



Standard Chartered Bank  
(Hong Kong) Limited

Unaudited Supplementary  
Financial Information

For the year ended 31 December 2009

## Unaudited supplementary financial information

These notes are supplementary to and should be read in conjunction with the 2009 consolidated financial statements. The consolidated financial statements and this unaudited supplementary financial information (“supplementary notes”) taken together comply with the Banking (Disclosure) Rules (“Rules”) under section 60A of the Banking Ordinance.

### 1 Basis of preparation

- (i) The financial information contained in these supplementary notes has been prepared on a consolidated basis. The basis of consolidation for regulatory purposes is different from that for accounting purposes. For regulatory purposes, the Rules require that certain information is prepared on a basis which excludes some of the subsidiaries of the Bank. Further information regarding subsidiaries that are not included in the consolidation for regulatory purposes is set out in note 2(a) of the supplementary notes.
- (ii) The accounting policies applied in preparing these supplementary notes are the same as those applied in preparing the consolidated financial statements for the year ended 31 December 2009 as set out on pages 13 to 26 of the 2009 consolidated financial statements.

### 2 Capital management

#### (a) Basis of consolidation and preparation

The consolidated capital adequacy and core capital ratios were calculated in accordance with the Banking (Capital) Rules of the Hong Kong Banking Ordinance.

The basis of consolidation for accounting purposes is in accordance with the Hong Kong Financial Reporting Standards. The principal subsidiaries of the Bank for accounting purposes are Standard Chartered APR Limited and Standard Chartered Securities (Hong Kong) Limited.

The basis and scope of consolidation for the calculation of capital ratios for regulatory purposes is different from the basis and scope of consolidation for accounting purposes. Subsidiaries not included in the consolidation for regulatory purposes are: Standard Chartered Securities (Hong Kong) Limited, Standard Chartered Securities (Singapore) Pte Ltd., SCL Consulting (Shanghai) Company Limited, Standard Chartered Corporate Advisory Company Limited, SCOPE International (China) Company Limited and Standard Chartered Investment Services Limited. The Bank’s shareholdings in these subsidiaries are deducted from capital in accordance with the Banking (Capital) Rules. There is no relevant capital shortfall in any of the Bank’s subsidiaries which are not included as part of the consolidation group for regulatory purposes.

Since 1 January 2008, the Bank has been using the advanced internal ratings - based (“IRB”) approach for both the measurement of credit risk capital and the management of credit risk for the majority of its portfolios. The Bank also uses the standardised (credit risk) approach for certain insignificant portfolios exempted from IRB.

The Bank applies the Internal Capital Adequacy Assessment Process (“ICAAP”) to assess its capital demand on a current, planned and stressed basis. The assessment covers the major risks faced by the Bank, in addition to credit, market and operational risks that are covered under the minimum capital requirements. The ICAAP has been approved by the Asset and Liability Committee (“ALCO”), the Executive Committee (“EXCO”) and the Board of Directors (“the Board”).

**2 Capital management (continued)****(a) Basis of consolidation and preparation (continued)**

Further information regarding capital management is set out in note 38 (g) on pages 91 to 92 of the 2009 consolidated financial statements.

**(b) Capital adequacy ratio and capital base**

	<i>Consolidated</i>	
	<i>2009</i>	<i>2008</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>
Core capital:		
Paid up ordinary share capital	97	97
Share premium	12,477	12,477
Reserves	19,828	13,306
Current year profit	4,787	5,837
Minority interests	27	5
Deduct:		
Goodwill	(729)	(729)
Other intangible assets	(192)	(206)
Deferred tax assets	(485)	(262)
	<u>35,810</u>	<u>30,525</u>
Deductions from core capital	<u>(3,155)</u>	<u>(3,317)</u>
Core capital after deductions	<u>32,655</u>	<u>27,208</u>
Supplementary capital:		
Available-for-sale investment reserve and others	77	115
Regulatory reserve	98	36
Collective impairment allowances for impaired assets	85	85
Term subordinated debt	2,306	6,180
	<u>2,566</u>	<u>6,416</u>
Deductions from supplementary capital	<u>(2,566)</u>	<u>(3,317)</u>
Supplementary capital after deductions	<u>–</u>	<u>3,099</u>
Total capital base before deductions	38,376	36,941
Deductions from total capital base	<u>(5,721)</u>	<u>(6,634)</u>
Total capital base	<u>32,655</u>	<u>30,307</u>
Capital adequacy ratio as at 31 December	<u>14.4%</u>	<u>13.1%</u>
Core capital ratio as at 31 December	<u>14.4%</u>	<u>11.7%</u>

## 2 Capital management (continued)

### (c) Capital requirements for credit risk

The Bank and its subsidiaries' minimum capital requirement for credit risk is summarised as follows:

	<i>Consolidated capital requirement</i>	
	<i>2009</i>	<i>2008</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>
<b>Subject to IRB approach:</b>		
Corporate exposures	6,370	6,880
Sovereign exposures	113	44
Bank exposures	1,703	1,780
Residential mortgages to individuals and property-holding shell companies	845	782
Qualifying revolving retail exposures	1,166	1,327
Other retail exposures to individuals	599	454
Other exposures	619	809
Securitisation positions	16	17
Equity exposures	–	–
<b>Total minimum capital requirement for credit risk under IRB approach</b>	<u>11,431</u>	<u>12,093</u>
<b>Subject to standardised approach:</b>		
Sovereign exposures	–	–
Public sector entity exposures	–	–
Multilateral development bank exposures	–	–
Bank exposures	84	11
Securities firm exposures	–	–
Corporate exposures	894	692
Collective investment scheme exposures	–	–
Cash items	–	–
Regulatory retail exposures	248	274
Residential mortgage loans	282	251
Other exposures which are not past due	164	214
Past due exposures	227	224
<b>Total minimum capital requirement for credit risk under standardised approach</b>	<u>1,899</u>	<u>1,666</u>
<b>Total minimum capital requirement for credit risk</b>	<u><u>13,330</u></u>	<u><u>13,759</u></u>

## 3 Corporate governance

The Bank is committed to high standards of corporate governance, and has fully complied throughout the year with the guideline on “Corporate Governance of Locally Incorporated Authorised Institutions” under the Supervisory Policy Manual issued by the HKMA.

### **3 Corporate governance (continued)**

#### **(a) The Board of Directors (“the Board”)**

The Board is responsible for overseeing the management of the business and affairs of the Bank including the determination and approval of the Bank’s financial objectives and strategic plan. It oversees the Bank’s compliance with statutory and regulatory obligations, its capital and corporate structure and ensures a sound system of internal control and risk management. The Board also reviews performance in light of the Bank’s strategy, objectives, corporate and business plans and budgets and determines appropriate levels for the Bank’s capital and liquidity positions. The Board delegates day-to-day management of the Bank’s risks to a number of committees. Risk profiles and capital related matters are reviewed by the Board on a regular basis.

#### **(b) Executive Committee (“EXCO”)**

Ultimate responsibility for setting the Bank’s risk appetite and for the effective management of risk rests with the Board. Executive responsibility for risk management is delegated to the EXCO. The EXCO operates under the direct authority of the Board and meets regularly in relation to the day to day management, operation and control of the business. It also sub-delegates to various committees certain aspects of the conduct of the business as detailed below. The EXCO includes the Chief Executive Officer, the Chief Financial Officer and the heads of various business functions.

#### **(c) Asset and Liability Committee (“ALCO”)**

The ALCO, appointed by the EXCO and with authority derived from the Board, is responsible for the management of capital ratios and the establishment of, and compliance with, policies relating to balance sheet management, including management of the Bank’s liquidity, capital adequacy and structural foreign exchange and interest rate risks. The members of the ALCO include the Chief Executive Officer, the Chief Financial Officer and key business and risk management heads.

#### **(d) Risk Committee (“RC”)**

The RC, through its authority delegated by the EXCO, is responsible for the management of all other risks, including the establishment of, and compliance with, policies relating to credit risk, country risk, market risk, operational risk, regulatory risk and reputational risk. It also ensures that processes and procedures that are in place for monitoring and controlling risk meet the Group’s internal standards and external regulatory requirements. The Committee meets regularly and comprises the Chief Risk Officer (“CRO”), the Chief Financial Officer, heads of Credit and representatives from other relevant units. It has appointed various subcommittees to supervise and review specific areas of risk, including the Portfolio Management Committee, the Early Alert Committee, the Group Special Asset Management Committee, the Excess Approval Committee, the Country Operational Risk Group (“CORG”), the Model Assessment Committee (“MAC”) and the Stress Testing Working Group (“STWG”).

#### **(e) Audit Committee**

The Audit Committee meets regularly with Internal Audit and the external auditors to review and discuss the Bank’s internal financial controls, other internal controls, compliance and risk management systems. The Committee also discusses matters raised by the internal and external auditors and ensures that audit recommendations are implemented appropriately. The Committee comprises of 5 non-executive directors, the majority of whom are independent.

#### **(f) Group Internal Audit**

Group Internal Audit is a separate function that reports to the Standard Chartered PLC Group Chief Executive and the Chairman of the Group Audit and Risk Committee. It provides independent assurance to management and the Audit and Risk Committee that the key risks associated with the Group’s business and operations have been identified, appropriate controls have been designed to mitigate these key risks and an effective system of controls over these risks is in place and is working as intended.

#### 4 Credit risk exposure management

The Bank has in place a risk management framework, as outlined on page 66 of the 2009 consolidated financial statements. As part of risk management, stress testing and scenario analysis are used to assess the financial and management capability of the Bank to continue to operate effectively under extreme but plausible trading conditions. The STWG, which is led by the Risk function, with participation from Group Treasury, has a primary objective to ensure the Bank understands the earnings and capital implications of specific stress scenarios.

In 2009, stress testing activity was intensified with specific focus on certain asset classes, customer segments and the potential impact of macro economic factors. Stress tests have taken into consideration possible future scenarios that would arise as a result of the development of prevailing market conditions.

##### (a) *IRB approach to credit risk*

Since 1 January 2008, the Bank has been using the advanced IRB approach for the measurement of credit risk capital and the management of credit risk for the majority of its portfolios. The following exposures are subject to the IRB approach:

- Corporate exposures including exposures to small and medium-sized enterprises and other corporates;
- Sovereign exposures including exposures to governments and foreign public sector entities;
- Bank exposures including exposures to banks and regulated securities firms;
- Retail exposures including residential mortgages, qualifying revolving retail exposures and other retail exposures to individuals; and
- Other exposures including notes and coins, premises, plant and equipment and other fixed assets.

Under the advanced or retail IRB approach, the Bank is permitted to use its own internal estimates of probability of default ("PD"), exposure at default ("EAD") and loss given default ("LGD") to determine an asset's risk weighting:

- the PD of an obligor is the likelihood, expressed as a percentage, of a default event in a one-year time horizon.
- EAD is the expected amount of exposure at the time of default.
- LGD is an estimate of the severity of the loss that the Bank is likely to incur in the event that the obligor defaults, expressed as a percentage of the EAD.

The internal estimates of PD, EAD and LGD are supported by sophisticated risk measurement models developed to support the credit decision making process. These models are approved by the RC, on the recommendation of the MAC.

Risk-weighted assets ("RWA") under the IRB approach are determined by regulatory specified formulae dependent on the Bank's estimates of PD, EAD and LGD. The development, use and governance of models under the IRB approach is covered in more detail in note 6 to the supplementary notes.

##### (b) *Standardised approach to credit risk*

The standardised approach to credit risk measures credit risk pursuant to fixed risk weights and is less sophisticated than the IRB approach. The risk weighting applied under the standardised approach is provided by the HKMA and is based on the asset class to which the exposure is assigned.

## 5 Risk Grade Profile

### (a) Structure of rating systems

A standard alphanumeric credit risk-grading system is used in both Wholesale and Consumer Banking. The grading is based on SCB Group's internal estimate of probability of default, with customers or portfolios assessed against a range of quantitative and qualitative factors. The numeric grades run from 1 to 14 and some of the grades are sub-classified A, B or C. Lower credit grades are indicative of a lower likelihood of default. Credit grades 1A to 12C are assigned to performing customers or accounts, while credit grades 13 and 14 are assigned to non-performing or defaulted customers.

The SCB Group's credit grades in Wholesale Banking are not intended to replicate external credit grades although, as the factors used to grade a borrower may be similar, a borrower rated poorly by an external rating agency is typically assigned a worse internal credit grade.

Credit grades for Consumer Banking accounts are based on a probability of default calculated using IRB models. These models are based on application and behavioural scorecards which make use of credit bureau information as well as the Bank's own data.

IRB models cover a substantial majority of the Bank's loans and are used extensively in assessing risks at customer and portfolio level, setting strategy and optimising the Bank's risk-return decisions.

Standard Chartered makes use of internal risk estimates of PD, LGD and EAD extensively in the areas of:

- Credit Approval and Decision – The level of authority required for the sanctioning of credit requests and the decision made is based on a combination of PD, LGD and EAD of the obligor;
- Pricing – In Wholesale Banking, a pre-deal pricing calculator is used which takes into consideration PD, LGD and EAD in the calculation of expected loss and economic capital for the proposed transactions to ensure appropriate return. In Consumer Banking, a scorecard approach is used to assess the level of risk using PD, LGD and EAD;
- Limit Setting – In Wholesale Banking, concentration limits for some portfolios, as well as counterparty limits are determined by PD, LGD and EAD. The limits operate on a sliding scale to ensure that the Bank does not have over-concentration of low credit quality assets. This process operates similarly in Consumer Banking;
- Provisioning – Portfolio Impairment Provisions ('PIP') are raised as described in note 6(i) to the supplementary notes and are set with reference to expected loss which is based on PD, LGD and EAD amongst other quantitative and qualitative factors;
- Risk Appetite – PD, LGD and EAD models provide some of the key inputs into the risk-based methodologies used in the assessment of business and market variables which in turn are key components in the approach taken in setting Risk Appetite; and
- Economic Capital – PD, EAD and LGD are key components of the model used to calculate Economic Capital, which is in turn used in strategic planning, budgeting, pricing and performance measurement processes at business unit, portfolio and client relationship level.

## 5 Risk Grade Profile (continued)

### (b) Risk assessment for exposures under IRB approach

The following tables set out analyses of EAD, LGD, average risk weight and PD by internal credit grading and Basel II asset classes.

	2009						Total
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	
<b>Total EAD (HK\$ million)</b>							
Corporates	71,970	49,245	22,980	1,060	3,874	–	149,129
Sovereigns	60,385	–	–	–	–	–	60,385
Banks	293,149	3,778	333	–	190	–	297,450
Residential mortgages to individuals and property-holding shell companies	108,777	13,585	861	14	317	–	123,554
Qualifying revolving retail exposures	35,640	8,623	4,941	752	233	–	50,189
Other retail exposures to individuals	871	2,819	2,253	186	34	–	6,163
Other exposures	–	–	–	–	–	36,755	36,755
Securitisation exposures	2,292	–	–	–	–	–	2,292
Equity exposures	–	–	–	–	–	–	–
	<u>573,084</u>	<u>78,050</u>	<u>31,368</u>	<u>2,012</u>	<u>4,648</u>	<u>36,755</u>	<u>725,917</u>

	2009						Total
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	
<b>Exposure-weighted average LGD (%)</b>							
Corporates	47.38	41.84	32.67	53.47	54.23	–	43.51
Sovereigns	26.82	–	–	–	–	–	26.82
Banks	26.55	31.12	34.10	–	26.20	–	26.61
Residential mortgages to individuals and property-holding shell companies	18.61	25.04	22.66	21.68	18.45	–	19.35
Qualifying revolving retail exposures	92.06	92.06	92.06	92.06	76.30	–	91.99
Other retail exposures to individuals	98.43	98.53	98.54	98.54	78.68	–	98.41

	2009						Total
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	
<b>Exposure-weighted average risk weight (%)</b>							
Corporates	25.31	66.41	85.61	132.10	80.46	–	50.37
Sovereigns	2.21	–	–	–	–	–	2.21
Banks	6.04	39.53	79.31	–	325.02	–	6.75
Residential mortgages to individuals and property-holding shell companies	4.95	26.03	73.21	120.44	123.42	–	8.06
Qualifying revolving retail exposures	7.12	33.86	124.39	252.75	107.12	–	27.40
Other retail exposures to individuals	54.92	99.62	147.47	228.63	93.84	–	114.65
Other exposures	–	–	–	–	–	19.84	19.84
Securitisation exposures	8.37	–	–	–	–	–	8.37
Equity exposures	–	–	–	–	–	–	–

## 5 Risk Grade Profile (continued)

### (b) Risk assessment for exposures under IRB approach (continued)

	2009						
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
<b>Exposure-weighted average PD (%)</b>							
Corporates	0.19	1.08	6.58	24.45	100.00	–	4.23
Sovereigns	0.01	–	–	–	–	–	0.01
Banks	0.04	0.83	2.93	–	100.00	–	0.12
Residential mortgages to individuals and property-holding shell companies	0.10	0.80	5.17	18.73	100.00	–	0.47
Qualifying revolving retail exposures	0.14	0.98	6.32	24.83	100.00	–	1.73
Other retail exposures to individuals	0.32	1.12	5.47	29.31	100.00	–	4.00
<b>2008</b>							
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
<b>Total EAD (HK\$ million)</b>							
Corporates	88,436	55,089	19,429	198	1,619	–	164,771
Sovereigns	26,908	–	–	–	–	–	26,908
Banks	262,018	7,522	116	–	181	–	269,837
Residential mortgages to individuals and property-holding shell companies	96,167	10,595	1,171	64	161	–	108,158
Qualifying revolving retail exposures	35,643	7,645	5,413	1,385	80	–	50,166
Other retail exposures to individuals	694	2,119	1,679	202	10	–	4,704
Other exposures	–	–	–	–	–	38,890	38,890
Securitisation exposures	2,418	–	–	–	–	–	2,418
Equity exposures	–	–	–	–	–	–	–
	<u>512,284</u>	<u>82,970</u>	<u>27,808</u>	<u>1,849</u>	<u>2,051</u>	<u>38,890</u>	<u>665,852</u>
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
<b>Exposure-weighted average LGD (%)</b>							
Corporates	56.36	45.55	31.65	43.22	60.05	–	49.85
Sovereigns	26.20	–	–	–	–	–	26.20
Banks	29.00	39.68	38.82	–	26.20	–	29.30
Residential mortgages to individuals and property-holding shell companies	20.63	25.27	24.97	28.00	27.23	–	21.15
Qualifying revolving retail exposures	92.06	92.06	92.06	92.06	80.22	–	92.04
Other retail exposures to individuals	98.48	97.87	98.53	98.54	87.59	–	98.20

## 5 Risk Grade Profile (continued)

### (b) Risk assessment for exposures under IRB approach (continued)

	2008						Total
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	
<b>Exposure-weighted average risk weight (%)</b>							
Corporates	28.53	74.17	62.18	225.84	154.84	–	49.24
Sovereigns	1.93	–	–	–	–	–	1.93
Banks	6.43	46.08	89.97	–	312.67	–	7.78
Residential mortgages to individuals and property-holding shell companies	5.23	27.48	72.85	158.54	205.91	–	8.53
Qualifying revolving retail exposures	6.49	35.39	129.31	256.62	93.09	–	31.19
Other retail exposures to individuals	55.07	94.45	149.09	230.62	52.94	–	113.90
Other exposures	–	–	–	–	–	24.53	24.53
Securitisation exposures	8.90	–	–	–	–	–	8.90
Equity exposures	–	–	–	–	–	–	–

	2008						Total
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	
<b>Exposure-weighted average PD (%)</b>							
Corporates	0.20	1.01	7.09	33.00	100.00	–	2.30
Sovereigns	0.01	–	–	–	–	–	0.01
Banks	0.05	0.81	3.65	–	100.00	–	0.14
Residential mortgages to individuals and property-holding shell companies	0.10	0.85	4.31	24.92	100.00	–	0.38
Qualifying revolving retail exposures	0.13	1.04	6.75	26.61	100.00	–	1.87
Other retail exposures to individuals	0.33	1.01	5.85	25.66	100.00	–	3.90

The following table sets out an analysis of the amount of undrawn commitments and EAD for corporate, sovereign, bank and equity exposures:

	2009		2008	
	Undrawn commitments HK\$'M	EAD HK\$'M	Undrawn commitments HK\$'M	EAD HK\$'M
Corporates	26,847	3,276	2,575	410
Sovereigns	1,301	260	–	–
Banks	24,950	3,309	–	–
Equity exposures	–	–	–	–
	<u>53,098</u>	<u>6,845</u>	<u>2,575</u>	<u>410</u>

The undrawn commitments and EAD cover committed and uncommitted limits in 2009 and only committed limits in 2008.

## 6 Internal ratings-based models

### (a) Model governance

Models are developed by analytics teams within Standard Chartered PLC Group Risk and the Consumer Banking and Wholesale Banking risk functions. The model development process is conducted and documented in line with specific criteria setting out the minimum standards for model development. All IRB models are validated annually by a model validation team reporting to the Group Chief Credit Officer, thereby maintaining independence from the model build processes. Model validation findings are presented to the Hong Kong Model Assessment Committee which in turn makes approval recommendations to the Hong Kong Risk Committee. These decision-making bodies are comprised of divisional senior management whose role is to challenge model assumptions and performance and agree on appropriate model use for business decision-making. The Hong Kong Risk Committee and Group Internal Audit periodically review overall model performance.

The model validation process involves a qualitative and quantitative assessment of the model, data, systems and governance. This would typically include an assessment of:

- Model assumptions;
- Validity of the technical approach used;
- Statistical and empirical measures of performance;
- Appropriateness of intended model use;
- Model application and infrastructure;
- Data integrity and history;
- Model response to changes in internal and external environment: i.e., the extent to which the model provides point in time or through the cycle measures of risk;
- Model monitoring standards and triggers; and
- Levels of conservatism applied.

Statistical testing is used to determine a model's discriminatory power, predicted versus actual performance and stability over time with pre-defined thresholds for passing such tests. The model development teams also conduct annual model reviews, which are informed by regular monitoring, to ascertain whether the model is fit for purpose and performing within acceptable boundaries or whether there are potential improvements in performance to be made.

### (b) PD Model Development

SCB Group employs a variety of techniques to develop its PD models. The appropriate approach is dictated by the availability and appropriateness of both internal and external data. In all cases, where there is a perceived weakness in the data – for example shorter history or fewer defaults, an appropriate demand of conservatism is applied to predicted default rates. The general approaches fall into three categories:

Default History Based (“Good-Bad”) – where a sufficient number of defaults is available, the Group deploys a variety of statistical methods to determine the likelihood of default on existing exposures. These methods afford very high discriminatory power by identifying exposure characteristics that have a significant predictive ability. The majority of the Group's consumer and corporate exposures are rated under such an approach.

## **6 Internal ratings-based models (continued)**

### **(b) PD Model Development (continued)**

Shadow Rating Approach – if it is determined that the Group's internal data does not provide sufficient default history (so called "low default portfolios"), then the Group develops models which are designed to reflect ratings made by established external credit assessment institutions, those agencies having access to large databases of defaults on a variety of credit obligations. These external ratings are customised to develop the Group's own customer rating systems.

Constrained Expert Judgement – for certain types of exposures there is little or no internal or external default history, and therefore no reliable external ratings. In such rare cases, the Group develops quantitative frameworks which include the expert opinions of the Group's credit risk management personnel. These frameworks are called 'knowledge based systems' and are regularly reviewed with respect to historical outcomes.

### **(c) LGD Model Development**

SCB Group develops LGD models by assessing unsecured recoveries, the forced sale value of collateral, the economic costs in securing these recoveries, and the timing with which such cash flows occur. All such cash flows are then measured at net present value using a suitable discount rate to derive a recovery rate. Loss given default is therefore the EAD less these estimated recoveries.

Unsecured recoveries are estimated based upon empirical experience, which has shown that factors such as customer segment, product and geography have predictive content.

All LGD models are conservatively calibrated to a 'downturn' – with lower assumed collateral values and lower recoveries on unsecured exposures than would normally prevail.

### **(d) EAD Model Development**

An EAD model is developed for uncertain exposure products such as lines of credit, credit cards, overdrafts and other commitments. Based on the Group's experience (and supplemented by external data), EAD models assess changes to limits and the likely draw-down of committed and uncommitted limits as an exposure approaches default. The factor generated by the model and applied to the undrawn limit is referred to as the credit conversion factor ("CCF").

The Group has used conservative assumptions in assessing EAD, in keeping with the expected experience in an economic downturn.

### **(e) Model Use**

In addition to supporting credit decisions, IRB models also support risk-based pricing methodologies and measures used to assess business performance such as Economic Capital, Economic Revenue and Economic Profit.

The use of models is governed by a suite of policies:

- Each model is governed by a separate policy and procedure which defines the applicability of that model and details the procedure for use;
- The model review policy governs the regular review of models and specifies statistical thresholds and other triggers which determine when models need to be redeveloped;
- The model override policy sets the conditions and approval authority required to override model output; and
- The parental support policy, for Wholesale Banking, determines the extent to which parental support may be utilised to adjust the credit grade of corporates' and financial institutions' subsidiaries.

## 6 Internal ratings-based models (continued)

### (f) Wholesale Banking Model Results

The following table sets out actual PD, LGD and EAD compared to IRB model predictions.

The Bank was incorporated on 1 July, 2004. In order to compute the long run actual realisations of LGD and EAD, IRB model development data was used prior to the incorporation date.

	2009					
	PD		LGD		Predicted EAD / Actual EAD	
	Actual Default Rate %	Estimate %	Actual %	Estimate %		
<b>IRB Exposure Class</b>						
Corporates	0.83	1.42	52.85	49.85	1.8	
Sovereigns	0.00	0.01	0.00	26.20	0.0	
Banks	0.07	0.08	0.00	29.30	0.6	
	2008					
	PD		LGD		Conversion Factor*	
	Actual Default Rate %	Estimate %	Actual %	(restated) Estimate %	Actual %	Estimate %
<b>IRB Exposure Class</b>						
Corporates	0.78	1.33	55.16	46.43	14.55	16.05
Sovereigns	0.00	0.01	0.00	20.16	–	–
Banks	0.00	0.07	0.00	28.38	–	–

\* Conversion factor is the estimate used when estimating EAD

Wholesale Banking models have been developed from a dataset which runs to over a decade, including default and recovery experience from the Asian financial crisis. These data have been used to calibrate estimates of PD to a long run experience. Actual (“point in time”) default rates will typically differ from this “through the cycle” experience as economies move above or below cyclical norms.

IRB PD estimates computed as of 1 January 2009 have been compared with default observations as at 31 December 2009. The actual observed default rates for corporate, sovereign and bank exposures were maintained below IRB model predictions.

The calculation of actual versus predicted LGD is affected by the fact that it takes a number of years for the workout process to complete. The recovery process on defaults in 2009 is too immature to compute meaningful actual versus realized outcomes. The predicted LGD is therefore based on the model outputs as of 1 January 2009 compared with long run actual realisations of LGD including downturn periods, since 1995. The predicted LGD estimate takes into account the impact of enhanced risk mitigation techniques (e.g. netting) and proactive Early Alert risk management actions. These have been more prevalent in recent years and are therefore not reflected in the long run average LGD to the same extent as predicted LGD. LGD estimates for corporate exposures are lower compared with actual due to the change in product mix over the years with more emphasis on lower risk products today.

EAD takes into consideration potential drawdown of commitment as a counterparty defaults by estimating the credit conversion factor (CCF, also known as k-factor) of undrawn commitments. The comparison of actual versus predicted CCF is summarised in the ratio of the EAD of defaulted assets, 1 year before default, to the outstanding at the point of default. The ratio for corporates is larger than one indicating that the predicted EAD is higher than actual outstanding at default. This is due to the regulatory requirement to assign conservatism to the CCF of certain exposure types, as well as the impact of management action to reduce actual EAD prior to default.

## 6 Internal ratings-based models (continued)

### (g) Consumer Banking Model Results

Consumer Banking models have been developed from datasets which captures eight years of performance data for the majority of portfolios. This history includes “credit bubbles” as well as stress that arose during the SARS outbreak. This experience is therefore reflected in the calibration of the models.

	2009					
	PD		LGD		EAD	
	Actual PD%	Predicted PD%	Actual Exposure- weighted	Predicted Exposure- weighted	Actual EAD	Predicted EAD
			LGD%	LGD%		
2009	2008	2009	2008	HK\$'M	HK\$'M	
<b>IRB Exposure Class</b>						
Residential mortgages	0.20	0.26	8.04	26.36	121	126
Qualifying revolving retail exposures	1.18	1.32	69.68	88.84	765	929
Other retail exposures to individuals	3.68	4.23	73.75	77.82	148	162
	2008					
	PD		LGD		EAD	
	Actual PD%	Predicted PD%	Actual Exposure- weighted	Predicted Exposure- weighted	Actual EAD	Predicted EAD
			LGD%	LGD%		
2008	2007	2008	2007	HK\$'M	HK\$'M	
<b>IRB Exposure Class</b>						
Residential mortgages	0.12	0.26	12.12	25.18	100	102
Qualifying revolving retail exposures	0.65	1.78	64.26	85.98	385	429
Other retail exposures to individuals	2.22	6.34	49.28	85.72	49	92

Predicted PD was computed as at 1 January 2009 and compared to the actual default observations through 31 December 2009. The observed default rate for asset classes is lower than the predicted PD.

The process to recover losses on a defaulted asset typically spans more than one financial year. The Actual LGD shown above is calculated based on recoveries that were realised in 2009. This is compared to the Predicted LGD of these assets in the year of default. Actual LGDs are lower than the predicted values for all asset classes. This is primarily due to the models using ‘downturn’ parameter settings to predict LGD. This is most evident in the mortgage portfolios, where the predicted LGDs include a significant assumed reduction in property values along with an in-built conservatism such as stressing the declining PPI. The economic environment was less severe in 2009 than the ‘downturn’ conditions modelled.

For asset classes, other than QRRE, the predicted EAD was close to the actual EAD experienced during 2009. The predicted EAD for QRRE includes regulatory ‘downturn’ requirements. The ‘downturn’ requirements, coupled with management action to reduce limits prior to default result in a higher ratio, showing that actual EAD was lower than anticipated.

## 6 Internal ratings-based models (continued)

### (h) Analysis of actual losses and estimates

The following table sets out the actual losses in 2008 and 2009 and the regulatory expected loss as at 31 December 2008 and 31 December 2007.

IRB exposure class	Actual loss for the year of		Regulatory expected loss at	
	2009 HK\$'M	2008 HK\$'M	31 December 2008 HK\$'M	31 December 2007 HK\$'M
Corporates	1,084	668	1,965	795
Sovereigns	–	–	1	–
Banks	–	2	76	70
Residential mortgages	(11)	(30)	81	70
Qualifying revolving retail exposures	411	295	849	1,155
Other retail exposures to individuals	140	67	179	273
	<u>1,624</u>	<u>1,002</u>	<u>3,151</u>	<u>2,363</u>

The challenging credit environment seen in the latter half of 2008 continued into the early part of 2009. Although the credit environment improved in the second half of 2009, actual losses in certain sectors increased compared to 2008 due to the deterioration of key macroeconomic indicators in those sectors.

It should be noted that the actual loss and the regulatory expected loss numbers are not directly comparable as they have been calculated using different methodologies. The regulatory expected loss is calculated by risk models using a through-the-cycle methodology based on risk parameters and observations over a period of time. The actual loss is the net individual impairment charge recognised in the income statement during the reporting period which has been made in accordance with the Bank's accounting policy.

### (i) Problem Credit Management and Provisioning

#### Consumer Banking

Within Consumer Banking, an account is considered to be delinquent when payment is not received on the due date. For delinquency reporting purposes, the Bank follows industry standards, measuring delinquency as of 1, 30, 60, 90, 120 and 150 days past due. Accounts that are overdue by more than 30 days are more closely monitored and are subject to specific collection processes.

Provisioning within Consumer Banking reflects the fact that the product portfolios (excluding medium enterprises among SME customers and Private Banking customers) consist of a large number of comparatively small exposures. As a result, the individual impairment provision (IIP) or write off is initially done at an account level for each product and a portfolio impairment provision (PIP) is raised on a portfolio basis. PIP is set using expected loss rates, based on past experience supplemented by an assessment of specific factors affecting the relevant portfolio. These include an assessment of the impact of economic conditions, regulatory changes and portfolio characteristics such as delinquency trends and early alert trends. The PIP methodology provides for accounts for which an IIP has not been raised.

## **6 Internal ratings-based models (continued)**

### **(i) Problem Credit Management and Provisioning (continued)**

For the main unsecured products and loans secured by automobiles, the entire outstanding amount is generally written off at 150 days past due. For mortgages, individual impairment provisions (IIP) are generally raised at 150 days past due based on the estimated present values of future cashflows, in particular those resulting from the realisation of security. For other secured loans (excluding mortgages and those secured by automobiles), IIPs are raised at 90 days past due. For all products there are certain situations where the IIP or write off process is accelerated, such as in cases involving bankruptcy, fraud and death. Write off and IIP is accelerated for all restructured accounts to 90 days past due (unsecured and automobile finance) and 120 days past due (secured) respectively.

The procedures for managing problem credits for Private Banking and the medium enterprises in the SME segment of Consumer Banking are similar to those adopted in Wholesale Banking.

#### *Wholesale Banking*

Loans are classified as impaired and considered non-performing where analysis and review indicates that full payment of either interest or principal is questionable, or as soon as payment of interest or principal is 90 days overdue. Impaired accounts are managed by Group Special Assets Management, the Bank's recovery unit, which is separate from the main businesses of the Bank. Where any amount is considered irrecoverable, an individual impairment provision is raised, being the difference between the loan carrying amount and the present value of estimated future cash flows.

The individual circumstances of each customer are taken into account when estimating future cash flows. All available sources such as cash flow arising from operations, selling assets or subsidiaries, realising collateral or payments under guarantees are considered. In any decision relating to the raising of provisions, the Bank attempts to balance economic conditions, local knowledge and experience, and the results of independent asset reviews.

Where it is considered that there is no realistic prospect of recovering a portion of an exposure against which an impairment provision has been raised, then that amount will be written off.

As with Consumer Banking, a PIP is held to cover the inherent risk of losses which, although not identified, are known through experience to be present in any loan portfolio. In Wholesale Banking, the PIP is set with reference to historic loss rates, and subjective factors such as the economic environment and the trends in key portfolio indicators.

### **(j) Credit risk mitigation ("CRM")**

Potential credit losses from any given account, customer or portfolio are mitigated using a range of tools such as collateral, credit insurance, and other guarantees. The reliance that can be placed on these mitigants is carefully assessed in light of issues such as legal certainty and enforceability, market valuation correlation and counterparty risk of the guarantor.

Collateral types which are eligible for risk mitigation include: cash; residential, commercial and industrial property; fixed assets such as motor vehicles, aircraft, plant and machinery; marketable securities; commodities; bank guarantees; and letters of credit. Risk mitigation policies control the approval of collateral types.

Where guarantees are used as CRMs, the creditworthiness is assessed and established using the credit approval process for the guarantor in addition to that of the obligor or main counterparty. The main types of guarantors include bank guarantees, insurance companies, parent companies and shareholders.

## 6 Internal ratings-based models (continued)

### (j) Credit risk mitigation (“CRM”) (continued)

Collateral is valued in accordance with the SCB Group’s risk mitigation policy, which prescribes the frequency of valuation for different collateral types. The valuation frequency is driven by the level of price volatility of each type of collateral and the nature of the underlying product or risk exposure. Collateral held against impaired loans is maintained at fair value.

Certain credit exposures are mitigated using credit default insurance.

The Bank uses bilateral and multilateral netting to reduce pre-settlement and settlement counterparty risk. Pre-settlement risk exposures are normally netted using the bilateral netting documentation in legally approved jurisdictions. Settlement exposures are generally netted using Delivery Vs Payments or Payment Vs Payments systems.

#### *Wholesale Banking*

The process of managing and recognising credit risk mitigation is governed by policies which set out the eligibility criteria that must be met. The credit risk mitigation policy sets out clear criteria that must be satisfied if the mitigation is to be considered effective:

- Excessive exposure to any particular risk mitigants or counterparties should be avoided. Collateral concentration mitigation standards are maintained at both the portfolio and counterparty level;
- Risk mitigants should not be correlated with the underlying assets such that default would coincide with a lowering of the Forced Sale Value of the collateral;
- Where there is a currency mismatch, haircuts should be applied to protect against currency fluctuations;
- Legal opinions and documentation must be in place; and
- Ongoing review and controls exist where there is a maturity mismatch between the collateral and exposure.

For all CRMs that meet the policy criteria, a clear set of procedures is applied to ensure that the value of the underlying collateral is appropriately recorded and updated regularly.

#### *Consumer Banking*

The effective use of collateral is a key tool by which credit risk is mitigated in Consumer Banking. All eligible collateral accepted by Consumer Banking is covered by a product proposal approved by senior credit officers delegated with the relevant authority. New collateral types have to be vetted through a stringent ‘New Business Approval’ process and approved by the Consumer Banking Risk Committee.

In order to be recognised as security and for the loan to be classified as secured, all items pledged must be valued and there must exist an active secondary resale market for the collateral. Documentation must be held to enable Consumer Banking to realise the asset without the cooperation of the asset owner in the event that this is necessary.

Detailed procedures over collateral management must be in place for each business.

**6 Internal ratings-based models (continued)****(j) Credit risk mitigation ("CRM") (continued)**

The following table discloses the amount of exposure in the IRB portfolio that is covered by guarantees. For the IRB portfolios, there is no requirement to disclose the value of collateral by asset class.

	<i>EAD covered by guarantees</i>	
	<i>2009 HK\$'M</i>	<i>2008 HK\$'M</i>
<b>IRB Exposure Class</b>		
Corporate exposures	1,948	2,445
Sovereign exposures	–	–
Bank exposures	198	287
Residential mortgages to individuals and property-holding shell companies	–	–
Qualifying revolving retail exposures	–	–
Other retail exposures to individuals	–	–
Other exposures	–	–
Securitisation positions	–	–
Equity exposures	–	–
	<u>2,146</u>	<u>2,732</u>

The table below identifies the effect of credit risk mitigation on total exposures for the portfolios under the standardised approach.

	<i>Total exposures before the effect of CRM*</i> <i>HK\$'M</i>	<i>Total exposures after the effect of CRM**</i>		<i>2009 Risk weighted amounts</i>		<i>Total exposures covered by collateral recognised</i> <i>HK\$'M</i>	<i>Total exposures covered by guarantees recognised</i> <i>HK\$'M</i>
		<i>Rated</i> <i>HK\$'M</i>	<i>Unrated</i> <i>HK\$'M</i>	<i>Rated</i> <i>Unrated</i>			
				<i>HK\$'M</i>	<i>HK\$'M</i>		
<b>Standardised Exposure Class</b>							
Sovereigns	–	–	–	–	–	–	–
Public sector entities	–	–	–	–	–	–	–
Multilateral development banks	2,586	–	2,586	–	–	–	–
Banks	1,911	–	2,051	–	1,048	2	–
Securities firms	–	–	–	–	–	–	–
Corporates	12,136	–	11,175	–	11,175	885	76
Collective investment schemes	–	–	–	–	–	–	–
Cash items	–	–	–	–	–	–	–
Regulatory retail	4,502	–	4,130	–	3,098	362	10
Residential mortgage loans	3,829	–	3,829	–	3,528	–	–
Other exposures which are not past due	6,310	–	2,052	–	2,052	4,202	56
Past due exposures	1,894	–	1,894	–	2,841	–	–
Total	<u>33,168</u>	<u>–</u>	<u>27,717</u>	<u>–</u>	<u>23,742</u>	<u>5,451</u>	<u>142</u>
Exposures deducted from capital base	<u>–</u>						

**6 Internal ratings-based models (continued)****(j) Credit risk mitigation ("CRM") (continued)**

	2008						
	Total exposures before the effect of CRM*	Total exposures after the effect of CRM**		Risk weighted amounts		Total exposures covered by recognised collateral	Total exposures covered by recognised guarantees
		Rated	Unrated	Rated	Unrated		
HK\$'M	HK\$'M	HK\$'M	HK\$'M	HK\$'M	HK\$'M	HK\$'M	
<b>Standardised Exposure Class</b>							
Sovereigns	–	–	–	–	–	–	–
Public sector entities	–	–	–	–	–	–	–
Multilateral development banks	482	–	482	–	–	–	–
Banks	641	–	628	–	133	13	–
Securities firms	–	–	–	–	–	–	–
Corporates	9,468	–	8,648	–	8,648	820	–
Collective investment schemes	–	–	–	–	–	–	–
Cash items	–	–	–	–	–	–	–
Regulatory retail	4,901	–	4,567	–	3,425	334	–
Residential mortgage loans	3,837	–	3,837	–	3,139	–	–
Other exposures which are not past due	3,819	–	2,678	–	2,678	1,141	–
Past due exposures	1,865	–	1,865	–	2,798	–	–
	<u>25,013</u>	<u>–</u>	<u>22,705</u>	<u>–</u>	<u>20,821</u>	<u>2,308</u>	<u>–</u>
Exposures deducted from capital base	–						

\* Principal amount or credit equivalent amount, as applicable, net of specific provisions.

\*\* Exposures covered by recognised guarantees are reclassified after credit risk mitigation to reflect the exposures to the guarantors.

There are immaterial credit and market risks concentrations within the credit risk mitigants (recognised collateral and guarantees) used by the Bank.

**7 Market risk**

For the calculation of its capital requirement for market risk, the Bank uses an internal models approach for two guaranteed retirement funds and the standardised (market risk) approach for other exposures.

## 7 Market risk (continued)

The Bank's minimum capital requirement for market risk is summarised as follows:

	<i>Consolidated capital requirement</i>	
	<i>2009</i>	<i>2008</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>
<b>Standardised approach:</b>		
Interest rate exposures	410	230
Foreign exchange exposures	37	48
	<u>447</u>	<u>278</u>
<b>Internal models approach:</b>		
Guaranteed retirement funds	63	31
	<u>510</u>	<u>309</u>
<b>Total minimum capital requirement for market risk</b>	<u><u>510</u></u>	<u><u>309</u></u>

The capital requirement for the Bank's guaranteed retirement funds is calculated based on the potential shortfall between the estimated returns from the funds and the guaranteed returns. The projected returns are estimated using a simulation approach with a 99% confidence level. The model is back-tested against actual results.

## 8 Operational risk

The Bank adopts the standardised (operational risk) approach for assessing capital requirements for operational risk.

Operational risk is the risk of direct or indirect loss due to an event or action resulting from the failure of internal processes, people, and systems, or from external events. The Bank seeks to ensure that key operational risks are managed in a timely and effective manner through a framework of policies, procedures and tools to identify, assess, monitor, control, and report such risks.

The Bank's minimum capital requirement for operational risk is summarised as follows:

	<i>Consolidated capital requirement</i>	
	<i>2009</i>	<i>2008</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>
Standardised approach	<u>2,350</u>	<u>2,161</u>

CORG is appointed by the Risk Committee to review the Bank's operational risk profile with the objective of providing a forum for the management oversight of country and business level operational risk ("OR") trends and issues arising from control lapses/failures, regulatory breaches, policy non-compliance, as well as exceptions and weaknesses identified through the self-assessment processes, risk toolkits, compliance and business reviews, internal and external audits and external developments/changes. CORG will deliberate the root causes of risk issues, the appropriateness of risk ratings, as well as the adequacy and effectiveness of remedial actions.

Further information regarding operational risk governance and management is set out in note 38 (f) on page 91 of the 2009 consolidated financial statements.

## 9 Other annual financial disclosure

### (a) Counterparty credit risk exposures

The Bank adopts the current exposure method to determine the exposure amount for counterparty credit risk which arises from OTC derivative transactions in the banking and trading books. The credit equivalent amount is calculated as the sum of the current replacement cost and the potential future credit exposure.

The Bank's regulatory capital requirements for counterparty credit risk arising from OTC derivative transactions booked in the banking or trading book (referred to as "relevant transactions" in this section), is calculated in accordance with the Banking (Capital) rules. The Bank adopts the IRB approach to calculate the majority of its counterparty credit risk exposures and adopts the standardised approach for certain insignificant portfolios which are exempt from IRB. The capital requirement for credit risk relating to the relevant transactions is calculated by multiplying the risk-weighted amounts derived from the IRB approach by 8%.

Credit risk arising from all financial derivatives is managed as part of the overall lending limits to banks and corporate customers. Where collateral is deemed a necessary or desirable mitigant to the exposure, the Bank will seek to negotiate Credit Support Annexes ("CSA") with counterparties on a case by case basis. The credit terms of the CSA are specific to each legal document and determined by the credit risk approval unit responsible for the counterparty. The nature of the collateral will be specified in the legal document and will typically be cash or highly liquid securities. The Bank further reduces its credit exposures to counterparties by entering into contractual netting agreements which result in a single amount owed by or to the counterparty through netting the sum of the positive (amounts owed by the counterparty) and negative (amounts owed by the Bank) mark to market values of these transactions. Exposures are however presented on a gross basis in the financial statements as such transactions are not intended to be settled net in the ordinary course of business.

The following table summarises the Bank's credit exposure arising from OTC derivative transactions. As at 31 December 2009 and 2008, the Bank did not have any outstanding repo-style transactions or credit derivative contracts.

Counterparty credit risk under the IRB approach:

	<i>Consolidated</i>	
	<i>2009</i>	<i>2008</i>
	<i>HK\$'M</i>	<i>(restated)</i>
		<i>HK\$'M</i>
Gross total positive fair value	2,313	1,664
Credit equivalent amounts	5,569	6,932
Recognised collateral held		
– Cash	–	–
Credit equivalent amounts net of recognised collateral held	5,569	6,932
Risk weighted amounts	<u>426</u>	<u>816</u>

## 9 Other annual financial disclosure (continued)

### (a) Counterparty credit risk exposures (continued)

An analysis of the notional amounts, credit equivalent amounts and the risk-weighted amounts for OTC derivatives by counterparty type under the IRB approach is summarised as follows:

	<i>Consolidated</i>	
	<i>2009</i>	<i>2008</i>
	<i>HK\$'M</i>	<i>(restated)</i>
		<i>HK\$'M</i>
Notional amounts:		
– Corporates	14,030	14,322
– Sovereigns	13,927	–
– Banks	307,434	526,945
	<u>335,391</u>	<u>541,267</u>
Credit equivalent amounts:		
– Corporates	200	450
– Sovereigns	192	–
– Banks	5,177	6,482
	<u>5,569</u>	<u>6,932</u>
Risk-weighted amounts:		
– Corporates	133	310
– Sovereigns	4	–
– Banks	289	506
	<u>426</u>	<u>816</u>

Counterparty credit risk under the standardised approach:

	<i>Consolidated</i>	
	<i>2009</i>	<i>2008</i>
	<i>HK\$'M</i>	<i>(restated)</i>
		<i>HK\$'M</i>
Gross total positive fair value	241	151
Credit equivalent amounts	443	253
Recognised collateral held		
– Cash	123	50
Credit equivalent amounts net of recognised collateral held	320	203
Risk weighted amounts	<u>225</u>	<u>138</u>

**9 Other annual financial disclosure (continued)****(a) Counterparty credit risk exposures (continued)**

An analysis of the notional amounts, credit equivalent amounts and the risk-weighted amounts for OTC derivatives by counterparty type under the standardised approach is summarised as follows:–

	<i>Consolidated</i>	
	<i>2009</i>	<i>2008</i>
	<i>HK\$'M</i>	<i>(restated)</i>
		<i>HK\$'M</i>
Notional amounts:		
– Corporates	666	742
– Banks	9,151	5,550
– Individuals	9,240	2,827
	<u>19,057</u>	<u>9,119</u>
Credit equivalent amounts:		
– Corporates	64	92
– Banks	119	81
– Individuals	260	80
	<u>443</u>	<u>253</u>
Risk-weighted amounts:		
– Corporates	64	92
– Banks	24	16
– Individuals	137	30
	<u>225</u>	<u>138</u>

## 9 Other annual financial disclosure (continued)

### (b) Risk exposures to derivative transactions

	<i>Consolidated</i>		<i>Risk weighted amounts HK\$'M</i>
	<i>Fair value assets HK\$'M</i>	<i>Fair value liabilities HK\$'M</i>	
<b>2009</b>			
<b>Exchange rate contracts</b>			
– Forwards	2,118	1,250	475
– Cross currency swaps	47	–	55
– Options purchased	91	11	20
– Options written	18	86	–
<b>Interest rate contracts</b>			
– Swaps	425	523	77
– Options written	–	36	–
<b>Other derivatives</b>	<u>23</u>	<u>10</u>	<u>24</u>
	<u>2,722</u>	<u>1,916</u>	<u>651</u>
		<i>Consolidated</i>	
	<i>Fair value assets HK\$'M</i>	<i>Fair value liabilities HK\$'M</i>	<i>Risk weighted amounts HK\$'M</i>
<b>2008</b>			
<b>Exchange rate contracts</b>			
– Forwards	1,378	1,740	746
– Options purchased	110	12	107
– Options written	14	67	–
<b>Interest rate contracts</b>			
– Swaps	572	318	68
– Options written	–	66	–
<b>Other derivatives</b>	<u>45</u>	<u>32</u>	<u>33</u>
	<u>2,119</u>	<u>2,235</u>	<u>954</u>

The fair values and risk weighted amounts shown above do not include embedded derivatives which are not separated out from their host contracts, and therefore may not necessarily represent the amounts at risk.

## 9 Other annual financial disclosure (continued)

### (c) Asset securitisation

The Bank adopts the IRB approach to calculate the credit risk for asset securitisations in which it is an investing institution. There was no asset securitisation for which the Bank was an originating institution.

The Bank uses the following external credit assessment institutions to calculate the capital adequacy requirements: Standard & Poor's Ratings Services and Moody's Investors Service.

	<i>Consolidated 2009</i>			<i>Exposures deducted from capital</i>	
	<i>Outstanding amounts HK\$'M</i>	<i>Risk- weighted amounts HK\$'M</i>	<i>Minimum capital requirements HK\$'M</i>	<i>Core</i>	<i>Supplementary</i>
				<i>Capital HK\$'M</i>	<i>Capital HK\$'M</i>
Residential mortgages					
Risk weight					
7%	2,048	152	12		
15%	163	26	2		
20%	67	14	1		
75%	14	11	1		
	<u>2,292</u>	<u>203</u>	<u>16</u>	<u>26</u>	<u>26</u>
	<i>Consolidated 2008</i>			<i>Exposures deducted from capital</i>	
	<i>Outstanding amounts HK\$'M</i>	<i>Risk- weighted amounts HK\$'M</i>	<i>Minimum capital requirements HK\$'M</i>	<i>Core</i>	<i>Supplementary</i>
				<i>Capital HK\$'M</i>	<i>Capital HK\$'M</i>
Residential mortgages					
Risk weight					
7%	2,157	160	13		
15%	170	27	2		
20%	76	16	1		
75%	15	12	1		
	<u>2,418</u>	<u>215</u>	<u>17</u>	<u>26</u>	<u>26</u>

## 9 Other annual financial disclosure (continued)

### (d) Equity exposure in the banking book

Investments in equity shares which are intended to be held on a continuing basis, but which do not comprise investments in associates, jointly controlled entities or subsidiaries, are classified as available-for-sale securities and are reported on the balance sheet as "Investment securities". Available-for-sale securities are measured at fair value as described in note 2 (i) of the 2009 consolidated financial statements. Included within this category are investments made by the Bank for strategic purposes, which are subject to additional internal procedures and approvals to ensure that the investments are in accordance with the Bank's strategy and to ensure compliance with all relevant regulatory and legal restrictions. In some cases, additional investments may be made later such that the investee becomes an associate, jointly controlled entity or subsidiary, at which point the investment is reclassified in accordance with the Bank's accounting policies.

	2009 HK\$M	2008 HK\$M
Cumulative realised gains on disposal	85	41
Unrealised gains:		
– recognised in reserves but not through the income statement	17	57
– included in supplementary capital for capital adequacy ratio purpose	8	26

### (e) Interest rate exposure in the banking book

As at the balance sheet date, the variation in the Bank's earnings for a 200 basis points interest rate increase, broken down by currency, is shown as follows (in HK\$ million):

	<i>HKD</i>	<i>USD</i>	<i>EUR</i>	<i>JPY</i>	<i>GBP</i>	<i>AUD</i>
2009	(1,265)	300	512	217	28	(107)
	<i>HKD</i>	<i>USD</i>	<i>EUR</i>	<i>JPY</i>	<i>CNY</i>	
2008	(641)	8	(14)	90	(3)	

The above analysis is based on the methodology as set out by the HKMA in the completion instructions for the "Return of Interest Rate Risk Exposure" and is compiled on a quarterly basis.

In addition, the analysis is based on the following assumptions:

- (i) there is a parallel shift in the yield curve and in interest rates;
- (ii) positions are assumed to run to maturity and reprice according to the earliest interest repricing date; and
- (iii) no loan prepayment is assumed as the majority of loans are on a floating rate basis.

### (f) Analysis of fee and commission income

The products constituting not less than 10% of the total amount of fee and commission income are as follows:

	2009 HK\$'M	2008 HK\$'M
Credit cards	532	567
Trade products	748	822
Global market products	1,695	1,279
Investment services	580	826
Insurance services	376	560

## 9 Other annual financial disclosure (continued)

### (g) Cross border claims

Cross border claims are on-balance sheet exposures of counterparties based on the location of those counterparties after taking into account the transfer of risk. For a claim guaranteed by a party situated in a country different from the counterparty, risk will be transferred to the country of the guarantor. For a claim on the branch of a bank or other financial institution, the risk will be transferred to the country where its head office is situated. Claims on individual countries or areas, after risk transfer, amounting to 10% or more of the aggregate cross border claims are shown as follows:

	<i>Consolidated</i>			
	<i>2009</i>			
	<i>Banks and other financial institutions HK\$'M</i>	<i>Public sector entities HK\$'M</i>	<i>Other HK\$'M</i>	<i>Total HK\$'M</i>
Asia Pacific excluding Hong Kong	53,679	1,660	19,987	75,326
Western Europe				
– United Kingdom	76,382	786	439	77,607
– France	41,869	–	56	41,925
– Others	57,409	–	2,650	60,059
	175,660	786	3,145	179,591
	<i>Consolidated</i>			
	<i>2008</i>			
	<i>Banks and other financial institutions HK\$'M</i>	<i>Public sector entities HK\$'M</i>	<i>Other HK\$'M</i>	<i>Total HK\$'M</i>
Asia Pacific excluding Hong Kong	42,027	–	24,778	66,805
Western Europe				
– United Kingdom	89,560	–	3,261	92,821
– Others	80,950	–	709	81,659
	170,510	–	3,970	174,480

## 9 Other annual financial disclosure (continued)

### (h) Advances to customers analysed by industry sector

The analysis of gross advances to customers by industry sector is based on the categories used by the HKMA.

	2009 HK\$M	Consolidated and Bank % of advances covered by collateral or other securities	2008 HK\$M	% of advances covered by collateral or other securities
Gross advances for use in Hong Kong				
<i>Industrial, commercial and financial</i>				
– Property development	4,107	20%	4,125	10%
– Property investment	27,950	88%	22,619	89%
– Financial concerns	14,050	46%	21,081	26%
– Stockbrokers	935	57%	2,422	–
– Wholesale and retail trade	9,022	33%	4,554	28%
– Manufacturing	10,946	16%	10,844	19%
– Transport and transport equipment	2,375	13%	1,805	12%
– Recreational activities	43	–	41	33%
– Information technology	1,128	–	1,370	–
– Others	7,725	11%	5,400	11%
<i>Individuals</i>				
– Advances for the purchase of flats in the Home Ownership Scheme, Private Sector Participation Scheme and Tenants Purchase Scheme	1,145	100%	1,328	99%
– Advances for the purchase of other residential properties	98,101	100%	87,673	99%
– Credit card advances	7,465	–	8,378	–
– Others	15,048	16%	13,337	17%
Total gross advances for use in Hong Kong	200,040		184,977	
Trade finance	17,609	13%	19,598	12%
Trade bills	2,386	20%	3,381	–
Gross advances for use outside Hong Kong	7,818	9%	7,290	7%
Gross advances to customers	227,853	63%	215,246	57%

Advances to customers by geographical area are classified according to the location of the counterparties after taking into account the transfer of risk. As at 31 December 2009 and 31 December 2008, over 90 per cent of the Bank and its subsidiaries' advances to customers were classified under Hong Kong.

The above balances do not include inter-company loans and advances.

## 9 Other annual financial disclosure (continued)

### (h) Advances to customers analysed by industry sector (continued)

The amount of impaired and overdue advances to customers and individually and collectively assessed impairment allowances for industry sectors which constitute not less than 10% of the Bank and its subsidiaries' total advances to customers are as follows:

	<i>Impaired advances to customers</i> HK\$'M	<i>Overdue advances to customers</i> HK\$'M	<i>Individually assessed impairment allowances</i> HK\$'M	<i>Collectively assessed impairment allowances</i> HK\$'M	<i>New provision charge</i> HK\$'M
<u>As at 31 December 2009</u>					
Advances for the purchase of other residential properties	95	26	43	2	10
Property investment	7	23	4	43	1
<u>As at 31 December 2008</u>					
Advances for the purchase of other residential properties	117	32	48	9	9
Property investment	8	35	4	61	–

### (i) Overdue and rescheduled assets

#### (i) Overdue advances to customers

	<i>Consolidated</i>			
	<i>2009</i>	<i>% of gross advances</i>	<i>2008</i>	<i>% of gross advances</i>
	<i>HK\$'M</i>		<i>HK\$'M</i>	
Gross advances to customers which have been overdue with respect to either principal or interest for periods of:				
– 6 months or less but over 3 months	83	–	479	0.2%
– 1 year or less but over 6 months	429	0.2%	165	0.1%
– over 1 year	882	0.4%	438	0.2%
	<u>1,394</u>	<u>0.6%</u>	<u>1,082</u>	<u>0.5%</u>
	<i>2009 HK\$'M</i>		<i>2008 HK\$'M</i>	
Fair value of collateral held against the covered portion of overdue advances to customers	<u>256</u>		<u>260</u>	
Covered portion of overdue advances to customers	120		101	
Uncovered portion of overdue advances to customers	<u>1,274</u>		<u>981</u>	

**9 Other annual financial disclosure (continued)****(i) Overdue and rescheduled assets (continued)****(i) Overdue advances to customers (continued)**

The covered portion of overdue advances to customers represents the amount of collateral held against outstanding balances. It does not include any collateral held over and above outstanding exposures.

The collateral held in respect of the overdue advances consists of cash and properties.

	2009 HK\$'M	2008 HK\$'M
Individually assessed impairment charges against overdue advances to customers	<u>962</u>	<u>696</u>

**(ii) Overdue advances to banks**

	2009		Consolidated 2008	
	HK\$'M	% of advances to banks	HK\$'M	% of advances to banks
Gross advances to banks which have been overdue with respect to either principal or interest for periods of:				
Over 1 year	<u>184</u>	<u>0.1%</u>	<u>—</u>	<u>—</u>
	<u>184</u>	<u>0.1%</u>	<u>—</u>	<u>—</u>

There is no collateral held against overdue advances to banks.

Individually assessed impairment allowances against advances to banks overdue more than 3 months

<u>—</u>	<u>—</u>
----------	----------

**(iii) Rescheduled advances to customers**

	2009		Consolidated 2008	
	HK\$'M	% of gross advances	HK\$'M	% of gross advances
Rescheduled advances	<u>575</u>	<u>0.3%</u>	<u>456</u>	<u>0.2%</u>

Rescheduled advances are those advances, which have been restructured or renegotiated because of a deterioration in the financial position of the borrowers, or the inability of the borrowers to meet the original repayment schedule and for which the revised repayment terms are non-commercial to the Bank. Rescheduled advances to customers are stated net of any advances that have subsequently become overdue for over 3 months and reported as overdue advances in note 9 (h)(i) above.

There were no rescheduled advances to banks and other financial institutions as at 31 December 2009 and 31 December 2008.

**9 Other annual financial disclosure (continued)****(j) Non-bank Mainland China exposure**

	<i>On-balance sheet exposure HK\$'M</i>	<i>Off-balance sheet exposure HK\$'M</i>	<i>Total HK\$'M</i>	<i>Individually assessed impairment allowances HK\$'M</i>
<u>As at 31 December 2009</u>				
Mainland China entities	8,140	18,545	26,685	4
Companies and individuals outside Mainland China where the credit is granted for use in Mainland China	5,550	20,400	25,950	10
Other counterparties where the exposure is considered by the Bank to be non-bank Mainland China exposure	645	1,360	2,005	–
<u>As at 31 December 2008</u>				
Mainland China entities	6,326	7,293	13,619	17
Companies and individuals outside Mainland China where the credit is granted for use in Mainland China	4,889	16,578	21,467	46
Other counterparties where the exposure is considered by the Bank to be non-bank Mainland China exposure	60	598	658	–

The off-balance sheet exposure represents the amount at risk should the contract be fully drawn upon and the client defaults. As the facilities may expire without being drawn upon, the contractual amounts do not represent expected future cash flows.

**(k) Liquidity ratio**

	<i>Bank</i>	
	<i>2009</i>	<i>2008</i>
	<i>%</i>	<i>%</i>
Average liquidity ratio for the year	<u>37.9%</u>	<u>33.1%</u>

The average liquidity ratio is computed as the simple average of each calendar month's average ratio and is in accordance with the Fourth Schedule to the Hong Kong Banking Ordinance.