

The Hongkong and Shanghai Banking
Corporation Limited
**Supplementary Notes on the Financial
Statements as at 31 December 2011**



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Supplementary Notes on the Financial Statements (unaudited) (continued)**Introduction**

The information contained in this document is for The Hongkong and Shanghai Banking Corporation Limited ('the Bank') and its subsidiaries (together 'the group'). It is supplementary to and should be read in conjunction with the 2011 Annual Report and Accounts. The Annual Report and Accounts and these Supplementary Notes, taken together, comply with the Banking (Disclosure) Rules made under section 60A of the Banking Ordinance. They also serve to comply with the disclosures on remuneration as required by the Hong Kong Monetary Authority ('HKMA') Supervisory Policy Manual CG-5 'Guideline on a Sound Remuneration System'.

1 Basis of preparation

- a** The group uses the advanced internal ratings-based approach to calculate its credit risk for the majority of its non-securitisation exposures and the internal ratings-based (securitisation) approach to determine credit risk for its securitisation exposures. For market risk, the group uses an internal models approach to calculate its general market risk and market risk relating to equity options. The group uses an internal models approach to calculate its market risk in respect of specific risk for the interest rate risk category. The group uses the standardised (market risk) approach for calculating other market risk positions and the standardised (operational risk) approach to calculate its operational risk. There are no changes in the approaches used in 2011.
- b** Except where indicated otherwise, 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. Further information regarding subsidiaries that are not included in the consolidation for regulatory purposes is set out in Supplementary Note 21.
- c** 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 2011, as set out in note 3 on the financial statements in the Annual Report and Accounts.

2 Summary of risk-weighted amounts

The group's total risk-weighted amounts are summarised as follows:

	2011	2010
	HK\$m	HK\$m
Credit risk		
Basic approach	11,409	9,470
Standardised (credit risk) approach	164,644	173,055
Internal ratings-based approach	1,244,578	1,177,134
Internal ratings-based (securitisation) approach	1,106	327
	1,421,737	1,359,986
Market risk	38,585	35,251
Operational risk	221,429	216,866
	1,681,751	1,612,103

Supplementary Notes on the Financial Statements (unaudited) (continued)

3 Credit risk capital requirements

The group uses the advanced internal ratings-based ('IRBA') approach to calculate its credit risk for the majority of its non-securitisation exposures. The remainder of its credit risk for non-securitisation exposures was assessed using the standardised (credit risk) approach, with the exception of some exposures acquired in 2009 where the basic approach is used.

The table below shows the capital requirements for credit risk for each class and subclass of non-securitisation exposures as specified in the Banking (Capital) Rules. Capital requirement means the amount of capital required to be held for that risk based on the risk-weighted amount for that risk multiplied by 8%.

	2011 HK\$m	2010 HK\$m
Capital required for exposures under the IRB approach		
Corporate exposures		
Specialised lending under the supervisory slotting criteria approach		
- Project finance	512	276
- Object finance	98	69
- Commodities finance	90	10
- Income-producing real estate	4,030	3,447
Small-and-medium sized corporates	15,983	16,579
Other corporates	47,287	44,865
Sovereign exposures		
Sovereigns	7,675	4,733
Bank exposures		
Banks	9,729	11,077
Securities firms	459	463
Retail exposures		
Residential mortgages		
- Individuals	3,881	3,550
- Property-holding shell companies	232	218
Qualifying revolving retail exposures	3,303	3,425
Small business retail exposures	25	9
Other retail exposures to individuals	673	657
Other exposures		
Cash items	37	210
Other items	8,048	6,362
Total for the IRB approach	102,062	95,950
Capital required for exposures under the standardised (credit risk) approach		
Sovereign exposures	18	1
Public sector entity exposures	817	683
Bank exposures	125	170
Securities firm exposures	-	-
Corporate exposures	2,504	2,821
Collective investment scheme exposures	3	4
Cash items	-	-
Regulatory retail exposures	4,192	4,116
Residential mortgage loans	2,678	2,436
Other exposures which are not past due exposures	1,203	1,607
Past due exposures	409	430
Off-balance sheet exposures other than OTC derivative transactions and credit derivative contracts ...	1,062	1,312
OTC derivative transactions and credit derivative contracts	160	264
Total for the standardised (credit risk) approach	13,171	13,844
Capital required for exposures under the basic approach	913	758
Total	116,146	110,552

Supplementary Notes on the Financial Statements (unaudited) (continued)

4 Credit risk under the internal-ratings based approach

a *The internal ratings system and its risk components*

Nature of exposures within each internal-ratings based ('IRB') class

The group applies the IRB approach to the following classes of non-securitisation exposures:

- Corporate exposures including exposures to global and local large corporates, middle-market corporates, non-bank financial institutions and specialised lending.
- Sovereign exposures including exposures to central governments, central monetary institutions and relevant international organisations.
- Bank exposures including exposures to banks and regulated securities firms.
- Retail exposures including residential mortgages, qualifying revolving retail exposures and other retail exposures.
- Other exposures including cash items and other assets.

Measurement and monitoring – risk rating systems

Exposure to credit risk arises from a very wide range of customers and product types, and the risk rating systems in place to measure and monitor these risks are correspondingly diverse.

Credit risk exposures are generally measured and managed in portfolios of either distinct customer types or product categories. Risk rating systems for the former are designed to assess the default risk of, and loss severity associated with customers who are typically managed as individual relationships; these rating systems tend to have a higher subjective content. Risk ratings systems for the latter are generally more analytical, applying techniques such as behavioural analysis across product portfolios comprising large numbers of homogeneous transactions.

A fundamental principle of the group's policy and approach is that analytical risk rating systems and scorecards are all decision tools facilitating management, serving ultimately judgemental decisions for which individual approvers are accountable. In the case of automated decision making processes, accountability rests with those responsible for the parameters built into those processes/systems and the controls surrounding their use. For distinct customers, the credit process requires at least annual review of facility limits granted. Review may be more frequent, as required by circumstances.

Group standards govern the process through which risk rating systems are initially developed, judged fit for purpose, approved and implemented; the conditions under which individual approvers can override analytical risk model outcomes; and the process of model performance monitoring and reporting. There is emphasis on an effective dialogue between business lines and risk management, appropriate independence of decision-takers, and a good understanding and robust reflection on the part of senior management.

Like other facets of risk management, analytical risk rating systems are not static and are subject to review and modification in the light of the changing environment and the greater availability and quality of data. Structured processes and metrics are in place to capture relevant data and feed it into continuous model improvement.

Application of IRB parameters

The group's credit risk rating framework incorporates probability of default ('PD') of a borrower, loss severity expressed in terms of exposure at default ('EAD') and loss given default ('LGD'). These measures are used to calculate expected loss ('EL') and capital requirements. They are also used in conjunction with other inputs to inform rating assessments for the purpose of credit approval and many other risk management decisions.

The narrative explanations that follow relate to the IRB advanced approaches, that is: IRB advanced for distinct customers and retail IRB for the portfolio-managed retail business.

Supplementary Notes on the Financial Statements (unaudited) (continued)**4 Credit risk under the internal-ratings based approach (continued)****Wholesale business**

PD for wholesale customer segments (Central Governments and Central Banks (sovereigns), Institutions, Corporates) is estimated using a Customer Risk Rating ('CRR') scale of 23 grades, of which 21 are non-default grades representing varying degrees of strength of financial condition and two are default grades. A score generated by a model for the individual borrower type is mapped to the corresponding CRR. The process through which this or a judgementally amended CRR is then recommended to, and reviewed by, a credit approver takes into account all additional information relevant to the risk rating determination, including external ratings where available. The approved CRR is mapped to a PD value range of which the 'mid-point' is used in the regulatory capital calculation. PD models are developed where the risk profile of corporate borrowers is specific to a country and sector.

LGD and EAD estimation for the wholesale business is subject to a Group framework of basic principles. EAD is estimated to a 12-month horizon and broadly represents the current exposure plus an estimate for future increases in exposure, taking into account such factors as available but undrawn facilities and the crystallisation of contingent exposures, post-default. LGD focuses on the facility and collateral structure, involving factors like facility priority/seniority, the type and value of collateral, type of client and regional variances in experience, and is expressed as a percentage of EAD.

The group uses the supervisory slotting criteria approach in rating its specialised lending exposures. Under this approach, ratings are determined by considering both the borrower and the transaction risk characteristics.

Retail business

The wide range of application and behavioural models used in the management of retail portfolios has been supplemented with models to derive the measures of PD, EAD and LGD required for Basel II. For management information and reporting purposes, retail portfolios are segmented according to local, analytically-derived EL bands, in 10 composite EL grades, facilitating comparability across the group's retail customer segments, business lines and product types.

Model governance

In order to meet local regulatory requirements, model governance of group risk rating models, including development, validation and monitoring, is under the general oversight of the group Credit Risk Analytics Oversight Committee ('CRAOC') subject to overall Group CRAOC oversight. The group CRAOC meets bi-monthly and reports to the group Risk Management Committee. The group Chief Risk Officer ('CRO') chairs the group CRAOC which draws its members from Asia-Pacific Risk, customer groups, and finance.

Internal Audit or a comparable independent credit quality assurance unit conducts regular reviews of the risk rating model application by the customer groups.

Supplementary Notes on the Financial Statements (unaudited) (continued)

4 Credit risk under the internal-ratings based approach (continued)

Use of internal estimates

Internal risk parameters derived from applying the IRB approach are not only employed in the calculation of risk-weighted assets ('RWAs') for the purpose of determining regulatory capital requirements, but also in many other contexts within risk management and business processes and include:

- **credit approval and monitoring:** IRB models, scorecards and other methodologies are valuable tools deployed in the assessment of customer and portfolio risk in lending decisions including the use of CRR grades within watch-list processes and other enhanced monitoring procedures;
- **risk appetite:** IRB measures are an important element of risk appetite definition at customer, sector and portfolio levels, and in the implementation of the Group risk appetite framework, for instance in subsidiaries' operating plans and the calculation of remuneration through the assessment of performance;
- **portfolio management:** regular reports to the Board and Audit and Risk Committee contain analyses of risk exposures, e.g. by customer segment and quality grade, employing IRB metrics;
- **pricing:** Basel II risk parameters are used in wholesale pricing tools when considering new transactions and annual reviews; and
- **economic capital:** IRB measures provide customer risk components for the economic capital model that has been implemented across the group to improve the consistent analysis of economic returns, help determine which customers, business units and products add greatest value, and drive higher returns through effective economic capital allocation.

Supplementary Notes on the Financial Statements (unaudited) (continued)

4 Credit risk under the internal-ratings based approach (continued)

b Exposures by IRB calculation approach

The following shows the group's exposures (including the EAD of on-balance sheet exposures and off-balance sheet exposures) by each IRB calculation approach:

	Advanced IRB approach HK\$m	Supervisory slotting criteria approach HK\$m	Retail IRB approach HK\$m	Total exposures HK\$m
2011				
Corporate exposures	1,465,812	83,529	–	1,549,341
Sovereign exposures	1,024,337	–	–	1,024,337
Bank exposures	876,569	–	–	876,569
Retail exposures				
- Residential mortgages to individuals and property-holding shell companies	–	–	603,070	603,070
- Qualifying revolving retail exposures	–	–	168,158	168,158
- Other retail exposures to individuals and small business retail exposures	–	–	49,544	49,544
2010				
Corporate exposures	1,340,991	64,545	–	1,405,536
Sovereign exposures	774,060	–	–	774,060
Bank exposures	979,447	–	–	979,447
Retail exposures				
- Residential mortgages to individuals and property-holding shell companies	–	–	549,910	549,910
- Qualifying revolving retail exposures	–	–	151,771	151,771
- Other retail exposures to individuals and small business retail exposures	–	–	47,729	47,729

The corporate, sovereign and bank exposures reported under the IRBA approach as at 31 December 2011 include amounts of HK\$67,160m, HK\$5,398m and HK\$157,370m respectively (31 December 2010: HK\$51,094m, HK\$4,199m and HK\$132,998m respectively) that are subject to supervisory estimates. By definition, amounts reported under the Supervisory Slotting Criteria approach continue to be subject to supervisory estimates.

Supplementary Notes on the Financial Statements (unaudited) (continued)

4 Credit risk under the internal-ratings based approach (continued)

c Exposures covered by recognised guarantees or recognised credit derivative contracts

The following shows the group's exposures (after the effect of any on-balance sheet or off-balance sheet recognised netting) which are covered by recognised guarantees or recognised credit derivative contracts after the application of haircuts required under the Banking (Capital) Rules. These exposures exclude OTC derivative transactions, repo-style transactions and credit derivative contracts (other than recognised credit derivative contracts).

	2011 HK\$m	2010 HK\$m
Corporate exposures	311,870	293,643
Sovereign exposures	495	492
Bank exposures	45,604	124,945
Retail exposures	38,073	39,553
	396,042	458,633

d Risk assessment for exposures under IRB approach

Corporate exposures (other than specialised lending) – analysis by obligor grade

	Exposure at default HK\$m	Exposure- weighted average risk- weight %	Exposure- weighted average PD %	Exposure- weighted average LGD %
2011				
Minimal default risk	127,600	15	0.04	41.5
Low default risk	452,955	27	0.10	45.3
Satisfactory default risk	515,206	53	0.37	45.1
Fair default risk	175,216	92	1.20	45.7
Moderate default risk	160,770	106	2.78	38.6
Significant default risk	17,415	159	6.50	43.6
High default risk	3,951	194	11.83	43.4
Special management	3,728	242	24.50	47.3
Default	8,971	–	100.00	51.0
	1,465,812			
2010				
Minimal default risk	98,534	14	0.04	45.4
Low default risk	398,350	27	0.10	45.5
Satisfactory default risk	481,823	53	0.37	45.4
Fair default risk	181,896	98	1.22	48.4
Moderate default risk	140,832	115	2.85	41.8
Significant default risk	17,247	167	6.48	46.5
High default risk	6,527	192	12.09	41.7
Special management	3,828	238	24.89	45.9
Default	11,954	–	100.00	52.9
	1,340,991			

Supplementary Notes on the Financial Statements (unaudited) (continued)

4 Credit risk under the internal-ratings based approach (continued)

d Risk assessment for exposures under IRB approach (continued)

Corporate exposures (specialised lending) – analysis by supervisory rating grade

	Exposure at default HK\$m	Exposure- weighted average risk- weight %
2011		
Strong	63,577	64
Good	15,849	84
Satisfactory	3,832	122
Weak	229	265
Default	42	–
	83,529	
2010		
Strong	45,099	63
Good	13,905	85
Satisfactory	5,281	122
Weak	218	265
Default	42	–
	64,545	

The supervisory rating grades and risk-weights of specialised lending are determined in accordance with section 158 of the Banking (Capital) Rules.

Sovereign exposures – analysis by obligor grade

	Exposure at default HK\$m	Exposure- weighted average risk- weight %	Exposure- weighted average PD %	Exposure- weighted average LGD %
2011				
Minimal default risk	651,161	2	0.02	13.4
Low default risk	325,891	16	0.08	37.7
Satisfactory default risk	33,456	54	0.49	44.7
Fair default risk	9,436	82	1.01	44.7
Moderate default risk	4,162	117	3.32	43.1
Significant default risk	231	198	5.75	45.0
	1,024,337			
2010				
Minimal default risk	585,030	2	0.02	12.8
Low default risk	158,923	14	0.09	34.2
Satisfactory default risk	633	33	0.27	19.3
Fair default risk	24,877	80	1.07	44.9
Moderate default risk	3,946	113	2.91	42.7
Significant default risk	651	102	5.75	31.1
	774,060			

Supplementary Notes on the Financial Statements (unaudited) (continued)

4 Credit risk under the internal-ratings based approach (continued)

d Risk assessment for exposures under IRB approach (continued)

Bank exposures – analysis by obligor grade

	Exposure at default HK\$m	Exposure- weighted average risk- weight %	Exposure- weighted average PD %	Exposure- weighted average LGD %
2011				
Minimal default risk	340,197	7	0.04	27.5
Low default risk	426,640	13	0.09	32.9
Satisfactory default risk	89,972	31	0.29	35.4
Fair default risk	13,470	68	1.04	38.6
Moderate default risk	2,606	109	3.59	41.3
Significant default risk	1,873	158	6.19	49.0
High default risk	1,685	273	10.73	65.9
Special management	16	133	70.15	40.4
Default	110	–	100.00	64.6
	876,569			
2010				
Minimal default risk	335,146	6	0.04	25.8
Low default risk	531,482	13	0.10	29.3
Satisfactory default risk	85,376	31	0.31	33.3
Fair default risk	17,441	67	1.19	36.8
Moderate default risk	5,129	111	2.88	44.9
Significant default risk	2,904	149	6.16	44.9
High default risk	1,851	274	12.06	62.8
Special management	8	101	19.00	19.7
Default	110	–	100.00	38.4
	979,447			

The EADs, PDs and LGDs disclosed above in respect of corporate, sovereign and bank exposures have taken into account the effect of recognised collateral, recognised netting, recognised guarantees and recognised credit derivative contracts.

Supplementary Notes on the Financial Statements (unaudited) (continued)

4 Credit risk under the internal-ratings based approach (continued)

d Risk assessment for exposures under IRB approach (continued)

Retail exposures - analysis by credit quality

The following shows a breakdown of exposures on a pool basis by quality classification:

	Residential mortgages HK\$m	Qualifying revolving retail exposures HK\$m	Other retail exposures HK\$m	Total exposures HK\$m
2011				
Strong	591,773	138,533	45,074	775,380
Medium	10,619	28,898	3,990	43,507
Sub-standard	678	725	479	1,882
Impaired	–	2	1	3
	603,070	168,158	49,544	820,772
2010				
Strong	539,655	119,669	43,435	702,759
Medium	9,361	31,205	3,868	44,434
Sub-standard	894	895	423	2,212
Impaired	–	2	3	5
	549,910	151,771	47,729	749,410

Undrawn commitments

The following shows the amount of undrawn commitments and exposure-weighted average EAD for corporate, sovereign and bank exposures:

	2011		2010	
	Undrawn commitments HK\$m	Exposure-weighted average EAD HK\$m	Undrawn commitments HK\$m	Exposure-weighted average EAD HK\$m
Corporate exposures	794,083	232,968	662,092	234,603
Sovereign exposures	1,831	539	2,631	741
Bank exposures	21,457	5,724	33,495	9,258
	817,371	239,231	698,218	244,602

Supplementary Notes on the Financial Statements (unaudited) (continued)**4 Credit risk under the internal-ratings based approach (continued)****e IRB expected loss and impairment charges**

The following table shows the IRB expected loss (EL) and impairment charges by class of exposure. EL is the estimated loss likely to be incurred arising from the potential default of the obligor in respect of the exposure over a one-year period. Impairment charges are the net charge for actual losses (including write-offs and individually assessed impairment allowances) for each IRB class made during the year:

	2011		2010	
	Expected loss at 1 Jan HK\$m	Impairment charge for the year HK\$m	Expected loss at 1 Jan HK\$m	Impairment charge for the year HK\$m
Sovereign	238	–	193	–
Bank	685	42	634	–
Corporate	11,787	2,415	10,610	3,149
Residential mortgages	993	90	986	489
Qualifying revolving retail	1,584	335	1,685	1,113
Other retail	467	149	490	226
	15,754	3,031	14,598	4,977

Impairment charges decreased in 2011 primarily through improvements in the credit quality of the corporate and retail portfolios which drove a decrease in impairment charges and an increase in provision releases.

Sovereign, Bank, and Corporate EL increased slightly, driven by the continuing macro-economic uncertainty in the Eurozone, which has resulted in more conservative EL estimates.

It should be noted that impairment charges and EL are measured using different methodologies which are not directly comparable. In general, EL is greater than impairment charges for each IRB class. The limitation arises from the fundamental differences in the definition of 'loss' under the accounting standards which determine the impairment charges (write-off and impairment loss allowances) and the Basel II framework which determines the regulatory EL calculation.

Supplementary Notes on the Financial Statements (unaudited) (continued)

4 Credit risk under the internal-ratings based approach (continued)

e IRB expected loss and impairment charges (continued)

The following table compares actual outcomes for the year against the risk elements estimated at the beginning of the year.

	PD		LGD		EAD	
	Actual %	Projected %	Actual %	Projected %	Actual %	Projected %
At 31 December 2011						
Sovereign	0.00	0.27	0.0	18.4	0	100
Bank	0.00	1.24	0.0	28.8	0	95
Corporate	0.23	1.10	35.8	45.5	46	71
Residential mortgages	0.76	0.97	10.7	12.0	81	99
Qualifying revolving retail	0.40	0.85	84.8	101.0	52	60
Other retail	1.35	1.09	33.5	19.4	73	134
At 31 December 2010						
Sovereign	0.00	0.26	0.0	15.3	0	100
Bank	0.00	1.41	0.0	25.8	0	97
Corporate	0.31	1.21	25.4	44.8	86	68
Residential mortgages	0.88	1.00	12.1	10.9	80	87
Qualifying revolving retail	0.54	0.95	87.0	101.0	63	56
Other retail	1.48	1.25	27.3	32.0	70	77

The difference between actual PD and projected PD is driven by the difference in the time horizon used to calculate the actual and estimated default rates. The actual default rate is a 'point-in-time' measurement referencing the actual number of borrower defaults during the year, whereas the projected PD is based on a 'through-the-cycle' credit experience.

The group measures actual LGD by using resolved default cases within the year 2011 whereas projected LGD is based on a downturn recovery experience. Due to the different calculation methodologies and the portfolio mix between the default population and the overall book, the actual and projected results can differ.

The group measures actual EAD by comparing the realised credit exposure of the defaulted counterparties in 2011 against the limits one year prior to default. The projected EAD is based on a 'through-the-cycle' credit experience.

Supplementary Notes on the Financial Statements (unaudited) (continued)

5 Credit risk under the standardised (credit risk) approach

a *Ratings from External Credit Assessment Institutions*

The following exposure classes include exposures where IRB exemption has been granted by the HKMA. Such exposures are reported under the standardised (credit risk) approach based on external credit ratings from External Credit Assessment Institutions ('ECAI'):

- Public sector entity exposures;
- Multilateral development bank exposures;
- Bank or corporate exposures (those without internal CRR); and
- Collective investment scheme exposures.

The group uses external credit ratings from the following ECAIs:

- Fitch Ratings;
- Moody's Investors Service; and
- Standard & Poor's Ratings Services.

The group determines ECAI issuer ratings or ECAI issue specific ratings in the banking book in a process consistent with Part 4 of the Banking (Capital) Rules.

Supplementary Notes on the Financial Statements (unaudited) (continued)

5 Credit risk under the standardised (credit risk) approach (continued)

b Credit risk exposures under the standardised (credit risk) approach

	Total exposures ¹ HK\$m	Exposures after recognised credit risk mitigation ²		Risk-weighted amounts		Total HK\$m	Total exposures covered by recognised collateral HK\$m	Total exposures covered by recognised guarantees or recognised credit derivative contracts HK\$m
		Rated HK\$m	Unrated HK\$m	Rated HK\$m	Unrated HK\$m			
2011								
Assets								
On-balance sheet								
Sovereign	–	14,380	–	223	–	223	–	–
Public sector entity	75,456	70,191	–	10,210	–	10,210	5,071	7,673
Multilateral development bank	57,448	–	–	–	–	–	–	–
Bank	3,898	1,415	3,896	445	1,115	1,560	–	–
Securities firm	9	–	9	–	5	5	–	–
Corporate	47,037	54	31,334	41	31,267	31,308	2,678	13,551
Collective investment scheme	42	–	42	–	42	42	–	–
Regulatory retail	74,018	–	69,877	–	52,408	52,408	1,851	2,289
Residential mortgage loan	58,454	–	58,334	–	33,474	33,474	53	68
Other exposures which are not past due exposures	21,075	–	15,033	–	15,033	15,033	5,772	271
Past due exposures	3,519	193	3,326	159	4,951	5,110	185	33
Total on-balance sheet	340,956	143,681	181,851	11,078	138,295	149,373	15,610	23,885
Off-balance sheet								
Off-balance sheet exposure other than OTC derivative transactions or credit derivative contracts	16,735	1,135	13,742	327	12,945	13,272	1,858	287
OTC derivative transactions	4,538	3,034	1,501	517	1,482	1,999	3	–
Total off-balance sheet	21,273	4,169	15,243	844	14,427	15,271	1,861	287
Total	362,229	147,850	197,094	11,922	152,722	164,644	17,471	24,172
Exposures deducted from Core Capital or Supplementary Capital	–	–	–	–	–	–	–	–

Supplementary Notes on the Financial Statements (unaudited) (continued)

5 Credit risk under the standardised (credit risk) approach (continued)

b Credit risk exposures under the standardised (credit risk) approach (continued)

2010 Assets	Total exposures ¹		Exposures after recognised credit risk mitigation ²		Risk-weighted amounts		Total HK\$m	Total exposures covered by recognised collateral HK\$m	Total exposures covered by guarantees or recognised credit derivative contracts HK\$m
	HK\$m	Unrated HK\$m	Rated HK\$m	Unrated HK\$m	Rated HK\$m	Unrated HK\$m			
On-balance sheet	–	–	–	–	14	–	14	–	–
Sovereign	51,336	–	4,892	–	8,537	–	8,537	–	631
Public sector entity	68,707	–	68,707	–	–	–	–	–	–
Multilateral development bank	5,047	4,943	1,343	1,768	354	1,768	2,122	–	–
Bank	2	2	–	–	–	1	1	–	–
Securities firm	41,976	34,987	364	35,100	164	35,100	35,264	2,763	10,813
Corporate	53	53	–	53	–	53	53	–	–
Collective investment scheme	73,034	68,604	–	68,604	–	51,452	51,452	2,111	2,321
Regulatory retail	52,407	52,346	–	52,346	–	30,450	30,450	52	56
Residential mortgage loan	24,746	20,087	–	20,087	–	20,087	20,087	4,657	–
Other exposures which are not past due exposures	4,438	4,438	–	4,438	–	5,370	5,370	975	20
Past due exposures	321,746	185,460	126,704	144,281	9,069	144,281	153,350	10,558	13,841
Total on-balance sheet									
Off-balance sheet									
Off-balance sheet exposure other than OTC derivative transactions or credit derivative contracts	20,917	18,705	433	16,264	136	16,264	16,400	1,779	414
OTC derivative transactions	6,023	1,966	4,042	1,877	1,428	1,877	3,305	15	–
Total off-balance sheet	26,940	20,671	4,475	18,141	1,564	18,141	19,705	1,794	414
Total	348,686	206,131	131,179	162,422	10,633	162,422	173,055	12,352	14,255
Exposures deducted from Core Capital or Supplementary Capital	5								

1 Total exposures are the principal amounts for on-balance sheet exposures, or the credit equivalent amounts for off-balance sheet exposures, as applicable, net of individually assessed impairment allowances.

2 Exposures covered by recognised guarantees or recognised credit derivative contracts are reclassified after credit risk mitigation to reflect the exposures to the credit protection providers.

Supplementary Notes on the Financial Statements (unaudited) (continued)

6 Counterparty credit risk-related exposures

- a** Counterparty credit risk is the risk that a counterparty to a transaction may default before completing the satisfactory settlement of the transaction.

In respect of the group's counterparty credit risk which arises from over-the-counter ('OTC') derivative transactions, repo-style transactions and credit derivative contracts (other than recognised credit derivative contracts), all credit limits are established in advance of transacting the business. Credit and settlement risk is captured, monitored and reported in accordance with group risk methodologies. Credit exposures are divided into two categories: (1) exposure measures in book or market value terms depending on the product involved; and (2) exposure measures on the basis of 95 percentile potential worst case loss estimates. These methods of calculating credit exposure apply to all counterparties and differences in credit quality are reflected in the size of the limits.

The policy for secured collateral on derivatives is guided by the group's internal Best Practice Guidelines ensuring that the due-diligence necessary to fully understand the effectiveness of netting and collateralisation by jurisdiction, counterparty, product and agreement type is fully assessed and that high due-diligence standards are consistently applied.

Supplementary Notes on the Financial Statements (unaudited) (continued)

6 Counterparty credit risk-related exposures (continued)

b Counterparty credit risk exposures under the advanced internal-ratings based approach

	OTC derivative transactions HK\$m	Repo-style transactions HK\$m	Credit derivative contracts HK\$m
2011			
OTC derivative & credit derivatives:			
Gross total positive fair value	363,758	–	5,595
Credit equivalent amounts	227,840	–	4,177
Repo-style transactions:			
Net credit exposures ¹	–	10,023	–
Value of recognised collateral by type:			
Debt securities	670	96,421	–
Others	16,234	15,985	–
	16,904	112,406	–
Credit equivalent amounts/ net credit exposures net of recognised collateral ²	227,840	10,023	4,177
Exposure at default	227,840	10,023	4,177
Risk-weighted amounts	67,332	987	896
Notional amounts of recognised credit derivative contracts which provide credit protection	–	–	–
2010			
OTC derivative & credit derivatives:			
Gross total positive fair value	286,320	–	5,313
Credit equivalent amounts	182,897	–	6,325
Repo-style transactions:			
Net credit exposures ¹	–	10,179	–
Value of recognised collateral by type:			
Debt securities	918	84,528	–
Others	8,596	53,237	–
	9,514	137,765	–
Credit equivalent amounts/ net credit exposures net of recognised collateral ²	182,897	10,179	6,325
Exposure at default	182,897	10,179	6,325
Risk-weighted amounts	51,230	516	1,284
Notional amounts of recognised credit derivative contracts which provide credit protection	–	–	–

1 For repo-style transactions, the recognised collateral is netted against the EAD.

2 For OTC and credit derivative contracts, the recognised collateral is reflected in the LGD.

Supplementary Notes on the Financial Statements (unaudited) (continued)

6 Counterparty credit risk-related exposures (continued)

c Counterparty credit risk exposures under the standardised (credit risk) approach

	OTC derivative transactions HK\$m	Repo-style transactions HK\$m	Credit derivative contracts HK\$m
2011			
OTC derivative & credit derivatives:			
Gross total positive fair value	2,684	–	–
Credit equivalent amounts	4,538	–	–
Repo-style transactions:			
Net credit exposures	–	106	–
Value of recognised collateral by type:			
Debt securities	–	391	–
Others	3	315	–
	3	706	–
Credit equivalent amounts/ net credit exposures net of recognised collateral	4,538	106	–
Risk-weighted amounts	1,999	52	–
Notional amounts of recognised credit derivative contracts which provide credit protection	–	–	–
2010			
OTC derivative & credit derivatives:			
Gross total positive fair value	4,647	–	–
Credit equivalent amounts	6,023	–	–
Repo-style transactions:			
Net credit exposures	–	233	–
Value of recognised collateral by type:			
Debt securities	–	–	–
Others	15	438	–
	15	438	–
Credit equivalent amounts/ net credit exposures net of recognised collateral	6,023	233	–
Risk-weighted amounts	3,305	139	–
Notional amounts of recognised credit derivative contracts which provide credit protection	–	–	–

Supplementary Notes on the Financial Statements (unaudited) (continued)

6 Counterparty credit risk-related exposures (continued)

d Major classes of exposures under the advanced internal ratings-based approach by counterparty type

	OTC derivative transactions HK\$m	Repo-style transactions HK\$m	Credit derivative contracts HK\$m
2011			
Notional amounts:			
Sovereigns	509,971	32,614	580
Banks	22,371,732	75,270	455,210
Corporates	2,644,018	9,685	22,934
	25,525,721	117,569	478,724
Exposure at default¹:			
Sovereigns	5,342	1,197	55
Banks	153,514	8,000	3,856
Corporates	68,984	826	266
	227,840	10,023	4,177
Risk-weighted amounts:			
Sovereigns	627	90	10
Banks	22,349	562	757
Corporates	44,356	335	129
	67,332	987	896
2010			
Notional amounts:			
Sovereigns	229,547	47,616	-
Banks	19,991,145	85,570	509,077
Corporates	2,067,943	3,940	27,050
	22,288,635	137,126	536,127
Exposure at default¹:			
Sovereigns	4,199	1,049	-
Banks	127,051	8,665	5,947
Corporates	51,647	465	378
	182,897	10,179	6,325
Risk-weighted amounts:			
Sovereigns	662	133	-
Banks	20,458	356	1,054
Corporates	30,110	27	230
	51,230	516	1,284

1 For repo-transactions, the recognised collateral is netted against the EAD. For OTC and credit derivative contracts, the recognised collateral is reflected in the LGD.

Supplementary Notes on the Financial Statements (unaudited) (continued)

6 Counterparty credit risk-related exposures (continued)

e Major classes of exposures under the standardised (credit risk) approach by counterparty type

	OTC derivative transactions HK\$m	Repo-style transactions HK\$m	Credit derivative contracts HK\$m
2011			
Notional amounts:			
Sovereigns	19,887	–	–
Public sector entities	120,830	298	–
Banks	475	–	–
Corporates	48,545	446	92
	189,737	744	92
Credit equivalent amounts/net credit exposures	4,538	106	–
Risk-weighted amounts	1,999	52	–
2010			
Notional amounts:			
Sovereigns	12,388	–	–
Public sector entities	187,668	270	–
Banks	3,035	–	–
Corporates	97,195	289	269
	300,286	559	269
Credit equivalent amounts/net credit exposures	6,023	233	–
Risk-weighted amounts	3,305	139	–

Supplementary Notes on the Financial Statements (unaudited) (continued)

6 Counterparty credit risk-related exposures (continued)

f Risk exposures to derivative transactions

	Contract amount HK\$m	Risk-weighted amount HK\$m	Fair value HK\$m
2011			
Exchange rate contracts			
Forward	6,628,177	17,442	27,708
Option purchased	406,331	6,453	4,678
Swap	2,978,224	18,983	17,072
	10,012,732	42,878	49,458
Interest rate contracts			
Forward	483,586	1	26
Option purchased	315,417	1,805	2,197
Swap	14,544,565	21,444	29,163
	15,343,568	23,250	31,386
Credit derivative contracts	478,815	896	1,279
Other OTC derivative contracts	359,619	3,206	9,185
	26,194,734	70,230	91,308
2010			
Exchange rate contracts			
Forward	5,051,896	14,038	18,653
Option purchased	247,641	3,694	4,380
Swap	2,634,785	18,171	21,326
	7,934,322	35,903	44,359
Interest rate contracts			
Forward	265,986	–	7
Option purchased	325,480	756	1,133
Swap	13,855,242	16,616	20,319
	14,446,708	17,372	21,459
Credit derivative contracts	536,396	1,284	743
Other OTC derivative contracts	208,054	1,260	4,236
	23,125,480	55,819	70,797

The above table is compiled in accordance with the ‘Capital Adequacy Ratio’ return submitted to the HKMA. This return is prepared using a consolidated basis as specified by the HKMA under the requirement of section 98(2) of the Banking Ordinance. Such consolidation basis may be different from the group’s accounting policies adopted. Therefore, the contract amounts shown in the above table are different from those disclosed in Note 17 of the 2011 Annual Report and Accounts.

The fair values are calculated after taking into account the effect of valid bilateral netting agreements amounting to HK\$280,732m (2010: HK\$225,484m).

Supplementary Notes on the Financial Statements (unaudited) (continued)

6 Counterparty credit risk-related exposures (continued)

g Contract amounts of credit derivative contracts which create exposure to counterparty credit risk

	2011 HK\$m	2010 HK\$m
Used for credit portfolio		
Credit default swap		
Protection bought	3,158	1,768
Protection sold	–	–
Total return swap		
Protection bought	21,735	11,017
Protection sold	–	–
	24,893	12,785
Used for intermediation activities		
Credit default swap		
Protection bought	230,506	265,541
Protection sold	218,812	253,941
Total return swap		
Protection bought	402	575
Protection sold	4,202	3,554
	453,922	523,611

Supplementary Notes on the Financial Statements (unaudited) (continued)

7 Credit risk mitigation

The group grants credit facilities on the basis of capacity to repay, rather than place primary reliance on credit risk mitigation. Depending on a customer's standing and the type of product, unsecured facilities may be provided. The mitigation of credit risk is nevertheless a key aspect of effective risk management. By consideration of types, jurisdictions and geographical locations of the credit risk mitigation held, there is no material concentration.

The group's general policy is to promote the use of credit risk mitigation, justified by commercial prudence and good practice as well as capital efficiency. Specific, detailed policies cover the acceptability, structuring and terms of various types of business with regard to the availability of credit risk mitigation, for example in the form of collateral security. These policies, together with the determination of suitable valuation parameters, are subject to regular review to ensure that they are supported by empirical evidence and continue to fulfil their intended purpose.

The most common method of mitigating credit risk is to take collateral. The main types of recognised collateral taken by the group are those as stated in Section 77 of the Banking (Capital) Rules, including (but not limited to) cash on deposit, a mortgage over property, a charge over business assets, guarantees, equities listed on a main index and/or a recognised exchange, units or shares in collective investment schemes and various recognised debt securities.

In accordance with sections 98 and 99 of the Banking (Capital) Rules, certain guarantees and credit derivative contracts are recognised for credit risk mitigation purposes. The main types of guarantees are from sovereigns, corporates and banks. The credit mitigating effect of recognised guarantees is grounded on empirical evidence of loss recovery experiences regionally. Exposures related to sovereign and bank guarantees are managed by central teams in HSBC Group Head Office in London.

Trading facilities are often supported by charges over financial instruments such as cash, debt securities and equities. Netting is extensively used and is a prominent feature of market standard documentation. Techniques such as credit default swaps, structured credit notes and securitisation structures can be deployed to actively manage the credit risk of the portfolios. The credit and market risk concentrations within the credit risk mitigants (recognised collateral, netting, guarantees and credit derivative contracts) used by the group are not considered to be material.

The group's policy stipulates that netting should only be applied where there is a legal right to do so. Under the Banking (Capital) Rules section 209, recognised netting is defined as any netting done pursuant to a valid bilateral netting arrangement. Consistent with the Banking (Capital) Rules, only bilateral netting arrangements are eligible to net amounts owed by the group for capital adequacy purposes.

The group has in place specific policies with respect to the valuation and re-valuation of credit risk mitigants. The primary objective of these policies is to monitor and ensure that the respective mitigants will provide the secure repayment source as anticipated at the time they were taken. Where collateral is subject to high volatility, valuation is frequent; where stable, less so. Policies in respect of credit mitigants underlying past due accounts are more stringent and call for more frequent monitoring and valuation.

In terms of their application within an IRB approach risk mitigants are considered in two broad categories: first, those which reduce the intrinsic probability of default of a borrower and therefore are accounted for with adjustments to PD estimation; secondly, those which affect the estimated recoverability of obligations and are accounted for with adjustments of LGD or, in certain circumstances, EAD.

The adjustment of PD estimation is also subject to supplementary methodologies in respect of a 'sovereign ceiling' constraining the risk ratings assigned to borrowers in countries of higher risk, and partial parental support.

LGD and EAD values, in the case of individually assessed exposures, are determined by reference to internal risk parameters based on the nature of the exposure. For retail portfolios, credit mitigation data is incorporated into the internal risk parameters for risk exposures and continuously fed into the calculation of the EL band value summarising both customer delinquency and product or facility risk.

Supplementary Notes on the Financial Statements (unaudited) (continued)

8 Asset securitisation

The group's strategy is to use securitisations to meet its needs for aggregate funding, to the extent that market, regulatory treatments and other conditions are suitable, and for customer facilitation. The group uses the internal ratings-based (securitisation) approach to calculate the credit risk for its securitisation exposures. The roles played by the group in the securitisation process are as follows:

- Investor: where the group invests in a securitisation transaction directly or provides derivatives or liquidity facilities to a securitisation;
- Originator: where the group originates the assets being securitised, either directly or indirectly; and
- Sponsor: in relation to an asset backed commercial paper ('ABCP') programme, or a programme with similar features, where the group establishes and manages a securitisation programme that purchases exposures from third parties.

a *Investor*

The group is an investor for all securitisation exposures below. In some cases, it also performs other roles, such as swap provider.

The group uses Standard & Poor's Rating Services, Moody's Investors Service, Fitch Ratings and Rating and Investment Information, Inc. as the ECAIs for each and all classes of securitisation exposures below.

Securitisation exposures

	2011 HK\$m	2010 HK\$m
Residential mortgage loans	1,565	2,157
Student loans	496	988
Commercial mortgage loans	1,343	336
Others	775	867
	4,179	4,348

Breakdown by risk-weights of the securitisation exposures

	Securitisation exposures HK\$m	Risk-weighted amount HK\$m	Capital requirements HK\$m
2011			
7%	1,663	123	10
8%	620	53	4
10%	465	49	4
20%	399	85	7
60%	–	–	–
100%	752	796	64
Deducted from capital	280	–	–
	4,179	1,106	89
2010			
7%	3,240	241	19
8%	685	58	5
10%	–	–	–
20%	–	–	–
60%	44	28	2
100%	–	–	–
Deducted from capital	379	–	–
	4,348	327	26

Supplementary Notes on the Financial Statements (unaudited) (continued)

8 Asset securitisation (continued)

Exposures deducted from Core Capital or Supplementary Capital

	2011 HK\$m	2010 HK\$m
Residential mortgage loans	44	45
Commercial mortgage loans	193	292
Others	43	42
	280	379

Capital requirement means the amount of capital required to be held for that risk based on the risk-weighted amount for that risk multiplied by 8%. Securitisation exposures are presented as the principal amount net of specific provisions or partial write-offs.

b Originator

The group originates securitisation transactions in the normal course of business by which it transfers recognised financial assets directly to third parties or to special purpose entities (SPEs). These transfers may give rise to the full or partial derecognition of the financial assets concerned.

Full derecognition occurs when the group transfers its contractual right to receive cash flows from the financial assets, or retains the right but assumes an obligation to pass on the cash flows from the asset, and transfers substantially all the risks and rewards of ownership. The risks include credit, interest rate, currency, prepayment and other price risks.

Partial derecognition occurs when the group sells or otherwise transfers financial assets in such a way that some but not substantially all of the risks and rewards of ownership are transferred but control is retained. These financial assets are recognised on the balance sheet to the extent of the group's continuing involvement.

The rights and obligations that the group retains from its continuing involvement in securitisations are initially recorded as an allocation of the fair value of the financial asset between the part that is derecognised and the part that continues to be recognised on the date of transfer. The principal assumptions to determine fair value are based on benchmark information about prepayment speeds, default rates, loss severities and the historical performance of the underlying assets.

For synthetic securitisations, the group uses SPEs to mitigate the capital absorbed by some of the customer loans and advances it has originated. Credit derivatives are used to transfer the credit risk associated with such customer loans and advances to an SPE. These SPEs are consolidated when the group is exposed to the majority of risks and rewards of ownership.

The group is an originating institution for the classes of exposure below. The group does not report any amounts under the internal ratings-based (securitisation) approach as these securitisation exposures do not fall within the scope of s229(1) of the Banking (Capital) Rules and so the related credit risk has been calculated using the same approach as other non-securitisation exposures. The risk-weighted amounts, the capital requirements and the amounts deducted from capital under the internal ratings-based (securitisation) approach are therefore nil.

Supplementary Notes on the Financial Statements (unaudited) (continued)

8 Asset securitisation (continued)

- (i) Securitisations where the group continues to retain exposure

	2011 HK\$m	2010 HK\$m
Traditional securitisations:		
Residential mortgage loans	<u>9,167</u>	<u>11,338</u>

- (ii) There were no securitisation transactions originated during the year where the group did not retain any exposure. (2010: none)

c Sponsor

- (i) Securitisation exposures of the institution resulting from securitisation transactions in which the group acted as a sponsor

	2011 HK\$m	2010 HK\$m
Others	<u>–</u>	<u>218</u>

d Other disclosures

- (i) There were no material impaired or overdue exposures securitised during the year (2010: none) and there were no losses recognised during the year (2010: none).

- (ii) Securitisation transactions repurchased by the group during the year.

	2011 HK\$m	2010 HK\$m
Residential mortgage loans	<u>–</u>	<u>8,657</u>

- (iii) There were no securitisation transactions entered into during the year that were subject to an early amortisation provision (2010: none).

- (iv) There were no securitisation transactions under the internal ratings-based (securitisation) approach which were covered by recognised guarantees or recognised credit derivative contracts during the year (2010: none).

Supplementary Notes on the Financial Statements (unaudited) (continued)

9 Market risk

Market risk is the risk that movements in foreign exchange rates, interest rates, credit spreads, or equity and commodity prices will result in profits or losses to the group. The group uses the internal models approach to calculate market risk changes in debt security prices or interest rates, and changes in exchange rates. The CAD1 model is used to calculate market risk in respect of options exposures to equities. The group uses the standardised (market risk) approach to calculate market risk for other exposures.

Market risk capital charge

	2011 HK\$m	2010 HK\$m
Under the standardised (market risk) approach		
Interest rate exposures	9	10
Other equity exposures	611	147
Under the internal models approach		
Equity options	175	128
Default risk surcharge	857	1,225
General market risk and specific interest rate risk	1,435	1,310
Capital charge for market risk	3,087	2,820

Capital charge means an amount of regulatory capital which the group is required to hold for an exposure to a relevant risk which, if multiplied by 12.5, becomes the risk-weighted amount of that exposure for that risk.

Methodology for valuation of market risk position

- General market risk and specific interest rate risk– VAR model

VAR is a technique that estimates the potential losses that could occur on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. A Historic Simulation approach is used to model foreign currency and interest rate risk, generated by revaluing the portfolio for each of 500 historical scenarios from one-day market movements, and is derived from a clean two-year time series of historic market risk factor data.

A Monte Carlo approach is used to model idiosyncratic interest rate risk and default risk, generated from a statistical model calibrated using historical time series data and 10,000 Monte Carlo scenarios.

- Equity options – Disaster Limit Matrix

For equity options, a conservative market risk measurement on Disaster Limit Matrix, the CAD1 model, captures the worst case scenario for each underlying position in absolute aggregate.

Characteristics and coverage of market risk model

- General market risk and specific interest rate risk– VAR model

The VAR models cover all material sources of price risk relating to foreign exchange risk and general interest rate risk and specific interest rate risk. Foreign exchange risk factors include, but are not limited to, foreign currency prices and foreign currency option volatility. General interest rate risk factors include, but are not limited to, interest rate curves and interest rate option volatilities. Specific interest rate risk factors are principally bond and credit derivative spread changes.

Historical simulation and Monte Carlo approaches are used for all outright interest rate, foreign exchange and credit spread positions using a 99% confidence interval and a one day time horizon that is scaled up to a ten day holding period.

Supplementary Notes on the Financial Statements (unaudited) (continued)**9 Market risk (continued)**

Historical, hypothetical and technical scenario stress testing is performed on positions on a weekly basis. Back-testing of the interest rate, foreign exchange and credit spread models uses clean and hypothetical profits and losses from trading operations and compares these to overall and individual business level value at risk on a daily basis.

A comparison of the group's trading VAR with the actual profit and loss during the year reveals no loss side back-testing exception. For capital charge calculation purposes, the number of loss exceptions is accumulated on a 250 business days basis.

- Equity options – Disaster Limit Matrix

Specific equity option risks are computed on gross utilisation bases on the underlying equity in the worst case scenario.

Assessment of market risk model on Regulatory Capital Environment

To enable group entities to aggregate and hold a risk-adjusted amount of capital resources appropriate to the group, all entities with trading book portfolios must adopt the Group's VAR approach.

10 Operational risk

The group uses the standardised (operational risk) approach to calculate its operational risk.

	2011 HK\$m	2010 HK\$m
Capital charge for operational risk	<u>17,714</u>	<u>17,349</u>

Capital charge means an amount of regulatory capital which the group is required to hold for an exposure to a relevant risk which, if multiplied by 12.5, becomes the risk-weighted amount of that exposure for that risk.

11 Equity exposures 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 in the balance sheet as financial investments. Available-for-sale securities are measured at fair value as described in Notes 3(g) and (h) on the financial statements. Included within this category are primarily investments made by the group for strategic purposes, which are subject to additional internal procedures and approvals to ensure that the investment is in accordance with the group's and HSBC Group'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 group's accounting policies.

	2011 HK\$m	2010 HK\$m
Realised gains from sales for the year	<u>147</u>	<u>1,173</u>
Unrealised gains:		
Amount included in reserves but not through the income statement	<u>30,304</u>	<u>56,797</u>
Amount included in supplementary capital	<u>1,085</u>	<u>1,487</u>

Supplementary Notes on the Financial Statements (unaudited) (continued)

12 Interest rate exposures in the banking book

A principal part of our management of market risk in non-trading portfolios is to monitor the sensitivity of projected net interest income under varying interest rate scenarios (simulation modelling). The group aims, through its management of market risk in non-trading portfolios, to mitigate the effect of prospective interest rate movements which could reduce future net interest income, while balancing the cost of such hedging activities on the current net revenue stream.

For simulation modelling, our businesses use a combination of scenarios relevant to them and local markets and standard scenarios which are required throughout the HSBC Group. The standard scenarios are consolidated to illustrate the combined proforma effect on the group's consolidated portfolio valuations and net interest income.

The table below sets out the effect on future net interest income of incremental 25 basis points parallel falls or rises in all yield curves at the beginning of each quarter during the 12 months from 1 January. Assuming no management actions, the sensitivity of projected net interest income is as follows:

	HK\$m
Change in 2012 projected net interest income arising from a shift in yield curves of:	
+25 basis points at the beginning of each quarter	4,785
-25 basis points at the beginning of each quarter	(6,848)
Change in 2011 projected net interest income arising from a shift in yield curves of:	
+25 basis points at the beginning of each quarter	4,445
-25 basis points at the beginning of each quarter	(5,826)

The interest rate sensitivities set out in the table above are illustrative only and are based on simplified scenarios. The figures represent the effect of the pro forma movements in net interest income based on the projected yield curve scenarios and the group's current interest rate risk profile. This effect, however, does not incorporate actions that would be taken by Global Markets or in the business units to mitigate the impact of this interest rate risk. In reality, Global Markets seeks proactively to change the interest rate risk profile to minimise losses and optimise net revenues. The projections above also assume that interest rates of all maturities move by the same amount (although rates are not assumed to become negative in the falling rates scenario) and, therefore, do not reflect the potential effect on net interest income of some rates changing while others remain unchanged. In addition, the projections take account of the anticipated net interest income impact of rate change differences between interbank interest rates and interest rates linked to other bases (such as Central Bank rates or product rates over which the entity has discretion in terms of the timing and extent of rate changes). The projections make other simplifying assumptions too, including that positions will run to maturity and incorporating any material effect from the extent to which movements in interest rates will alter the demand for the group's products and how customers' behaviour may change with movements in interest rates, such as loan repayments.

Projecting the movements in net interest income from prospective changes in interest rates is a complex interaction of structural and managed exposures. The group's exposure to the effect of movements in interest rates on its net interest income arises in two main areas: core deposit franchises and Balance Sheet Management within Global Markets.

- Core deposit franchises are exposed to changes in the cost of deposits raised. In a low interest rate environment, the net interest income benefit of core deposits increases as interest rates rise and decreases as interest rates fall. This risk is asymmetrical in a very low interest rate environment, however, as there is limited room to lower deposit pricing in the event of interest rate reductions.
- Residual interest rate risk is managed within Balance Sheet Management, under our policy of transferring interest rate risk to Balance Sheet Management to be managed within defined limits and with flexibility as to the instruments used.

Supplementary Notes on the Financial Statements (unaudited) (continued)**12 Interest rate exposures in the banking book (continued)**

The year on year movements in the sensitivity of the group's net interest income to the changes in interest rates tabulated above were driven by the following:

- Changes in the market environment which may have an impact on the group's ability to pass on rate changes to customers; and
- Changes in Global Markets' net trading asset positions. The funding of net trading assets is generally sourced from floating rate retail deposits and recorded in 'Net interest income' whereas the income from such assets is recorded in 'Net trading income'.

13 Off-balance sheet exposures other than derivative transactions

	2011 HK\$m	2010 HK\$m
Contract amounts		
Direct credit substitutes	57,975	50,451
Transaction-related contingencies	105,925	85,599
Trade-related contingencies	104,830	99,711
Forward asset purchases	2,870	3,194
Forward deposits placed	247	259
Commitments that are unconditionally cancellable without prior notice	1,173,870	1,059,747
Commitments which have an original maturity of not more than one year	91,393	104,720
Commitments which have an original maturity of more than one year	133,613	132,343
	1,670,723	1,536,024
Risk-weighted amounts		
	193,043	217,098

The table above gives the nominal contract amounts and risk-weighted amounts of contingent liabilities and commitments. The information is consistent with that in the 'Capital Adequacy Ratio' return submitted to the HKMA by the group. The return is prepared on a consolidated basis as specified by the HKMA under the requirement of section 98(2) of the Banking Ordinance.

For accounting purposes, acceptances and endorsements are recognised on the balance sheet in 'Other assets' in accordance with HKAS 39 'Financial Instruments: Recognition and Measurement'. For the purpose of the Banking (Capital) Rules, acceptances and endorsements are included in the capital adequacy calculation as if they were contingencies.

14 Loans and advances to customers by geographical area

Analysis of loans and advances to customers by geographical areas according to the location of counterparties, after recognised risk transfer:

	Hong Kong HK\$m	Rest of Asia-Pacific/ Other HK\$m	Total HK\$m
At 31 December 2011			
Gross loans and advances to customers	1,002,945	1,139,227	2,142,172
At 31 December 2010			
Gross loans and advances to customers	889,862	1,014,192	1,904,054

Supplementary Notes on the Financial Statements (unaudited) (continued)

15 Loans and advances to customers by industry sectors

The following analysis of the group's loans and advances to customers is based on the categories contained in the 'Quarterly Analysis of Loans and Advances and Provisions' return required to be submitted to the Hong Kong Monetary Authority ('HKMA') by branches of the Bank and by banking subsidiaries in Hong Kong.

	Gross Advances		Collateral and other security	
	2011 HK\$m	2010 HK\$m (restated ¹)	2011 HK\$m	2010 HK\$m (restated ¹)
Gross loans and advances to customers for use in Hong Kong				
<i>Industrial, commercial and financial</i>				
Property development	71,309	74,177	23,200	21,227
Property investment	200,721	187,120	155,130	142,417
Financial concerns	11,852	12,206	1,804	2,362
Stockbrokers	3,117	1,993	331	178
Wholesale and retail trade	75,379	68,303	19,352	17,902
Manufacturing	31,897	34,924	6,313	7,352
Transport and transport equipment	27,429	24,372	18,948	17,637
Recreational activities	88	945	17	532
Information technology	4,888	5,844	34	13
Others	58,775	73,039	18,508	20,375
	485,455	482,923	243,637	229,995
<i>Individuals</i>				
Advances for the purchase of flats under the Hong Kong Government's Home Ownership Scheme, Private Sector Participation Scheme and Tenants Purchase Scheme	25,640	27,496	25,558	27,458
Advances for the purchase of other residential properties	298,560	267,133	298,277	267,089
Credit card advances	41,200	37,351	-	-
Others	40,036	36,634	11,250	11,757
	405,436	368,614	335,085	306,304
Gross loans and advances to customers for use in Hong Kong	890,891	851,537	578,722	536,299
Trade finance	142,253	135,650	31,113	27,332
Gross loans and advances to customers for use outside Hong Kong	1,109,028	916,867	393,748	355,078
Gross loans and advances to customers	2,142,172	1,904,054	1,003,583	918,709

1. Certain comparatives have been restated to reflect changes in classification in the current period disclosure.

The categories of advances, and the relevant definitions, used by the HKMA differ from those used for internal purposes by the HSBC Group, including The Hongkong and Shanghai Banking Corporation Limited and its subsidiaries, as disclosed in note 18 on the financial statements.

The geographical information shown above has been classified by the location of the principal operations of the subsidiary or, in the case of the Bank, by the location of the branch responsible for advancing the funds.

Collateral includes any tangible security that has a determinable fair market value and is readily marketable. This includes (but is not limited to) cash and deposits, stocks and bonds, mortgages over properties and charges over other fixed assets such as plant and equipment. Where collateral values are greater than gross advances, only the amount of collateral up to the gross advance has been included.

Supplementary Notes on the Financial Statements (unaudited) (continued)

16 Non-bank mainland exposures

The analysis of non-bank mainland exposures is based on the categories of non-bank counterparties and the type of direct exposures defined by the HKMA under the Banking (Disclosure) Rules with reference to the HKMA return for non-bank mainland exposures, which includes the mainland exposures extended by the Bank and its banking subsidiary in mainland China.

	On-balance sheet exposure HK\$m	Off-balance sheet exposure HK\$m	Total exposures HK\$m	Specific provisions HK\$m
At 31 December 2011				
Mainland entities	99,498	11,161	110,659	–
Companies and individuals outside the mainland where the credit is granted for use in the mainland	52,382	7,557	59,939	44
Other counterparties the exposures to whom are considered by the Bank to be non-bank mainland exposures	4,325	1,353	5,678	–
	156,205	20,071	176,276	44
Mainland exposures of wholly owned mainland subsidiaries:				
Loans and advances	129,699	3,739	133,438	50
Debt securities and other	104,469	19,574	124,043	–
	234,168	23,313	257,481	50
	390,373	43,384	433,757	94
At 31 December 2010 (restated¹)				
Mainland entities	86,075	7,660	93,735	1
Companies and individuals outside the mainland where the credit is granted for use in the mainland	48,674	11,924	60,598	641
Other counterparties the exposures to whom are considered by the Bank to be non-bank mainland exposures	4,264	1,624	5,888	–
	139,013	21,208	160,221	642
Mainland exposures of wholly owned mainland subsidiaries:				
Loans and advances	111,146	2,995	114,141	36
Debt securities and other	54,473	14,607	69,080	–
	165,619	17,602	183,221	36
	304,632	38,810	343,442	678

1. Comparatives have been restated to align with the treatment applied in 2011, including strategic investments.

Supplementary Notes on the Financial Statements (unaudited) (continued)**17 Cross-border exposures**

The group's country risk exposures in the tables below are prepared in accordance with the HKMA Return of External Positions Part II: Cross-Border Claims (MA(BS)9) guidelines.

Cross-border claims are on-balance sheet exposures to counterparties based on the location of the counterparties after taking into account the transfer of risk.

The tables show claims on individual countries and territories or areas, after recognised risk transfer, amounting to 10% or more of the aggregate cross-border claims.

Cross-border risk is controlled centrally through a well-developed system of country limits and is frequently reviewed to avoid concentration of transfer, economic or political risk.

	Banks HK\$m	Public sector entities ¹ HK\$m	Others HK\$m	Total HK\$m
As at 31 December 2011				
Asia-Pacific excluding Hong Kong				
China	281,204	59,324	125,582	466,110
Others	138,852	206,296	245,577	590,725
	420,056	265,620	371,159	1,056,835
Americas				
United States	52,676	120,498	41,505	214,679
Others	38,203	18,866	88,227	145,296
	90,879	139,364	129,732	359,975
Europe				
United Kingdom	118,745	9,362	14,861	142,968
Others	98,911	49,388	42,667	190,966
	217,656	58,750	57,528	333,934
As at 31 December 2010 (restated²)				
Asia-Pacific excluding Hong Kong				
China	223,171	9,839	118,142	351,152
Others	112,588	134,469	222,904	469,961
	335,759	144,308	341,046	821,113
Americas				
United States	107,736	94,888	57,250	259,874
Others	22,435	16,719	68,685	107,839
	130,171	111,607	125,935	367,713
Europe				
United Kingdom	157,840	1,364	13,914	173,118
Others	148,184	63,717	34,529	246,430
	306,024	65,081	48,443	419,548

1. Includes balances with central banks

2. Comparatives have been restated to reflect the accounting consolidation followed in 2011

Supplementary Notes on the Financial Statements (unaudited) (continued)

18 Non-structural foreign exchange positions

The group had the following non-structural foreign currency positions that were not less than 10% of the net non-structural positions in all foreign currencies:

	United States dollars HK\$m	Singapore dollars HK\$m	Brunei dollars HK\$m
At 31 December 2011			
Spot assets	1,254,317	325,563	10,508
Spot liabilities	(1,430,476)	(331,008)	(27,893)
Forward purchases	5,816,926	436,756	752
Forward sales	(5,669,458)	(413,455)	(1,467)
Net options positions	9,826	(14)	–
	(18,865)	17,842	(18,100)
At 31 December 2010 (restated¹)			
Spot assets	1,458,457	190,277	8,530
Spot liabilities	(1,384,662)	(186,404)	(18,931)
Forward purchases	4,681,128	177,679	133
Forward sales	(4,782,471)	(170,835)	(71)
Net options positions	13,842	(127)	–
	(13,706)	10,590	(10,339)

¹ Comparatives have been restated to exclude internally generated back to back positions.

The net options positions reported above are calculated using the delta-weighted position of the options contracts.

19 Liquidity ratio

The Banking Ordinance requires banks operating in Hong Kong to maintain a minimum liquidity ratio, calculated in accordance with the provisions of the Fourth Schedule of the Banking Ordinance, of 25%. This requirement applies separately to the Hong Kong branches of the Bank and to those subsidiary companies which are Authorised Institutions under the Banking Ordinance in Hong Kong.

The average liquidity ratios for the year are as follows:

	2011 %	2010 %
Hong Kong branches of the Bank	33.6	39.3

Supplementary Notes on the Financial Statements (unaudited) (continued)

20 Senior management compensation and benefits*Remuneration of senior management and key personnel*

The following tables show the remuneration paid to senior management and key personnel. These disclosures are made pursuant to the HKMA Supervisory Policy Manual CG-5 'Guideline on a Sound Remuneration System'.

Senior management is defined as those persons responsible for oversight of the group's strategy or activities or material business lines. This includes the Executive Directors, Executive Committee members, Chief Executive, Alternative Chief Executive, and Managers as registered with the HKMA. There were 23 members of senior management in 2011 (2010: 21 members). This includes two members (2010: two) who are Directors of, and are remunerated by, HSBC Holdings Plc and are consequently not included in the disclosures below.

Key personnel is defined as individual employees whose duties or activities involve the assumption of material risk or the taking on of material exposures on behalf of the group.

Analysis of remuneration between fixed, variable, deferred and non-deferred amounts

	2011			2010		
	Senior management (21 people) HK\$m	Key personnel (25 people) HK\$m	Total HK\$m	Senior management (19 people) HK\$m	Key personnel (20 people) HK\$m	Total HK\$m
Fixed						
Cash based	91	91	182	75	52	127
Variable¹						
Cash	66	82	148	52	85	137
Non-Deferred Shares	32	76	108	29	84	113
Deferred cash	49	112	161	42	126	168
Deferred shares	106	115	221	56	127	183
Total variable pay	253	385	638	179	422	601

Analysis of deferred remuneration

	2011			2010		
	Senior management (21 people) HK\$m	Key personnel (25 people) HK\$m	Total HK\$m	Senior management (19 people) HK\$m	Key personnel (20 people) HK\$m	Total HK\$m
Deferred remuneration at 31 December						
Outstanding, unvested ²	387	759	1,146	330	638	968
Outstanding, cash	59	112	171	–	–	–
Outstanding, share based	328	647	975	330	638	968
Awarded during the year	152	324	476	105	264	369
Paid out	128	126	254	36	87	123
Reduced through performance adjustment	–	–	–	–	–	–

1 The forms of variable remuneration and the proportion deferred are based on the seniority, role and responsibilities of employees and their level of total variable compensation.

2 Outstanding, unvested, deferred remuneration is exposed to ex post explicit adjustments. There is no retained remuneration exposed to ex post explicit adjustments as at 31 December 2011 and 31 December 2010.

3 There is no reduction of deferred remuneration and retained remuneration due to ex post explicit adjustments during 2011 and 2010.

Supplementary Notes on the Financial Statements (unaudited) (continued)**21 Principal subsidiaries and basis of consolidation**

The basis of consolidation for accounting purposes is in accordance with Hong Kong Financial Reporting Standards ('HKFRS'). HKFRS is a collective term which includes all applicable individual Hong Kong Financial Reporting Standards, Hong Kong Accounting Standards and Interpretations issued by the Hong Kong Institute of Certified Public Accountants.

The major subsidiaries of the Bank for accounting purposes are:

Hang Seng Bank Limited
 HSBC Bank (China) Company Limited
 HSBC Bank Malaysia Berhad
 HSBC Bank Australia Limited*
 HSBC Bank (Taiwan) Limited*
 HSBC Insurance (Asia) Limited*
 HSBC Life (International) Limited*

* Held indirectly

The basis of consolidation for regulatory purposes is different from the basis of consolidation for accounting purposes. Subsidiaries included in consolidation for regulatory purposes are specified in a notice from the HKMA in accordance with section 98(2) of the Banking Ordinance. Subsidiaries not included in consolidation for regulatory purposes are securities and insurance companies that are authorised and supervised by a regulator and are subject to supervisory arrangements regarding the maintenance of adequate capital to support business activities comparable to those prescribed for authorised institutions under the Banking (Capital) Rules and the Banking Ordinance. The Bank's shareholdings in these subsidiaries are deducted from its core capital and supplementary capital as determined in accordance with Part 3 of the Banking (Capital) Rules.

With respect to Notes 2 to 11 and 13, the principal subsidiaries that are not included in consolidation for regulatory purposes are:

Hang Seng Insurance Company Limited
 HSBC Insurance (Asia Pacific) Holdings Limited and subsidiaries
 HSBC Futures (Singapore) Pte Ltd
 HSBC Securities Japan Limited
 Hang Seng General Insurance (Hong Kong) Company Limited
 HSBC Securities Brokers (Asia) Limited

The group operates subsidiaries in a number of countries and territories where capital is governed by local rules and there may be restrictions on the transfer of regulatory capital and funds between members of the banking group.

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