b>13,254</b>	<b>28,791</b>	<b>13,833</b>	<b>55,878</b>

EL Grade	EAD Post CRM			
	Retail SME	Qualifying revolving retail	Other retail	Total Unsecured Retail
	£m	£m	£m	£m
EL Grade => 0 - < 0.8%	8,032	16,698	5,405	30,135
EL Grade => 0.8 - < 2.15%	2,248	3,987	3,896	10,131

EL Grade => 2.15 - < 3.05%	711	1,002	1,098	2,811
EL Grade => 3.05 - < 4.45%	564	1,015	818	2,397
EL Grade => 4.45 - < 6.35%	569	673	469	1,711
EL Grade => 6.35 - < 8.65%	394	940	337	1,671
EL Grade => 8.65 - < 18.65%	487	806	584	1,877
EL Grade => 18.65 - < 100%	606	1,168	1,384	3,158
<b>Total</b>	<b>13,611</b>	<b>26,289</b>	<b>13,991</b>	<b>53,891</b>

**The increase in Qualifying Revolving Retail was driven by the roll out of certain credit card portfolios to the IRB approach. Although difficult market and economic conditions have driven a deterioration of the EL across Barclays retail portfolios, credit performance has generally shown good resilience due to active management of limits and underwriting standards**

#### Impairment and Actual Value Charges

Table 13 shows the impairment and actual value adjustments taken by the Group in the portfolios to which the IRB approaches apply. The figures include actual value adjustments taken on portfolios within the trading book and banking book where the Advanced IRB approach is used to determine the counterparty credit exposure. These charges are included within the net trading income and net investment income within the Barclays 2009 Annual Report. For this and other reasons, the figures below differ from the Impairment roll-forward analysis in Table 33 ("Analysis of movement on impairment and amounts taken directly to profit and loss"). Additionally, the figures below are only for portfolios that use the IRB approaches; in contrast, the analysis in Table 33 shows impairment and actual value charges for both IRB and Standardised approach portfolios.

**Table 13: Impairment charges and actual value adjustments**

IRB Exposure Class	Actual Value Adjustments and Individual Impairment Charges	
	Year ended	
	As at 31.12.09	As at 31.12.08
	£m	£m
Central governments or central banks	(11)	-
Institutions	112	925
Corporates	3,063	1,063
<b>Retail</b>		
- Retail SME	111	78
- Retail exposures secured by real estate collateral	206	126
- Qualifying revolving retail	76	23
- Other retail	177	86
Equity	-	-
Securitisation positions	-	-

Non-credit obligation assets	-	-
<b>Total</b>	<b>3,734</b>	<b>2,301</b>

The £813m reduction in charges on institutions is driven by the removal of trades with Lehman Brothers, which were impaired in 2008. Impairment charges on corporates have increased primarily due to ratings downgrades that occurred during 2009 within certain asset-backed portfolios. There was a slight improvement in impairment ratios in the second half of 2009.

#### Loss Analysis - Regulatory Expected Loss versus Actual Losses

The following table shows Barclays Regulatory Expected Loss measure compared with an actual loss measure in 2009 for those portfolios where credit risk is calculated using the Internal Ratings Based approach.

##### **Regulatory Expected Loss**

Regulatory Expected Loss is a Basel II measure based upon Pillar 1 metrics which is an input to the Capital Adequacy process. Regulatory Expected Loss can be seen as an expectation of average future loss as derived from our IRB models, and is not a prediction of future impairment.

For non-defaulted assets, Regulatory Expected Loss is calculated using probability of default and downturn loss given default estimates. For the calculation of Regulatory Expected Loss for defaulted assets, the probability of default is 100% and loss given default is based upon an estimate of likely recovery levels for each asset.

##### **Actual Loss**

Cumulative Actual Loss is made up of two parts: the existing impairment stock at 31<sup>st</sup> December 2008 plus the net impairment charge recorded through the income statement in 2009.

Cumulative Actual Loss includes a degree of impairment allowance on assets not identified as being in default at the balance sheet date and can also include charges against assets that were originated during the year and which were therefore outside of the scope of the Regulatory Expected Loss calculated at the beginning of the year. Actual Loss does not include the effects on impairment stock of amounts written off in the year.

**Table 14: Analysis of expected loss versus actual losses**

	<b>Total Expected Loss to 31.12.09</b>	<b>Total Actual Loss to 31.12.09</b>
<b>IRB Exposure Class</b>	£m	£m
Central governments or central banks	2	9
Institutions	941	1,146
Corporates	1,375	4,628
<b>Retail</b>		
- SME	369	386
- Secured by real estate collateral	423	570
- Qualifying revolving retail	1,273	1,777
- Other retail	1,123	1,548
Equity	-	-

Securitisation positions	13	-
Non-credit obligation assets	N/A	N/A
<b>Total IRB</b>	<b>5,519</b>	<b>10,064</b>

	<b>Total Expected Loss to 31.12.08</b>	<b>Total Actual Loss to 31.12.08</b>
<b>IRB Exposure Class</b>	£m	£m
Central governments or central banks	2	2
Institutions	168	987
Corporates	881	1,609
<b>Retail</b>		
- SME	399	346
- Secured by real estate collateral	304	298
- Qualifying revolving retail	1,117	1,503
- Other retail	1,033	1,351
Equity	4	-
Securitisation positions	-	-
Non-credit obligation assets	N/A	N/A
<b>Total IRB</b>	<b>3,908</b>	<b>6,096</b>

The £3,968m increase in the actual loss was driven by the deteriorating economic conditions in 2008 and 2009, by portfolio maturation and by currency movements.

Regulatory expected loss has increased by £1,611m, reflecting deterioration in credit conditions.

Both actual and expected losses were also partly driven by roll out of certain portfolios to the IRB approach.

**While the impairment charge and the expected loss measure respond to similar drivers, they are not comparable. The expected loss does not reflect growth of portfolios or changes in the mix of exposures. In forecasting and tracking impairment, the Group looks at actual trends in the cash flow behaviour of customer accounts. Also, in times of stress we expect actual losses to be higher than the expected loss by definition; actual losses will capture losses beyond the average measures captured by expected loss.**

#### Credit Model Performance - Estimated versus Actual

The following table shows the forecast and actual probability of default, loss given default and exposure at default ratio for the assets under the IRB approach. In each case, the forecasts are based on Barclays operational model calibrations at the start of the period. This may differ from the models' applications in regulatory capital calculations where the probability of default is generally estimated on a "through the cycle" basis and the loss given default on a downturn basis. Additionally, regulatory capital calculations set minimum values for certain parameters which are typically more conservative than Barclays modelled and observed values. In particular, retail loans secured by real estate collateral have a regulatory minimum LGD of 10%.

The PDs below are based on the total portfolio of Advanced and Foundation assets managed by the Group. Individual portfolio PDs within an exposure class have been weighted in proportion to the expected monetary loss of the portfolio to arrive at the class PD. The LGD percentages and EAD ratios are based on analysis of defaulted assets only, under the Advanced approach (the Foundation approach does not estimate these figures but uses parameters stipulated by FSA regulations).

#### Table 15: Analysis of expected credit model performance versus actual results



IRB Exposure Class	PD of Total Portfolio		LGD of Defaulted Assets <sup>1</sup>		Exposure at Default of Defaulted Assets <sup>1</sup>
	Estimated	Actual	Estimated	Actual	Estimate to Actual Ratio <sup>2</sup>
	%	%	%	%	
<b>Wholesale</b>					
Central Governments or central banks	0.17%	0.00%	9.95%	0.00%	N/A
Institutions	0.96%	0.20%	49.01%	46.17%	1.01
Corporates	2.23%	1.67%	39.72%	32.72%	1.07
<b>Retail</b>					
SME	6.87%	6.19%	61.78%	50.74%	0.98
Secured by real estate collateral UK <sup>3</sup>	0.57%	0.52%	13.00%	10.00%	1.03
Secured by real estate collateral Rest of World <sup>3</sup>	4.27%	3.92%	19.34%	21.69%	0.99
Qualifying revolving retail	3.88%	2.74%	85.10%	87.52%	0.93
Other retail	8.10%	7.96%	73.08%	74.49%	1.09

Barclays retail credit models continue to perform adequately across all portfolios. Actual outcomes have generally been close to model estimates.

Notes on Table 15:

<sup>1</sup> Where default rates are typically low Barclays carries out multi-year analysis to improve the sample data and as such the estimates and outcomes above do not represent the results for a single year. The LGD results for different portfolios have been weighted in proportion to the expected EAD of the defaulted assets. Where individual portfolio EAD results are based on multi-year analysis they have been annualised for consolidation by dividing them by the period of years the sample portfolio covers. Barclays does not use PD, EAD, LGD and expected loss models to calculate the credit risk of its equity, securitisation, and non-credit obligation asset portfolios. Accordingly there is no model analysis to disclose for these exposure classes.

<sup>2</sup> FSA regulations require the disclosure of appropriate components of the credit models' expected loss such as PD, LGD and Credit Conversion Factor (CCF). The CCF is a models' estimation of the utilisation of undrawn commitments at the time of default. Barclays believes that it is more useful and appropriate to disclose the ratio of the pre default estimated EAD to the actual EAD of defaulted assets at the time of default. Where the estimate exceeds the actual exposure the ratio is greater than 100%.

<sup>3</sup> Barclays has shown the model performance information for UK and ROW retail exposures secured on real estate collateral separately because the total portfolio does not give homogeneous results.

## Counterparty Credit Risk

### Counterparty Credit Exposures

Counterparty credit exposure arises from the risk that parties are unable to meet their payment obligations under certain financial contracts such as derivatives, securities financing transactions (e.g. repurchase agreements), or long settlement transactions.

Internal capital for counterparty credit risk is assessed and allocated based on the economic capital for wholesale credit risk calculation. The magnitude of the exposure is determined by considering the current mark to market of the contract, the historic volatility of the underlying asset and the time to maturity. This allows calculation of a credit equivalent exposure (CEE) for such exposures. The total economic capital for a portfolio of such exposures is then calculated in a manner similar to a book of loans.

Credit risk from derivatives is mitigated where possible through netting agreements whereby derivative assets and liabilities with the same counterparty can be offset. Group policy requires all netting arrangements to be legally documented. The ISDA Master Agreement is the Group's preferred agreement for documenting OTC derivatives. It provides the contractual framework within which dealing activities across a full range of OTC products are conducted and contractually binds both parties to apply close-out netting across all outstanding transactions covered by an agreement if either party defaults or other predetermined events occur.

Collateral is obtained against derivative assets, depending on the creditworthiness of the counterparty and/or nature of the transaction. Any non-cash collateral taken in respect of OTC trading exposures will be subject to a 'haircut' which is negotiated at the time of signing the collateral agreement. A haircut is the valuation percentage applicable to each type of collateral and will be largely based on liquidity and price volatility of the underlying security. The collateral obtained for derivatives is either cash, direct debt obligation government (G14+) bonds denominated in the domestic currency of the issuing country, debt issued by supranationals or letters of credit issued by an institution with a long-term unsecured debt rating of A+/A3 or better. Where the Group has ISDA master agreements, the collateral document will be the ISDA Credit Support Annex (CSA). The collateral document must give Barclays the power to realise any collateral placed with it in the event of the failure of the counterparty, and to place further collateral when requested or in the event of insolvency, administration or similar processes, as well as in the case of early termination.

'Wrong way risk' in a trading exposure arises when there is significant correlation between the underlying asset and the counterparty which in the event of default would lead to a significant mark to market loss. When assessing the credit exposure of a wrong way trade, analysts take into account the correlation between the counterparty and the underlying asset as part of the sanctioning process.

Adjustments to the calculated CEE are considered on a case by case basis. In the case of specific wrong-way risk trades, which are self-referencing or reference other entities within the same counterparty, specific approval by a senior credit officer is required.

Table 16 shows Barclays counterparty credit exposure including the impact of netting contracts and the offset of collateral held (see "Credit Risk Mitigation" section for policies governing collateral management). Where the Group calculates the exposure under the Standardised approach and the Internal Model Method, the impact of both netting and collateral is integral to the calculation of the exposure. These contract exposures are therefore only available on a net basis. Where the Group uses the mark to market approach, it is possible to identify the impact of netting and collateral.

In line with industry practice, Barclays normally deducts collateral received from the loss given default or risk weight rather than from the exposure in calculating the expected loss.

### Table 16: Counterparty credit exposure

	<b>Gross Positive Fair Value of Contracts</b>	<b>Potential Future Credit Exposure</b>	<b>Netting Benefits</b>	<b>Netted Current Credit Exposure</b>	<b>Collateral Held</b>	<b>Net Derivatives Credit Exposure</b>
<b>As at</b>	£m	£m	£m	£m	£m	£m
<b>31.12.09</b>						
Mark to Market Method	4,311	3,017	(2,993)	4,335	15	4,320
Internal Model Method	N/A	N/A	N/A	N/A	N/A	67,423
<b>Total</b>						<b>71,743</b>

	<b>Gross Positive Fair Value of Contracts</b>	<b>Potential Future Credit Exposure</b>	<b>Netting Benefits</b>	<b>Netted Current Credit Exposure</b>	<b>Collateral Held</b>	<b>Net Derivatives Credit Exposure</b>
<b>As at</b>	£m	£m	£m	£m	£m	£m
<b>31.12.08</b>						
Mark to Market Method	31,640	25,280	(37,595)	19,325	-	19,325
Internal Model Method	N/A	N/A	N/A	N/A	N/A	108,130
<b>Total</b>						<b>127,455</b>

Net derivatives credit exposure decreased by £55,712m from 2008 to 2009. The majority of this change was driven by market movements and elimination of offsetting contracts with counterparties.

In addition to the £71,743m counterparty credit exposure under Mark to Market and Internal Model Methods (2008: £127,455m), Barclays has an additional counterparty credit exposure of £3,382m (2008: £2,122m) calculated under other approved approaches.

The 2008 figures under the Mark to Market Method were restated following alignment with 2009 methodology in Absa.

#### Credit derivative notionals

The following table shows the notional of the credit derivative transactions outstanding as at year-end. Exposure where Barclays is the protection purchaser and where it is the protection seller, are shown separately.

Barclays internal counterparty credit risk models calculate expected exposure as the first stage in the preparation of the regulatory capital requirement. The model is calibrated to simulate an economic downturn through the use of a scaling factor (known generically as alpha) to arrive at the exposure at default.

**Table 17: Notionals of credit derivative contracts**

<b>Outstanding Amount of Exposure held:</b>	<b>Notional Exposure to Credit Derivative Transaction</b>			
	<b>Own Credit Portfolio</b>		<b>Intermediation Activities</b>	
	<b>As Protection Purchaser</b>	<b>As Protection Seller</b>	<b>As Protection Purchaser</b>	<b>As Protection Seller</b>
	£m	£m	£m	£m

**Credit Derivative Product****Type as at 31.12.09**

Credit Default Swaps	19,372	6,727	995,009	974,610
Total Return Swaps	9	9	18,408	2,652
<b>Total</b>	<b>19,381</b>	<b>6,736</b>	<b>1,013,417</b>	<b>977,262</b>

**Notional Exposure to Credit Derivative Transaction**

<b>Outstanding Amount of Exposure held:</b>	<b>Own Credit Portfolio</b>		<b>Intermediation Activities</b>	
	<b>As Protection Purchaser</b>	<b>As Protection Seller</b>	<b>As Protection Purchaser</b>	<b>As Protection Seller</b>
<b>Credit Derivative Product Type as at 31.12.08</b>	£m	£m	£m	£m
Credit Default Swaps	16,516	13,120	1,490,211	1,410,249
Total Return Swaps	-	-	42,902	2,820
<b>Total</b>	<b>16,516</b>	<b>13,120</b>	<b>1,533,113</b>	<b>1,413,069</b>

The reduction in credit default swap notionals reflects an increase in the frequency of activity to manage trades with participating counterparties.

The following table shows the Group's exposure at default (EAD) to counterparty credit risk after credit risk mitigation (CRM) analysed by the type of financial contract. The nature of the calculation of credit exposure under the Internal Model Method precludes the identification of individual product exposures. Only a total for each counterparty is calculated.

**Table 18: Counterparty credit exposures analysed by financial contract type**

<b>Financial Contract Type</b>	<b>As at 31.12.09</b>	
	<b>EAD Post CRM under Mark to Market Approach</b>	<b>EAD Post CRM under Internal Model Method</b>
	£m	£m
Interest Rate Contracts	994	N/A
Foreign Currency Contracts	764	N/A
Gold Contracts	-	N/A
Equities Contracts	485	N/A
Precious Metal other than Gold Contracts	150	N/A
Commodities other than Precious Metal Contracts	1,082	N/A
Securities financing transactions	1,064	N/A
Credit Derivatives	35	N/A
Other	810	N/A
<b>Total</b>	<b>5,384</b>	<b>104,481</b>

  

<b>Financial Contract Type</b>	<b>As at 31.12.08</b>	
	<b>EAD Post CRM under Mark to Market Approach</b>	<b>EAD Post CRM under Internal Model Method</b>
	£m	£m
Interest Rate Contracts	1,362	N/A

Credit derivative notionals

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Foreign Currency Contracts	1,616	N/A
Gold Contracts	35	N/A
Equities Contracts	1,018	N/A
Precious Metal other than Gold Contracts	178	N/A
Commodities other than Precious Metal Contracts	14,078	N/A
Securities financing transactions	1,261	N/A
Credit Derivatives	177	N/A
Other	861	N/A
<b>Total</b>	<b>20,586</b>	<b>157,542</b>

This table shows the same exposures as table 16, in addition to securities financing transactions. Overall exposures under the MTM and IMM approaches have decreased following market movements and active management of offsetting contracts with counterparties.

Exposures against financial contracts on commodities other than precious metals contracts have decreased by £12,996m as certain power/gas trades are now treated under the Internal Model Method. In addition to the £109,865m counterparty credit exposure under Mark to Market and Internal Model Methods (2008: £178,128m), Barclays has additional counterparty credit exposure under securities financing transactions of £5,705m (2008: £4,171m), as well as exposures that would fall under the "other" category of £3,382m (2008: 2,122). These are calculated using other approved approaches. The 2008 figures under the Mark to Market Method were restated following alignment with 2009 methodology in Absa.

The following table sets out the notional value of the Group credit derivative contracts held for hedging purposes.

**Table 19: Notional value of credit derivative contracts held for hedging purposes**

Risk Methodology	As at 31.12.09	As at 31.12.08
	£m	£m
Notional value of credit derivative hedges for Standardised Method	-	-
Notional value of credit derivative hedges for Mark to Market Method	-	-
Notional value of credit derivative hedges under the Internal Model Method	4,090	5,047
<b>Total</b>	<b>4,090</b>	<b>5,047</b>

The notional value of credit derivative hedges has decreased £957m following the closure of certain books.

## Credit Risk Exposures

### Standardised Approach Credit Exposure

The following table shows Barclays credit exposure for its portfolios under the Standardised approach before the use of credit risk mitigation (CRM).

**Table 20: Credit risk exposure under the Standardised approach**

EAD Pre-CRM	As at 31.12.09
	Average EAD Pre-CRM over the year

<b>Standardised Approach Credit Risk Exposure Class</b>	£m	£m
Central governments or central banks	10,329	6,558
Regional government or local authorities	260	197
Administrative bodies and non-commercial undertakings	384	338
Institutions	2,909	3,375
Corporates	44,777	50,650
Retail	26,130	26,938
Secured on real estate property	26,881	32,041
Past due items	4,116	3,584
Private equity	2,138	2,173
Short term claims on institutions and corporates	-	6,553
Collective investment undertakings	921	1,464
Other items	3,643	2,695
<b>Total Standardised Credit Risk Exposure</b>	<b>122,488</b>	<b>136,566</b>

	<b>EAD Pre-CRM</b>	<b>As at 31.12.08 Average EAD Pre-CRM over the year</b>
<b>Standardised Approach Credit Risk Exposure Class</b>	£m	£m
Central governments or central banks	5,228	4,292
Regional government or local authorities	87	73
Administrative bodies and non-commercial undertakings	418	327
Institutions	2,857	2,617
Corporates	52,550	48,525
Retail	30,272	23,975
Secured on real estate property	40,619	33,260
Past due items	2,602	1,491
Private equity	3,215	2,569
Short term claims on institutions and corporates	11,423	13,503
Collective investment undertakings	780	293
Other items	2,453	2,054
<b>Total Standardised Approach Credit Risk Exposure</b>	<b>152,504</b>	<b>132,979</b>

Exposure at Default, before credit risk mitigation, decreased £30,016m in the year to 31<sup>st</sup> December 2009. The pre-CRM EAD of assets secured on real estate property decreased by £13,738m due to the sale of mortgage loans during 2009 and the transition of certain portfolios to Advanced IRB. Together with an £7,773m decrease in pre-CRM EAD for corporates where some material counterparties have been transferred to IRB treatment, this accounts for most of the change. EAD on other retail exposures decreased £4,142m as a result of balance sheet reduction and exchange rate movements. Exposures under short term claims on institutions and corporates were re-classified under institutions and corporates as more granular data became available.

**Advanced and Foundation IRB Approach Credit Exposure**

The following table shows the Group's credit exposures measured under the Advanced Internal Ratings Based approach and the Foundation Internal Ratings Based approach before the application of credit risk mitigation.

**Table 21: Credit risk exposures under the Advanced and Foundation IRB approaches**

<b>As at 31.12.09 IRB Exposure Class</b>	<b>EAD Pre-CRM</b>		<b>Average EAD Pre-CRM over the year</b>	
	<b>Advanced IRB</b>	<b>Foundation IRB</b>	<b>Advanced IRB</b>	<b>Foundation IRB</b>
	£m	£m	£m	£m
Central governments or central banks	85,789	919	29,375	619
Institutions	35,545	2,057	57,657	1,678
Corporates	143,208	14,559	116,614	13,054
Retail				
- SME	13,251	N/A	13,567	N/A
- Secured by real estate collateral	129,914	N/A	119,153	N/A
- Qualifying revolving retail	28,791	N/A	29,222	N/A
- Other retail	13,833	N/A	13,976	N/A
Equity	637	N/A	680	N/A
Securitisation positions	31,023	N/A	57,785	N/A
Non-credit obligation assets	12,143	N/A	14,029	N/A
<b>Total IRB Credit Risk Exposure</b>	<b>494,134</b>	<b>17,535</b>	<b>452,058</b>	<b>15,351</b>

**EAD  
Pre-CRM**