

Standard Chartered Bank
(Hong Kong) Limited

Unaudited Supplementary
Financial Information

For the year ended
31 December 2012

Unaudited supplementary financial information

These notes are supplementary to and should be read in conjunction with the 2012 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 2012 as set out on pages 13 to 26 of the 2012 consolidated financial statements.

2 Capital management

(a) *Basis of consolidation and preparation*

The consolidated total capital 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 Hong Kong Financial Reporting Standards. The principal subsidiaries of the Bank for accounting purposes are Standard Chartered APR Limited, Standard Chartered Securities (Hong Kong) Limited, Prime Credit Limited and Standard Chartered Leasing Group 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, Standard Chartered Investment Services Limited and Standard Chartered Trust (HK) Limited. The Bank’s shareholdings in these subsidiaries are deducted from capital in accordance with the Banking (Capital) Rules. There are no relevant capital shortfalls in any of the Bank’s subsidiaries which are not included as part of the consolidation group for regulatory purposes.

The Bank uses the advanced internal ratings based (“AIRB”) 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 AIRB.

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”) 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 37(j) on pages 105 to 106 of the 2012 consolidated financial statements.

(b) Capital adequacy ratio and capital base

	<i>Consolidated</i>	
	2012	2011
	HK\$'M	HK\$'M
Core capital:		
Paid up ordinary share capital	97	97
Share premium	12,477	12,477
Reserves	21,846	18,787
Profit and loss account	4,194	1,993
Current year profit	7,294	7,826
Dividend paid	(3,100)	(5,833)
Non-controlling interests	22	58
Deduct:		
Goodwill	(1,254)	(1,254)
Other intangible assets	(282)	(193)
Deferred tax assets	(65)	(126)
Other deductions	(111)	–
	36,924	31,839
Deductions from core capital	(2,863)	(3,227)
Core capital after deductions	34,061	28,612
Supplementary capital:		
Unrealised gains on available-for-sale equities and debt securities	3	–
Unrealised gains on debt securities designated at fair value	23	–
Regulatory reserve	350	327
Collective impairment allowances	160	155
Surplus provisions	1,501	1,353
Term subordinated debt	11,267	13,100
	13,304	14,935
Deductions from supplementary capital	(2,863)	(3,227)
Supplementary capital after deductions	10,441	11,708
Total capital base before deductions	50,228	46,774
Deductions from total capital base	(5,726)	(6,454)
Total capital base	44,502	40,320
Capital adequacy ratio as at 31 December	13.6%	13.6%
Core capital ratio as at 31 December	10.4%	9.7%

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>2012</i>	<i>2011</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>
Subject to AIRB approach:		
Corporate exposures	11,148	10,545
Sovereign exposures	285	160
Bank exposures	2,233	1,964
Residential mortgages to individuals and property-holding shell companies	820	796
Qualifying revolving retail exposures	1,048	1,006
Small business retail exposures	128	98
Other retail exposures to individuals	2,138	1,791
Other exposures	2,214	1,677
Securitisation positions	126	62
Equity exposures	–	–
	<hr/>	<hr/>
Total minimum capital requirement for credit risk under AIRB approach	20,140	18,099
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Subject to standardised approach:		
Sovereign exposures	–	–
Public sector entity exposures	–	–
Multilateral development bank exposures	–	–
Bank exposures	7	30
Securities firm exposures	–	–
Corporate exposures	928	987
Collective investment scheme exposures	–	–
Cash items	–	–
Regulatory retail exposures	79	76
Residential mortgage loans	138	146
Other exposures which are not past due	228	176
Past due exposures	191	361
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Total minimum capital requirement for credit risk under standardised approach	1,571	1,776
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Total minimum capital requirement for credit risk	21,711	19,875
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(d) Basel III

To implement the first phase of revised regulatory capital standards as prescribed by the Basel Committee on Banking Supervision, the HKMA has issued the Banking (Capital) (Amendment) Rules 2012 which have come into effect for authorized institutions in Hong Kong from 1 January 2013. Starting from 2013, all authorized institutions in Hong Kong have to meet three levels of minimum capital ratios, namely common equity tier 1, tier 1 and total capital ratios. There is minimal impact to the Bank's capital ratios as a result of the Basel III implementation and the Bank and its subsidiaries continue to comply with the capital requirements under the revised rules.

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 Hong Kong Monetary Authority (“HKMA”).

(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”)*

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 (“CEO”), the Chief Financial Officer (“CFO”) and the heads of various business functions.

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

The ALCO, appointed by the EXCO, 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 CEO, the CFO 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 risks except those for which ALCO and the Pensions Executive Committee (“PEC”) have direct responsibility, 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 Country Chief Risk Officer (“CCRO”), CEO, CFO, Country Credit Officer (Wholesale Bank), Country Credit Head (Consumer Bank) and representatives from other relevant units. It has appointed various subcommittees to supervise and review specific areas of risk, including the Hong Kong Early Alert Committee (“EAC”), the Group Special Asset Management Committee, the Excess Approval Committee, the Country Operational Risk Committee (“CORC”), the Hong Kong Model Assessment Committee (“HKMAC”), the Hong Kong Reputational Risk Committee (“HKRRC”), the Hong Kong Connected Lending Approval Committee and the Hong Kong Stress Testing Committee (“HKSTC”).

(e) *Audit Committee (“AC”)*

The AC 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 AC also discusses matters raised by the internal and external auditors and ensures that audit recommendations are implemented appropriately. The AC comprises of 4 non-executive directors, the majority of whom are independent.

3 Corporate governance (continued)

(f) Group Internal Audit

Group Internal Audit is an independent function that reports to both Country Audit Committee and Group Audit Committee. It provides assurance to management and Audit Committees that the key risks associated with the Group's and the Bank's businesses and operations have been identified and 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 pages 72 and 73 of the 2012 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 HKSTC, which is led by the Risk function, has a primary objective to ensure the Bank understands the earnings and capital implications of specific stress scenarios.

In 2012, stress testing focused on specific 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) AIRB approach to credit risk

The Bank uses the AIRB 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 AIRB approach:

- Corporate exposures including exposures to small-and-medium sized corporates 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, small business 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 AIRB 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 HKMAC.

Risk-weighted assets ("RWA") under the AIRB 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 AIRB approach is covered in more detail in note 6 to the supplementary notes.

4 Credit risk exposure management (continued)

(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 AIRB 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 the Bank's internal estimate of probability of default over a one year horizon, 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 further 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 Bank's credit grades in Wholesale Banking are not intended to replicate external credit grades. Ratings assigned by external rating agencies are not used in determining the Bank's internal credit grades, nonetheless as the factors used to grade a borrower may be similar, a borrower rated poorly by an external rating agency is typically assigned a comparable internal credit grade.

Credit grades for Consumer Banking accounts are based on a probability of default calculated using AIRB 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.

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

The Bank makes use of internal risk estimates of PD, LGD and EAD 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 with reference to the nominal exposure;
- 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 standard approach to risk-return assessment is used to assess the risk using PD, LGD and EAD against the expected income for pricing and risk decision;
- 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. In Consumer Banking, the estimates of PD, LGD and EAD are used in the credit approval documents to define the credit boundaries and risk limits. It is also used in the score cut-off analysis to limit underwriting within the lower quality or unprofitable score bands.
- 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; and
- 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.

5 Risk Grade Profile (continued)

(b) Risk assessment for exposures under AIRB approach

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

	2012						
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
Total EAD (HK\$ million)							
Corporates	102,531	106,166	28,952	1,110	5,863	–	244,622
Sovereigns	63,096	395	–	–	–	–	63,491
Banks	339,902	4,731	468	–	44	–	345,145
Residential mortgages to individuals and property-holding shell companies	152,524	14,586	1,820	62	279	–	169,271
Qualifying revolving retail exposures	47,331	7,812	3,807	673	184	–	59,807
Small business retail exposures	92	1,043	299	6	5	–	1,445
Other retail exposures to individuals	8,072	12,240	6,086	715	44	–	27,157
Other exposures	–	–	–	–	–	68,999	68,999
Securitisation exposures	15,289	–	–	–	–	–	15,289
Equity exposures	–	–	–	–	–	–	–
	<u>728,837</u>	<u>146,973</u>	<u>41,432</u>	<u>2,566</u>	<u>6,419</u>	<u>68,999</u>	<u>995,226</u>

	2012						
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
Exposure-weighted average LGD (%)							
Corporates	49.54	33.55	24.42	71.68	55.49	–	39.87
Sovereigns	46.39	46.20	–	–	–	–	46.39
Banks	27.51	24.40	22.94	–	26.20	–	27.46
Residential mortgages to individuals and property-holding shell companies	12.48	23.29	31.30	15.99	11.56	–	13.61
Qualifying revolving retail exposures	92.06	92.06	92.06	92.06	77.75	–	92.02
Small business retail exposures	86.13	86.22	85.95	86.40	86.40	–	86.16
Other retail exposures to individuals	92.98	94.37	95.90	94.43	82.62	–	94.28

	2012						
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
Exposure-weighted average risk weight (%)							
Corporates	34.50	59.69	78.94	223.56	125.90	–	53.74
Sovereigns	4.68	103.66	–	–	–	–	5.30
Banks	7.14	35.51	58.94	–	292.70	–	7.63
Residential mortgages to individuals and property-holding shell companies	2.61	25.15	90.74	88.87	113.58	–	5.71
Qualifying revolving retail exposures	6.42	34.19	124.62	254.41	101.95	–	20.66
Small business retail exposures	40.34	99.01	123.75	217.00	1,080.05	–	104.47
Other retail exposures to individuals	46.14	90.34	144.61	223.31	77.52	–	92.84
Other exposures	–	–	–	–	–	37.85	37.85
Securitisation exposures	9.69	–	–	–	–	–	9.69
Equity exposures	–	–	–	–	–	–	–

5 Risk Grade Profile (continued)

(b) Risk assessment for exposures under AIRB approach (continued)

	2012						
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
Exposure-weighted average PD (%)							
Corporates	0.17	1.16	6.00	24.72	100.00	–	3.79
Sovereigns	0.01	2.03	–	–	–	–	0.03
Banks	0.06	0.94	3.30	–	100.00	–	0.09
Residential mortgages to individuals and property-holding shell companies	0.07	0.83	4.22	25.21	100.00	–	0.36
Qualifying revolving retail exposures	0.12	1.00	6.36	26.08	100.00	–	1.24
Small business retail exposures	0.25	1.58	4.02	31.23	100.00	–	2.48
Other retail exposures to individuals	0.28	0.98	5.75	26.21	100.00	–	2.66

	2011						
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
Total EAD (HK\$ million)							
Corporates	108,467	98,207	31,033	3,445	3,169	–	244,321
Sovereigns	60,873	–	–	–	–	–	60,873
Banks	311,996	5,348	196	–	63	–	317,603
Residential mortgages to individuals and property-holding shell companies	134,875	12,132	1,931	87	299	–	149,324
Qualifying revolving retail exposures	41,944	6,830	3,911	671	150	–	53,506
Small business retail exposures	44	774	272	2	2	–	1,094
Other retail exposures to individuals	6,882	10,458	4,926	606	25	–	22,897
Other exposures	–	–	–	–	–	49,764	49,764
Securitisation exposures	6,610	–	–	–	–	–	6,610
Equity exposures	–	–	–	–	–	–	–
	<u>671,691</u>	<u>133,749</u>	<u>42,269</u>	<u>4,811</u>	<u>3,708</u>	<u>49,764</u>	<u>905,992</u>

	2011						
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
Exposure-weighted average LGD (%)							
Corporates	48.85	32.03	22.70	62.03	52.66	–	39.00
Sovereigns	26.96	–	–	–	–	–	26.96
Banks	26.53	22.61	27.24	–	26.20	–	26.46
Residential mortgages to individuals and property-holding shell companies	13.78	23.60	33.96	19.31	11.68	–	14.84
Qualifying revolving retail exposures	92.06	92.06	92.06	92.06	78.18	–	92.02
Small business retail exposures	86.40	86.39	86.21	86.40	86.40	–	86.35
Other retail exposures to individuals	92.92	94.12	94.15	87.75	80.30	–	93.58

5 Risk Grade Profile (continued)

(b) Risk assessment for exposures under AIRB approach (continued)

	2011						Total
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	
Exposure-weighted average risk weight (%)							
Corporates	34.33	55.55	82.31	177.73	28.17	–	50.89
Sovereigns	3.10	–	–	–	–	–	3.10
Banks	6.72	33.67	87.42	–	348.66	–	7.29
Residential mortgages to individuals and property-holding shell companies	2.76	27.53	97.38	111.30	115.49	–	6.28
Qualifying revolving retail exposures	6.45	34.52	126.52	254.20	100.41	–	22.17
Small business retail exposures	40.46	101.37	123.33	214.94	1,079.85	–	106.03
Other retail exposures to individuals	45.88	90.76	144.28	221.83	85.93	–	92.25
Other exposures	–	–	–	–	–	39.73	39.73
Securitisation exposures	11.05	–	–	–	–	–	11.05
Equity exposures	–	–	–	–	–	–	–
	Grades 1-5	Grades 6-8	Grades 9-11	Grade 12	Defaulted	Unrated	Total
Exposure-weighted average PD (%)							
Corporates	0.17	1.16	5.82	24.77	100.00	–	2.92
Sovereigns	0.01	–	–	–	–	–	0.01
Banks	0.05	0.87	4.40	–	100.00	–	0.09
Residential mortgages to individuals and property-holding shell companies	0.07	0.90	4.08	23.92	100.00	–	0.40
Qualifying revolving retail exposures	0.12	1.01	6.51	25.85	100.00	–	1.31
Small business retail exposures	0.25	1.63	3.82	29.83	100.00	–	2.30
Other retail exposures to individuals	0.27	0.99	5.78	26.12	100.00	–	2.58

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

	2012		2011	
	Undrawn commitments HK\$'M	EAD HK\$'M	Undrawn commitments HK\$'M	EAD HK\$'M
Corporates	52,857	8,265	37,755	5,107
Sovereigns	841	168	845	169
Banks	17,953	3,034	13,090	2,218
Equity exposures	–	–	–	–
	<u>71,651</u>	<u>11,467</u>	<u>51,690</u>	<u>7,494</u>

6 Internal ratings-based models

(a) Model governance

Models are developed by analytics teams within 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 AIRB models are validated periodically 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 HKMAC which in turn makes approval recommendations to the RC. 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 RC periodically reviews 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.

(b) PD Model Development

The 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. If there is a perceived weakness in the data, for example shorter history or fewer instances of defaults, an appropriate amount 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 Bank'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 be comparable to the ranking of PD rating assigned by established credit assessment institutions, to avail of those agencies having access to large databases of defaults on a variety of credit obligations.

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

The Group develops LGD models by assessing recoveries, the forced sale value of collateral together with 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. LGD is therefore the EAD less these estimated recoveries.

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 collateral values and recoveries on exposures, compared to those estimated over the long run.

(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, AIRB models also support risk-based pricing methodologies and measures used to assess business performance such as Economic Revenue and Economic Profit.

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

- use of models is governed by the grading policy and procedure which defines the applicability of that model, details the procedure for use and sets the conditions and approval authority required to override model output;
- the Group Model Risk Policy – AIRB Models specifies that models are subject to regular monitoring and review with the underlying Group Model Standards for AIRB Credit Risk Models specifying statistical thresholds and other triggers which determine when models need to be redeveloped; and

6 Internal ratings-based models (continued)

(e) Model Use (continued)

- the parental support policy, for Wholesale Banking, determines the requirement and extent to which parental support may be utilised to adjust the credit grade of subsidiaries.

(f) Wholesale Banking Model Results

The following table sets out observed PD, realised LGD and EAD compared to AIRB model predictions.

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

	2012				
	PD		LGD		EAD Predicted / Realised
	Observed %	Predicted %	Realised %	Predicted %	
AIRB Exposure Class					
Corporates ¹	1.65	1.81	47.78	39.67	1.20
Sovereigns	0.00	0.01	0.00	26.96	0.00
Banks	0.00	0.07	0.00	26.46	0.00

	2011				
	PD		LGD		EAD Predicted / Realised
	Observed %	Predicted %	Realised %	Predicted %	
AIRB Exposure Class					
Corporates	0.06	1.78	49.20	45.41	1.42
Sovereigns	0.00	0.01	0.00	27.31	0.00
Banks	0.00	0.10	0.00	23.67	0.00

Wholesale Banking models have been developed from a dataset which runs to over a decade, including default and recovery experience from the 1997 Asian financial crisis. This data has been used to calibrate estimates of PD to the Group's 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.

AIRB PD estimates are computed as of 1 January 2012 and are compared with default observations through 31 December 2012. The historical loss experience for sovereigns or banks is minimal and in 2012, there were no observed defaults. The observed PD rates for corporate exposures in 2012 remained below AIRB model predictions.

The calculation of realised 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 most of the defaults in 2012 is too immature to compute meaningful realised versus predicted outcomes in a manner similar to that for PD and EAD.

The predicted LGD is a downturn LGD based on the model outputs as of 1 January 2012. For the realised LGD, on the other hand, instead of restricting its computation to 2012 defaults only, we have used the long run average realisations from 1995 to 2012, including downturn periods. Therefore, the predicted LGD is not directly comparable to the realised LGD. 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 they are in the predicted LGD.

¹ Includes small and medium-sized enterprises managed by Consumer Banking

6 Internal ratings-based models (continued)

(f) Wholesale Banking Model Results (continued)

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 realised versus predicted EAD is summarized, for assets which defaulted in 2012, as the ratio of the EAD one 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 conservatism assigned to the predicted CCF/k-factor of certain exposure types, as well as the impact of management action leading to a reduction in actual exposure prior to default.

(g) Consumer Banking Model Results

Consumer Banking models have been developed from datasets which capture 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.

	2012					
	PD		LGD		EAD	
	Actual PD%	Predicted PD%	Actual	Predicted	Actual EAD HK\$'M	Predicted EAD HK\$'M
			Exposure- weighted LGD%	Exposure- weighted LGD%		
AIRB Exposure Class						
Residential mortgages	0.08	0.20	0.12	18.33	155	157
Qualifying revolving retail exposures	0.35	0.69	56.61	84.60	245	281
Small business retail exposures	1.42	2.25	74.17	86.40	15	17
Other retail exposures to individuals	2.06	2.65	67.93	92.89	460	521

	2011					
	PD		LGD		EAD	
	Actual PD%	Predicted PD%	Actual	Predicted	Actual EAD HK\$'M	Predicted EAD HK\$'M
			Exposure- weighted LGD%	Exposure- weighted LGD%		
AIRB Exposure Class						
Residential mortgages	0.04	0.19	1.53	22.66	111	113
Qualifying revolving retail exposures	0.43	0.89	81.09	88.03	319	337
Small business retail exposures	–	–	–	–	–	–
Other retail exposures to individuals	1.46	3.54	93.15	97.08	77	83

Predicted PD was computed as at 1 January 2012 and compared to the actual default observations during the year to 31 December 2012. The observed default rate for all asset classes is in line with, or lower than, the predicted PD.

The actual LGD is calculated based on recoveries that were realised as of December 2012. This is compared to the predicted LGD of these assets at a given time period. Actual LGDs are lower than the predicted values for all asset classes, primarily due to ‘downturn’ parameter settings used in the models to predict LGD.

6 Internal ratings-based models (continued)

(g) Consumer Banking Model Results (continued)

For all asset classes, other than QRRE and other retail exposures to individuals, the predicted EAD was close to the actual EAD experienced during 2012. For QRRE and other retail exposures to individuals, the predicted EAD includes regulatory 'downturn' requirements that resulted in higher EAD. The actual EAD is also lower due to management actions taken to contain exposure prior to default.

(h) Analysis of actual losses and estimates

The following table sets out the actual losses in 2012 and 2011 and the regulatory expected loss as at 31 December 2011 and 31 December 2010.

Regulatory expected loss is based on a through-the-cycle methodology using risk parameters and observations over a period of time. It is a conservative and appropriately prudent calculation underpinning regulatory capital requirements, and:

- does not take account of any benefit from management actions to reduce exposures to riskier customers, clients or segments as conditions deteriorate;
- does not take account of any diversification benefit; and
- is calculated in accordance with rules which enforce a certain level of conservatism.

Regulatory expected loss therefore bears little resemblance to impairment as defined for accounting purposes. This is illustrated by the table below which shows expected loss consistently at a multiple of impairment.

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 as set out in Note 2(k) on pages 20 to 22 of the 2012 consolidated financial statements.

AIRB exposure class	Actual loss for the year of		Regulatory expected loss at	
	2012 HK\$'M	2011 HK\$'M	31 December 2011** HK\$'M	31 December 2010** HK\$'M
Corporates	585	46	2,603	2,680
Sovereigns	–	–	2	1
Banks	–	–	62	63
Residential mortgages	(9)	(12)	81	53
Qualifying revolving retail exposures	304	226	611	767
Small business retail exposures	17	12	20	–
Other retail exposures to individuals	309	217	554	205
	<u>1,206</u>	<u>489</u>	<u>3,933</u>	<u>3,769</u>

** The regulatory expected loss is the estimated future loss for the relevant AIRB asset classes over the next 12 months

The increase in actual loss was driven by one single account in 2012.

6 Internal ratings-based models (continued)

(i) Problem Credit Management and Provisioning

Consumer Banking

In Consumer Banking, where there are large numbers of small value loans, a primary indicator of potential impairment is delinquency. A loan is considered delinquent (past due) when the counterparty has failed to make a principal or interest payment when contractually due. However, not all delinquent loans (particularly those in the early stage of delinquency) will be impaired. For delinquency reporting purposes we follow 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 subject to specific collections processes.

Provisioning within Consumer Banking reflects the fact that the product portfolios (excluding medium-sized enterprises among SME customers and Private Banking customers) consist of a large number of comparatively small exposures. Mortgages are assessed for individual impairment on an account by account basis, but for other products it is impractical to monitor each delinquent loan individually and impairment is therefore assessed collectively.

For the main unsecured products and loans secured by automobiles, the entire outstanding amount is generally written off at 150 days past due. Unsecured consumer finance loans are similarly written off at 90 days past due. For secured loans (other than those secured by automobiles) individual impairment provisions (IIPs) are generally raised at either 150 days (Mortgages) or 90 days (Wealth Management) past due.

The provisions are based on the estimated present values of future cashflows, in particular those resulting from the realisation of security. Following such realisation any remaining loan will be written off. The days past due used to trigger write offs and IIPs are broadly driven by past experience, which shows that once an account reaches the relevant number of days past due, the probability of recovery (other than by realising security where appropriate) is low. For all products there are certain situations where the individual impairment provisioning or write off process is accelerated, such as in cases involving bankruptcy, customer fraud and death. Write off and IIPs are accelerated for all restructured accounts to 90 days past due (unsecured and automobile finance) and 120 days past due (secured) respectively.

The PIP methodology provides for accounts for which an individual impairment provision has not been raised, either individually or collectively. PIP is raised on a portfolio basis for all products, and 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 methodology applies a larger provision against accounts that are delinquent but not yet considered impaired.

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

6 Internal ratings-based models (continued)

(i) Problem Credit Management and Provisioning (continued)

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, ("GSAM") the Bank's specialist recovery unit, which is separate from the main businesses. 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 by GSAM 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. The PIP methodology provides for accounts for which an IIP has not been raised.

(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, netting agreements, credit insurance, credit derivatives 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 value and counterparty risk of the guarantor.

Risk mitigation policies determine the eligibility of collateral types. Collateral types that 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.

Collateral is valued in accordance with the Bank's risk mitigation policy, which prescribes the frequency of valuation for different collateral types, based on the level of price volatility of each type of collateral and the nature of the underlying product or risk exposure.

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:

6 Internal ratings-based models (continued)

(j) Credit risk mitigation ("CRM") (continued)

- 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 are approved in accordance with the delegated authorities within Consumer Banking Risk or by the Excess Approval Committee under advice of the Group's Consumer Banking Risk Committee as appropriate.

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.

The following table discloses the amount of exposure in the AIRB portfolio that is covered by guarantees.

	<i>EAD covered by guarantees</i>	
	<i>2012 HK\$'M</i>	<i>2011 HK\$'M</i>
AIRB Exposure Class		
Corporate exposures	12,823	12,783
Sovereign exposures	–	–
Bank exposures	353	669
Residential mortgages to individuals and property-holding shell companies	–	–
Qualifying revolving retail exposures	–	–
Small business retail exposures	–	–
Other retail exposures to individuals	–	–
Other exposures	–	–
Securitisation positions	–	–
Equity exposures	–	–
	13,176	13,452

6 Internal ratings-based models (continued)

(j) Credit risk mitigation ("CRM") (continued)

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

	2012						
	Total exposures before the effect of CRM* HK\$'M	Total exposures after the effect of CRM**		Risk weighted amounts		Total exposures covered by recognised collateral HK\$'M	Total exposures covered by recognised guarantees HK\$'M
		Rated HK\$'M	Unrated HK\$'M	Rated HK\$'M	Unrated HK\$'M		
Standardised Exposure Class							
Sovereigns	-	-	-	-	-	-	-
Public sector entities	-	-	-	-	-	-	-
Multilateral development banks	319	-	319	-	-	-	-
Banks	302	-	436	-	87	-	-
Securities firms	-	-	-	-	-	-	-
Corporates	16,665	-	11,688	-	11,592	4,872	297
Collective investment schemes	-	-	-	-	-	-	-
Cash items	-	-	-	-	-	-	-
Regulatory retail	2,749	-	1,319	-	989	1,404	26
Residential mortgage loans	1,733	-	1,733	-	1,725	-	-
Other exposures which are not past due	9,632	-	2,856	-	2,856	6,773	3
Past due exposures	1,596	-	1,596	-	2,386	7	-
Total	32,996	-	19,947	-	19,635	13,056	326
Exposures deducted from capital base	-	-	-	-	-	-	-
2011							
	Total exposures before the effect of CRM* HK\$'M	Total exposures after the effect of CRM**		Risk weighted amounts		Total exposures covered by recognised collateral HK\$'M	Total exposures covered by recognised guarantees HK\$'M
		Rated HK\$'M	Unrated HK\$'M	Rated HK\$'M	Unrated HK\$'M		
Standardised Exposure Class							
Sovereigns	-	-	-	-	-	-	-
Public sector entities	-	-	-	-	-	-	-
Multilateral development banks	87	-	87	-	-	-	-
Banks	1,727	-	1,899	-	380	-	-
Securities firms	-	-	-	-	-	-	-
Corporates	15,343	-	12,393	-	12,325	2,819	267
Collective investment schemes	-	-	-	-	-	-	-
Cash items	-	-	-	-	-	-	-
Regulatory retail	2,368	-	1,274	-	956	1,080	14
Residential mortgage loans	1,833	-	1,833	-	1,819	-	-
Other exposures which are not past due	6,781	-	2,199	-	2,199	4,555	27
Past due exposures	3,015	-	3,015	-	4,517	7	-
Total	31,154	-	22,700	-	22,196	8,461	308
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 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.

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

	<i>Consolidated capital requirement</i>	
	<i>2012</i>	<i>2011</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>
Standardised approach:		
Interest rate exposures	944	867
Foreign exchange exposures	75	151
Equity exposures	227	2
Commodity exposures	30	–
	<u>1,276</u>	<u>1,020</u>
Internal models approach:		
Guaranteed retirement funds	<u>71</u>	<u>68</u>
Total minimum capital requirement for market risk	<u><u>1,347</u></u>	<u><u>1,088</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>2012</i>	<i>2011</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>
Standardised approach	<u><u>3,057</u></u>	<u><u>2,754</u></u>

CORC is appointed by the RC 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. CORC 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 37(g) on page 104 of the 2012 consolidated financial statements.

9 Other annual financial disclosure

(a) Counterparty credit risk exposures

Counterparty credit risk is the risk that the Bank's counterparty in a foreign exchange, interest rate, commodity, equity or credit derivative contract defaults prior to the maturity date of the contract and that the Bank at the time has a claim on the counterparty.

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 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), are calculated in accordance with the Banking (Capital) rules. The Bank adopts the AIRB approach to calculate the majority of its counterparty credit risk exposures and adopts the standardised approach for certain insignificant portfolios which are exempt from AIRB. The capital requirement for credit risk relating to the relevant transactions is calculated by multiplying the risk-weighted amounts derived from the AIRB approach by 8%.

The following table summarises the Bank's credit exposure arising from OTC derivative transactions repo-style transactions and credit derivative contracts.

Counterparty credit risk under the AIRB approach:

	<i>Consolidated</i>		
	<i>OTC derivative transactions HK\$'M</i>	<i>Repo-style transactions HK\$'M</i>	<i>Credit derivative contracts HK\$'M</i>
2012			
Gross total positive fair value	7,550	–	–
Credit equivalent amounts	21,179	3,441	–
Recognised collateral held			
– Cash	47	8	–
– Equities	–	813	–
– Debt securities	–	2,512	–
Credit equivalent amounts net of recognised collateral held	21,132	920	–
Risk weighted amounts	<u>1,915</u>	<u>123</u>	<u>–</u>

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

	<i>Consolidated</i>		<i>Credit derivative contracts⁽¹⁾</i>
	<i>OTC derivative transactions HK\$'M</i>	<i>Repo-style transactions HK\$'M</i>	<i>HK\$'M</i>
2011			
Gross total positive fair value	3,288	–	–
Credit equivalent amounts	11,145	13,503	9
Recognised collateral held			
– Cash	18	137	–
– Debt securities	–	13,656	–
Credit equivalent amounts net of recognised collateral held	11,127	8,689	9
Risk weighted amounts	<u>1,270</u>	<u>334</u>	<u>1</u>

⁽¹⁾ The outstanding credit derivative contracts, amounting to HK\$183 million, were credit default swaps. All contracts were related to protection bought and were used for the Bank and its subsidiaries' credit portfolio.

An analysis of the notional amounts, credit equivalent amounts and the risk-weighted amounts for OTC derivative transactions, repo-style transactions and credit derivative contracts by counterparty type under the AIRB approach is summarised as follows:

	<i>Consolidated</i>		<i>Credit derivative contracts</i>
	<i>OTC derivative transactions HK\$'M</i>	<i>Repo-style transactions HK\$'M</i>	<i>HK\$'M</i>
2012			
Notional amounts:			
– Corporates	49,671	–	–
– Sovereigns	–	–	–
– Banks	1,237,591	3,441	–
	<u>1,287,262</u>	<u>3,441</u>	<u>–</u>
Credit equivalent amounts:			
– Corporates	977	–	–
– Sovereigns	–	–	–
– Banks	20,202	3,441	–
	<u>21,179</u>	<u>3,441</u>	<u>–</u>
Risk-weighted amounts:			
– Corporates	703	–	–
– Sovereigns	–	–	–
– Banks	1,212	123	–
	<u>1,915</u>	<u>123</u>	<u>–</u>

9 Other annual financial disclosure (continued)

(a) Counterparty credit risk exposures (continued)

	<i>Consolidated</i>		
	<i>OTC derivative transactions HK\$'M</i>	<i>Repo-style transactions HK\$'M</i>	<i>Credit derivative contracts HK\$'M</i>
2011			
Notional amounts:			
– Corporates	44,023	–	–
– Sovereigns	–	–	–
– Banks	728,900	13,503	183
	<u>772,923</u>	<u>13,503</u>	<u>183</u>
Credit equivalent amounts:			
– Corporates	984	–	–
– Sovereigns	–	–	–
– Banks	10,161	13,503	9
	<u>11,145</u>	<u>13,503</u>	<u>9</u>
Risk-weighted amounts:			
– Corporates	620	–	–
– Sovereigns	–	–	–
– Banks	650	334	1
	<u>1,270</u>	<u>334</u>	<u>1</u>

Counterparty credit risk for OTC derivative transactions under the standardised approach:

	<i>Consolidated</i>	
	<i>2012 HK\$'M</i>	<i>2011 HK\$'M</i>
Gross total positive fair value	111	136
Credit equivalent amounts	426	464
Recognised collateral held		
– Cash	120	137
Credit equivalent amounts net of recognised collateral held	306	327
Risk weighted amounts	<u>132</u>	<u>166</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>2012</i>	<i>2011</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>
Notional amounts:		
– Corporates	2,206	1,831
– Banks	14,864	15,455
– Individuals	10,746	13,741
	<u>27,816</u>	<u>31,027</u>
Credit equivalent amounts:		
– Corporates	35	48
– Banks	217	201
– Individuals	174	215
	<u>426</u>	<u>464</u>
Risk-weighted amounts:		
– Corporates	35	48
– Banks	43	40
– Individuals	54	78
	<u>132</u>	<u>166</u>

(b) Risk exposures to derivative transactions

	<i>Consolidated</i>		
	<i>Fair value assets</i>	<i>Fair value liabilities</i>	<i>Risk weighted amounts</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>	<i>HK\$'M</i>
2012			
Exchange rate contracts			
– Forwards	6,078	5,987	1,097
– Cross currency swaps	304	561	448
– Options purchased	75	10	52
– Options written	10	95	–
Interest rate contracts			
– Swaps	1,075	1,745	360
– Options purchased	4	–	–
– Options written	–	4	–
Other derivatives	<u>120</u>	<u>73</u>	<u>90</u>
	<u>7,666</u>	<u>8,475</u>	<u>2,047</u>

9 Other annual financial disclosure (continued)

(b) Risk exposures to derivative transactions (continued)

	<i>Consolidated Restated</i>		<i>Risk weighted amounts HK\$'M</i>
	<i>Fair value assets HK\$'M</i>	<i>Fair value liabilities HK\$'M</i>	
2011			
Exchange rate contracts			
– Forwards	2,004	2,492	798
– Cross currency swaps	535	466	244
– Options purchased	79	26	93
– Options written	26	104	–
Interest rate contracts			
– Swaps	848	1,530	283
– Options purchased	24	–	12
– Options written	–	19	–
Other derivatives	903	909	7
	4,419	5,546	1,437

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.

(c) Asset securitisation

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

The Bank's securitization exposures are measured in accordance with the accounting policy described in note 2(i) of the 2012 consolidated financial statements.

The securitised assets have appropriate credit and market risk limits in place with exposures being monitored against these limits. There is also a periodic performance analysis of the underlying collateral pools through review of trustee reports, market research and monitoring the changes of their external ratings. In addition, for Wholesale Banking, there is an internal credit model in place to measure any change in the performance of the underlying collateral pools.

9 Other annual financial disclosure (continued)

(c) Asset securitisation (continued)

Securitisation exposures:

	2012 HK\$'M	2011 HK\$'M
Residential mortgage loans	7,903	4,387
Diversified payment types	2,118	–
Auto loans	1,791	378
Credit cards	1,519	–
Commercial mortgage loans	940	1,112
Trade receivables	614	–
Student loans	392	539
Others	12	194
	<u>15,289</u>	<u>6,610</u>

	Consolidated 2012			Exposures deducted from capital	
	Outstanding amounts HK\$'M	Risk- weighted amounts HK\$'M	Minimum capital requirements HK\$'M	Core Capital HK\$'M	Supplementary Capital HK\$'M
Risk weight					
7%	10,092	749	60		
8%	1,785	151	12		
10%	841	89	7		
12%	1,330	169	14		
15%	205	33	3		
20%	351	75	6		
35%	549	204	16		
60%	88	56	4		
75%	23	18	1		
100%	25	27	2		
	<u>15,289</u>	<u>1,571</u>	<u>125</u>	–	–

9 Other annual financial disclosure (continued)

(c) Asset securitisation (continued)

	Consolidated 2011			Exposures deducted from capital	
	Outstanding amounts HK\$'M	Risk- weighted amounts HK\$'M	Minimum capital requirements HK\$'M	Core	Supplementary
				Capital HK\$'M	Capital HK\$'M
Risk weight					
7%	5,136	381	31		
8%	315	27	2		
10%	5	1	–		
15%	206	33	3		
20%	501	106	8		
25%	255	67	5		
50%	14	8	1		
75%	139	111	9		
100%	39	42	3		
	<u>6,610</u>	<u>776</u>	<u>62</u>	<u>–</u>	<u>–</u>

During the year, the Bank increased its holding of asset backed securities (“ABS”) in deploying its commercial surplus.

(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 2012 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.

	2012 HK\$'M	2011 HK\$'M
Cumulative realised gains on disposal	1	254
Unrealised losses		
– recognised in reserves but not through the income statement	(56)	(75)
– included in supplementary capital for capital adequacy ratio purpose	(25)	–

9 Other annual financial disclosure (continued)

(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>AUD</i>	<i>CNY</i>	<i>EUR</i>
2012	<u>(514)</u>	<u>164</u>	<u>(122)</u>	<u>(255)</u>	<u>370</u>
	<i>HKD</i>	<i>USD</i>	<i>AUD</i>	<i>CNY</i>	
2011	<u>(488)</u>	<u>465</u>	<u>(183)</u>	<u>(115)</u>	

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:

	<i>2012</i> <i>HK\$'M</i>	<i>2011</i> <i>HK\$'M</i>
Trade products	910	933
Global market products	1,593	1,556
Investment services	1,126	1,039
Insurance services	<u>772</u>	<u>622</u>

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:

	2012			
	<i>Banks and other financial institutions</i>	<i>Public sector entities</i>	<i>Other</i>	<i>Total</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>	<i>HK\$'M</i>	<i>HK\$'M</i>
Asia Pacific excluding Hong Kong				
– Mainland China	128,463	6,189	32,804	167,456
– Others	67,997	10,638	36,713	115,348
	<u>196,460</u>	<u>16,827</u>	<u>69,517</u>	<u>282,804</u>
Western Europe				
– United Kingdom	55,418	–	4,840	60,258
– Others	28,120	114	12,738	40,972
	<u>83,538</u>	<u>114</u>	<u>17,578</u>	<u>101,230</u>
	2011			
	<i>Banks and other financial institutions</i>	<i>Public sector entities</i>	<i>Other</i>	<i>Total</i>
	<i>HK\$'M</i>	<i>HK\$'M</i>	<i>HK\$'M</i>	<i>HK\$'M</i>
Asia Pacific excluding Hong Kong				
– Mainland China	134,037	3,072	29,985	167,094
– Others	41,358	5,251	25,927	72,536
	<u>175,395</u>	<u>8,323</u>	<u>55,912</u>	<u>239,630</u>
Western Europe				
– United Kingdom	61,488	–	5,288	66,776
– Others	30,841	1,611	8,332	40,784
	<u>92,329</u>	<u>1,611</u>	<u>13,620</u>	<u>107,560</u>

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.

Consolidated

	At 31 December 2012 HK\$'M	% of advances covered by collateral or other securities	At 31 December 2011 Restated HK\$'M	% of advances covered by collateral or other securities Restated
Gross advances for use in Hong Kong				
<i>Industrial, commercial and financial</i>				
– Property development	7,644	14%	10,271	9%
– Property investment	42,176	78%	40,419	83%
– Financial concerns	10,697	70%	11,920	33%
– Stockbrokers	3,774	63%	3,269	62%
– Wholesale and retail trade	17,899	46%	17,378	40%
– Manufacturing	20,269	16%	27,129	38%
– Transport and transport equipment	4,938	32%	3,729	34%
– Recreational activities	617	–	379	–
– Information technology	1,854	6%	762	14%
– Others	12,599	19%	12,047	13%
<i>Individuals</i>				
– Advances for the purchase of flats in the Home Ownership Scheme, Private Sector Participation Scheme and Tenants Purchase Scheme	783	100%	906	100%
– Advances for the purchase of other residential properties	143,252	100%	124,318	100%
– Credit card advances	20,004	–	17,883	–
– Others	24,393	33%	19,607	29%
Total gross advances for use in Hong Kong	310,899		290,017	
Trade finance	35,653	13%	35,739	12%
Trade bills	2,857	17%	11,787	35%
Gross advances for use outside Hong Kong	59,672	15%	53,354	18%
Gross advances to customers	409,081	55%	390,897	54%

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 2012, approximately 82 per cent (2011: 83 per cent (restated)) of the Bank and its subsidiaries' advances to customers were classified under Hong Kong.

Except for Hong Kong, none of the remaining geographical segments represents more than 10% of the Bank and its subsidiaries' gross loans and advances to customers after taking into account the transfer of risk.

9 Other annual financial disclosure (continued)**(h) Advances to customers analysed by industry sector (continued)****Bank**

	At 31 December 2012 HK\$'M	% of advances covered by collateral or other securities	At 31 December 2011 Restated HK\$'M	% of advances covered by collateral or other securities Restated
Gross advances for use in Hong Kong				
<i>Industrial, commercial and financial</i>				
– Property development	7,644	14%	10,271	9%
– Property investment	41,792	78%	40,023	83%
– Financial concerns	10,698	70%	10,000	40%
– Stockbrokers	3,774	63%	3,269	62%
– Wholesale and retail trade	17,450	47%	17,007	41%
– Manufacturing	20,269	16%	27,129	38%
– Transport and transport equipment	4,930	32%	3,658	34%
– Recreational activities	617	–	379	–
– Information technology	1,854	6%	762	14%
– Others	12,599	19%	12,047	13%
<i>Individuals</i>				
– Advances for the purchase of flats in the Home Ownership Scheme, Private Sector Participation Scheme and Tenants Purchase Scheme	783	100%	906	100%
– Advances for the purchase of other residential properties	137,934	100%	119,641	100%
– Credit card advances	19,617	–	17,590	–
– Others	20,110	40%	15,968	35%
Total gross advances for use in Hong Kong	300,071		278,650	
Trade finance	35,653	13%	35,739	12%
Trade bills	2,857	17%	11,787	35%
Gross advances for use outside Hong Kong	57,750	15%	52,323	19%
Gross advances to customers	396,331	55%	378,499	54%

As at 31 December 2012, approximately 78 per cent (2011: 81 per cent (restated)) of the Bank's advances to customers were classified under Hong Kong.

Except for Hong Kong, none of the remaining geographical segments represents more than 10% of the Bank's gross loans and advances to customers after taking into account the transfer of risk.

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:

Consolidated

	<i>Impaired advances to customers HK\$'M</i>	<i>Overdue advances to customers HK\$'M</i>	<i>Individually assessed impairment allowances HK\$'M</i>	<i>Collectively assessed impairment allowances HK\$'M</i>	<i>New provision charge HK\$'M</i>
<u>As at 31 December 2012</u>					
Advances for the purchase of other residential properties	115	134	12	4	–
Property investment	5	72	4	10	–
Gross advances for use outside Hong Kong	215	25	112	63	112

As at 31 December 2011

Advances for the purchase of other residential properties	123	129	15	4	–
Property investment	7	107	4	17	–
Gross advances for use outside Hong Kong	46	24	36	62	–

Bank

	<i>Impaired advances to customers HK\$'M</i>	<i>Overdue advances to customers HK\$'M</i>	<i>Individually assessed impairment allowances HK\$'M</i>	<i>Collectively assessed impairment allowances HK\$'M</i>	<i>New provision charge HK\$'M</i>
<u>As at 31 December 2012</u>					
Advances for the purchase of other residential properties	106	15	12	3	–
Property investment	5	72	4	10	–
Gross advances for use outside Hong Kong	215	–	112	45	112

As at 31 December 2011

Advances for the purchase of other residential properties	123	1	15	4	–
Property investment	7	97	4	17	–
Gross advances for use outside Hong Kong	46	–	36	44	–

9 Other annual financial disclosure (continued)

(i) Overdue and rescheduled assets

(i) Overdue advances to customers

Consolidated

	2012		2011	
	HK\$'M	% of gross advances	HK\$'M	% of gross advances
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	239	0.06%	160	0.04%
– 1 year or less but over 6 months	605	0.15%	110	0.03%
– over 1 year	308	0.08%	345	0.09%
	<u>1,152</u>	<u>0.29%</u>	<u>615</u>	<u>0.16%</u>
	2012 HK\$'M		2011 HK\$'M	
Fair value of collateral held against the covered portion of overdue advances to customers	<u>381</u>		<u>377</u>	
Covered portion of overdue advances to customers	262		174	
Uncovered portion of overdue advances to customers	<u>890</u>		<u>441</u>	

Bank

	2012		2011	
	HK\$'M	% of gross advances	HK\$'M	% of gross advances
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	231	0.06%	158	0.04%
– 1 year or less but over 6 months	597	0.15%	110	0.03%
– over 1 year	308	0.08%	345	0.09%
	<u>1,136</u>	<u>0.29%</u>	<u>613</u>	<u>0.16%</u>
	2012 HK\$'M		2011 HK\$'M	
Fair value of collateral held against the covered portion of overdue advances to customers	<u>365</u>		<u>374</u>	
Covered portion of overdue advances to customers	246		172	
Uncovered portion of overdue advances to customers	<u>890</u>		<u>441</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, properties and securities.

Consolidated and Bank

	2012 HK\$'M	2011 HK\$'M
Individually assessed impairment charges against overdue advances to customers	403	363

(ii) Overdue advances to banks**Consolidated and Bank**

	2012 HK\$'M	% of advances to banks	2011 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	44	0.03%	63	0.05%

There is no collateral held against overdue advances to banks.

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

1	3
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(iii) Rescheduled advances to customers**Consolidated**

	2012 HK\$'M	% of gross advances	2011 HK\$'M	% of gross advances
Rescheduled advances	348	0.09%	341	0.1%

Bank

	2012 HK\$'M	% of gross advances	2011 HK\$'M	% of gross advances
Rescheduled advances	319	0.08%	287	0.1%

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

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(i) (i) above.

There were no rescheduled advances to banks and other financial institutions as at 31 December 2012 and 31 December 2011.

(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 2012</u>				
Mainland China entities	37,075	62,955	100,030	112
Companies and individuals outside Mainland China where the credit is granted for use in Mainland China	19,601	34,369	53,970	1
Other counterparties where the exposure is considered by the Bank to be non-bank Mainland China exposure	6,863	2,512	9,375	–
<u>As at 31 December 2011</u>				
Mainland China entities	39,881	41,373	81,254	–
Companies and individuals outside Mainland China where the credit is granted for use in Mainland China	21,060	35,884	56,944	3
Other counterparties where the exposure is considered by the Bank to be non-bank Mainland China exposure	4,342	3,406	7,748	–

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.

9 Other annual financial disclosure (continued)**(k) Liquidity ratio**

	<i>Bank</i>	
	2012	2011
	%	%
Average liquidity ratio for the year	<u>36.3%</u>	<u>30.8%</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.

10 Comparative figures

Certain comparative figures have been restated to conform with the current year's presentation.