2008



The Hongkong and Shanghai Banking Corporation Limited

Supplementary Notes on the Financial Statements as at 31 December 2008

prepared under the Banking (Disclosure) Rules made pursuant to section 60A of the Banking Ordinance

Supplementary Notes on the Financial Statements

These notes are supplementary to and should be read in conjunction with the 2008 Annual Report and Accounts. The Annual Report and Accounts and these supplementary notes taken together comply with the Banking (Disclosure) Rules ('Rules') made under section 60A of the Banking Ordinance.

1 Basis of preparation

a Under the Banking (Capital) Rules effective on 1 January 2007, the group used the standardised (credit risk) approach and standardised (securitisation) approach to calculate its credit risk for non-securitisation exposures and credit risk for securitisation exposures respectively. It also used the standardised (operational risk) approach and standardised (market risk) approach to calculate its operational risk and market risk respectively. An internal model approach was adopted for calculating the general market risk, while a separate model is used for calculating the market risk relating to equity options.

From 1 January 2008, the group has migrated to the foundation internal ratings-based approach and internal ratings-based (securitisation) approach to calculate its credit risk for the majority of its non-securitisation exposures and credit risk for securitisation exposures respectively. As a result of the change in approach used to determine credit risk, the numbers for 2007 are not strictly comparable. There is, however, no change in the approaches used to calculate operational risk and market risk.

b 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. Subsidiaries included in the consolidation for regulatory purposes are specified in a notice from the Hong Kong Monetary Authority ('HKMA') in accordance with section 98(2) of the Banking Ordinance. Further information regarding subsidiaries that are not included in the consolidation for regulatory purposes is set out in Supplementary Note 15.

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 2008, as set out in Note 4 on the financial statements on pages 31 to 45 of the Annual Report and Accounts.

d Certain comparative figures have not been provided where the current year is the first year of disclosure and provision is impracticable.

2 Summary of risk-weighted amounts

The group's total risk-weighted amounts are summarised as follows: 2008 2007 HK\$m HK\$m Credit risk Standardised (credit risk) approach 180,420 1,535,956 Internal ratings-based approach 991,758 Standardised (securitisation) approach 2.017 Internal ratings-based (securitisation) approach 5,902 1.178,080 1,537,973 Market risk 57,609 79,990 Operational risk 187,543 156,875 1,423,232 1,774,838

3 Credit risk capital requirements

The group uses the foundation internal ratings-based ('IRB') approach to calculate the credit risk for the majority of its non-securitisation exposures, with the remainder of its credit risk for non-securitisation exposures assessed using the standardised (credit risk) approach. In 2007, the group used the standardised (credit risk) approach.

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 per cent.

	2008	2007
	HK\$m	HK\$m
Exposures under the IRB approach		
Corporate exposures		
Specialised lending under supervisory slotting criteria approach		
- Project finance	311	-
- Object finance	393	-
- Commodities finance	66	-
- Income-producing real estate	1,579	-
Small-and-medium sized corporates	10,420	-
Other corporates	29,193	-
Sovereign exposures		
Sovereigns	8,746	-
Bank exposures		
Banks	15,726	-
Securities firms	321	-
Retail exposures		
Residential mortgages		
- Individuals	2,565	-
- Property-holding shell companies	228	-
Qualifying revolving retail exposures	3,283	-
Small business retail exposures	11	-
Other retail exposures to individuals	554	-
Other exposures		
Cash items	259	-
Other items	5,685	-
Total for the IRB approach	79,340	

3 Credit risk capital requirements (continued)

	2008	2007
	HK\$m	HK\$m
Exposures under the standardised (credit risk) approach		
Sovereign exposures	-	1,501
Public sector entity exposures	359	1,000
Bank exposures	304	19,517
Securities firm exposures	5	325
Corporate exposures	5,806	52,334
Collective investment scheme exposures	6	188
Cash items	-	33
Regulatory retail exposures	3,238	7,450
Residential mortgage loans	1,992	12,406
Other exposures which are not past due exposures	435	7,914
Past due exposures	573	513
Off-balance sheet exposures other than OTC derivative transactions and credit derivative contracts	1,043	13,893
OTC derivative transactions and credit derivative contracts	673	5,804
Total for the standardised (credit risk) approach	14,434	122,878
Total	93,774	122,878

4 Credit risk under the internal-ratings based approach

a The internal ratings system and 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 wide range of asset classes, customers and product types. To measure and manage the risk in these exposures, both to individually assessed customers and to those aggregated into portfolios, the group employs diverse risk rating systems and methodologies: judgemental, analytical, and hybrids of the two. The main characteristics of the group's credit risk rating systems are set out below.

Application of IRB parameters

The group's credit risk rating framework incorporates probability of default ('PD') of an obligor and loss severity expressed in terms of exposure at default ('EAD') and loss given default ('LGD'). These measures are used to calculate risk-weighted assets, expected loss and capital requirements. They are also used in conjunction with other inputs for risk management decisions. For individually assessed customers, risk ratings are reviewed regularly and amendments, where necessary, are implemented promptly. Within the group's retail portfolios, risk is assessed and managed using a wide range of behavioural and pricing models.

For wholesale business, which includes corporate, sovereign and bank exposures, obligor PD is estimated using a 22-grade Customer Risk Rating scale, of which 20 are non-default ratings representing varying degrees of strength of financial condition, and two are default ratings. Scores generated by models and/or scorecards for individual obligors are reviewed by credit approvers. The final approved Customer Risk Ratings are mapped to a PD value range of which the "mid-point" is used in the regulatory capital calculation.

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.

For retail business, a wide range of behavioural and application model structures have been developed into increasingly sophisticated models to provide PD, EAD and LGD estimates, incorporating the product characteristics and the customer's account behaviour. For reporting and management information purposes, retail portfolios are analysed according to analytically-derived criteria into 29 expected loss bands, enabling comparability across the group's retail customer segments, business lines and product types.

Use of internal estimates

While internal estimates derived from applying the IRB approach are employed in the calculation of risk-weighted exposure amounts for the purpose of determining regulatory capital requirements, they are also used in a multitude of contexts within risk management and business processes. Such uses continue to develop and become embedded as experience grows and the repository of quality data improves. They include:

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

- **a** The internal ratings system and risk components (continued)
 - credit approval: authorities, including those for specific counterparty types and transactions, are delegated to the group's risk function using a risk-based approach, tiered relative to obligor Customer Risk Rating;
 - credit risk analytical tools: IRB models, scorecards and methodologies are essential tools deployed in the assessment of customer and portfolio risk;
 - portfolio management: regular reports to the Board, Audit Committee and Risk Management Committee contain analyses of exposures employing internal-ratings based metrics; and
 - pricing: customer relationship managers apply a Risk Adjusted Return on Capital methodology in calculating risk-weighted assets and profitability.

Control mechanisms for rating systems

The group has a robust system in place to validate the accuracy and consistency of its rating systems, processes, and the estimation of all relevant risk components. The group's Chief Risk Officer is responsible for formulating and communicating to the Board a high-level approach to overseeing the rating systems.

The model validation processes reaffirm the continuing appropriateness of the internal rating and risk estimation systems. The internal assessments of the performance of the rating systems are based on long data histories, covering a range of economic conditions, and ideally one or more complete business cycles.

Internal Audit or a comparable independent auditing unit conducts regular reviews of the model validation and monitoring processes.

Internal rating process

For corporate exposures, experience and judgement, as well as more objective elements, are critical in making the credit decision and in assigning Customer Risk Ratings. All aspects of the customer and credit proposal are taken into account to ensure that a comprehensive assessment is made.

At a minimum, annual reviews of credits and Customer Risk Ratings are considered a key control point and essential commercial risk management practice. In addition, policy requirements dictate a continuous monitoring of commercial credits by the assigned officers, and a formal review and reporting requirement upon any material deterioration in risk profile.

The rating models used in the group's risk rating system have been designed to consistently and objectively estimate the risk of an obligor, and assign a customer rating. In the event that credit information external to the model is deemed to have a material impact on default probability, then an override is permissible. Justification of an override is documented for independent review and model validation purposes.

For retail exposures, an homogeneous group of exposures bearing the same risk characteristics, are segmented into pools for risk rating assessment. Each exposure is assigned into a particular pool based on the assessment of the borrower and transaction risk characteristics and delinquency of exposure.

For bank and sovereign exposures, the assignment of Customer Risk Ratings is managed centrally by the HSBC Group.

Definitions of the variables, methods and data for the estimation and validation of the PD, LGD and EAD

Probability of Default ('PD')

PD is the likelihood, expressed as a percentage, of a default event in a one-year time horizon.

For corporate exposures, the models used to estimate PD incorporate both financial and non-financial assessment of the borrower as well as other aspects such as type of industry. Using the group's historical default data, different weights are estimated and assigned to different risk drivers identified during the assessment to constitute the PD components for the borrower. These parameters are supplemented by other policies such as parental support and assessment of the political and economic environments.

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

a The internal ratings system and risk components (continued)

For bank exposures, PD estimation incorporates an advanced analytical model, which combines financial inputs, country/operating environment risk scores and qualitative inputs by the relationship managers.

For sovereign exposures, the models used to estimate the PD incorporate a range of economic, political, financial and social conditions.

For retail exposures, PD is estimated for each pool of exposures, having sufficiently homogeneous exposures and bearing the same risk characteristics. The estimation takes into consideration factors such as historical default data, payment history, borrower's account behavior and credit bureau data.

Exposure at Default ('EAD')

EAD is a product-specific estimate of the exposure at the time of default. This calculation is based on empirical data predicting the likelihood of drawings, over a one-year time horizon, from an analysis of statistical behaviour of such default events. It is the sum of outstanding on-balance sheet balance and amount of off-balance sheet items multiplied by the credit conversion factor and the drawdown factor. Credit conversion factor is the likelihood that a non-cash/off-balance sheet facility may crystallise and become a cash exposure. The drawdown factor is the expected additional drawdown proportion on the available unutilised limit.

For corporate, sovereign and bank exposures, the group applies the supervisory credit conversion factor estimation provided by the Hong Kong Monetary Authority for regulatory reporting purpose.

For retail exposures which are revolving in nature, models are built to estimate additional customer drawdown. For retail close-end exposures, estimation is calculated based on the aggregate principal outstanding.

Loss-Given-Default ('LGD')

LGD is an estimate of the severity of the loss that the group is likely to incur in the event that the borrower defaults, expressed as a percentage of EAD.

For corporate, sovereign and bank exposures, the group applies the supervisory LGD estimate provided by the Hong Kong Monetary Authority.

For retail exposures, LGD is based on the group's internal loss and default experience within a certain period, which includes economic downturn conditions.

b Exposures subject to supervisory estimates

The table below sets out the EAD of the exposures by IRB class that is subject to supervisory estimates:

2008
HK\$m
Corporate exposures
926,144
Sovereign exposures
639,896
Bank exposures
940,641
2,506,681

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

c 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 as at 31 December 2008:

	2008			
	Supervisory			
	Foundation	Slotting	Retail	
	IRB	Criteria	IRB	Total
	Approach	Approach	Approach	exposures
	HK\$m	HK\$m	HK\$m	HK\$m
Corporate exposures	886,940	39,204	-	926,144
Sovereign exposures	639,896	-	-	639,896
Bank exposures	940,641	-	-	940,641
Retail exposures Residential mortgages to individuals and property-holding shell companies	<u>-</u>	-	350,139	350,139
Qualifying revolving retail exposures Other retail exposures to individuals	-	-	131,694	131,694
and small business retail exposures	-	-	28,318	28.318

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

d Exposures by credit risk mitigation used

Exposures covered by recognised collateral

The following shows the group's exposures (after the effect of any on-balance sheet or off-balance sheet recognised netting) in respect of which the group uses the foundation IRB approach and which are covered by recognised collateral 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).

	2008 HK\$m
Corporate exposures	117,688
Sovereign exposures	48
Bank exposures	1,127
	118,863

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).

	2008 HK\$m
	шхэш
Corporate exposures	158,538
Bank exposures	134,018
Retail exposures	36,980
	329,536

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

e Risk assessment for exposures under IRB approach

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

		2008	
	Exposure at default	Exposure-weighted average risk-weight	Exposure-weighted average PD
	HK\$m	%	%
Minimal risk	147,904	16.44	0.04
Low risk	248,096	30.27	0.10
Satisfactory risk	285,046	58.98	0.41
Fair default risk	104,266	98.23	1.27
Moderate default risk	63,574	115.81	2.77
Significant default risk	25,647	150.83	5.89
High default risk	1,032	172.68	10.79
Special management	4,638	239.65	25.42
Default	6,737	-	100.00
	886,940		

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

	20	2008		
	Exposure at default HK\$m	Exposure-weighted average risk-weight %		
Strong	26,651	62.91		
Good	10,932	90.65		
Satisfactory	1,044	121.90		
Weak	533	265.00		
Default	44	-		
	39,204			

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

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

e Risk assessment for exposures under IRB approach (continued)

Sovereign exposures – analysis by obligor grade

		2008	
	Exposure at default	Exposure-weighted average risk-weight	Exposure-weighted average PD
	HK\$m	%	%
Minimal risk	409,035	7.89	0.03
Low risk	180,134	23.13	0.06
Satisfactory risk	31,972	45.02	0.19
Fair default risk	12,244	101.37	1.12
Moderate default risk	6,129	129.51	2.59
Significant default risk	382	165.73	5.66
	639,896		

Bank exposures - analysis by obligor grade

		2008	
	Exposure at default	Exposure-weighted average risk-weight	Exposure-weighted average PD
	HK\$m	%	%
Minimal risk	513,063	8.55	0.03
Low risk	336,399	26.78	0.08
Satisfactory risk	66,701	54.55	0.29
Fair default risk	12,387	91.86	0.98
Moderate default risk	6,235	135.23	3.34
Significant default risk	2,331	167.24	5.83
High default risk	3,151	190.80	12.10
Special management	201	249.79	19.00
Default	173	-	100.00
	940,641		

The exposure at default and probability of default 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.

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

e Risk assessment for exposures under IRB approach (continued)

Retail exposures - analysis by credit quality

The following shows a breakdown of exposures (the EAD of on-balance sheet exposures and off-balance sheet exposures) on a pool basis by quality classification:

		2008	;	
		Qualifying revolving	Other	
	Residential	retail	retail	Total
	mortgages	exposures	exposures	exposures
	HK\$m	HK\$m	HK\$m	HK\$m
Strong	340,748	100,222	24,887	465,857
Medium	8,632	30,742	2,892	42,266
Sub-standard	759	724	536	2,019
Impaired	-	6	3	9
	350,139	131,694	28,318	510,151

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

f Analysis of actual loss and estimates

The following shows the actual losses which represent the net charges (including write-offs and impairment loss allowances) made during the year:

	2008	2007
	HK\$m	HK\$m
Bank	1,833	-
Corporate	4,388	1,591
Residential mortgages	(7)	(40)
Qualifying revolving retail	1,169	1,049
Other retail	243	385
	7,626	2,985

The following shows the expected loss which 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:

1 December 2007 HK\$m
256
1,234
5,139
586
1,375
680
9,270

The following sets out the percentage of the actual number of defaults for the year ended 31 December 2008 compared against the estimated probability of default at 31 December 2007 of the respective portfolio.

	Actual	Estimated
	default rate	probability of default
	for 2008	at 31 December 2007
	%	%
Sovereign	0.00	0.80
Bank	0.40	1.88
Corporate	1.01	2.80
Residential mortgages	0.26	1.12
Qualifying revolving retail	0.61	0.79
Other retail	1.56	2.50

The actual default rate is measured by using the number of obligors defaulted for 2008 whereas the estimated probability of default rate is the long run average default rate estimated for 2008. The difference in the actual default rate and the estimated probability of default is mainly due to the difference in the time horizon used to calculate the actual and estimated default rates.

5 Credit risk under the standardised (credit risk) approach

a Ratings from External Credit Assessment Institutions

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

- Public sector entity exposures;
- Multilateral development bank exposures;
- Bank exposures;
- Securities firm exposures;
- Corporate exposures; and
- Collective investment scheme exposures.

The group uses the external credit ratings from the following ECAIs:

- Fitch Ratings;
- Moody's Investors Service;
- Standard & Poor's Ratings Services; and
- Rating and Investment Information, Inc.

The process used to map ECAI issuer ratings or ECAI issue specific ratings in the group's banking book is consistent with those prescribed in Part 4 of the Banking (Capital) Rules.

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

		Exposures afte		Risk-weighte	d amounts			Total exposures covered by
2008	Total exposures ¹ HK\$m	Rated HK\$m		exposures covered by recognised	recognised guarantees or recognised credit derivative contracts HK\$m			
On-balance sheet								
Sovereign	-	-	-	-	-	-	-	-
Public sector entity	16,001	24,548	-	4,486	-	4,486	-	1,455
Multilateral development bank	16,764	16,764	-	-	-	-	-	-
Bank	10,902	533	9,395	150	3,654	3,804	777	-
Securities firm	113	-	113	-	56	56	-	-
Corporate	95,579	13,516	68,671	3,626	68,946	72,572	7,772	5,620
Collective investment scheme	72	-	72	-	72	72	-	-
Cash items	-	-	-	-	-	-	-	-
Regulatory retail	55,179	-	53,965	-	40,474	40,474	935	279
Residential mortgage loan	41,389	-	41,292	-	24,899	24,899	49	47
Other exposures which are not past due exposures	5,442	-	5,442	-	5,442	5,442	-	-
Past due exposures	5,001		5,001		7,158	7,158	592	
Total of on-balance sheet	246,442	55,361	183,951	8,262	150,701	158,963	10,125	7,401

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

		Exposures after credit risk i		Risk-weighte	d amounts			Total exposures covered by
2008 (continue)	Total exposures ¹ HK\$m	Rated HK\$m	Unrated HK\$m	Rated HK\$m	Unrated HK\$m	Total risk- weighted amounts HK\$m	Total exposures covered by recognised collateral HK\$m	recognised guarantees or recognised credit derivative contracts HK\$m
Off-balance sheet Off-balance sheet exposure other than OTC derivatives transactions or credit								
derivative contracts OTC derivative	18,688	2,850	16,633	928	12,112	13,040	809	171
transactions Credit derivatives	12,482	5,393	7,089	1,906	6,424	8,330	-	-
contracts	87	-	87	-	87	87	-	-
Total of off-balance sheet	31,257	8,243	23,809	2,834	18,623	21,457	809	171
Total	277,699	63,604	207,760	11,096	169,324	180,420	10,934	7,572

Exposures deducted from
Core Capital or
Supplementary Capital 12

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

		Exposures after	er recognised					Total exposures
		credit risk	mitigation ²	Risk-weighted	d amounts			covered by
								recognised
							Total	guarantees or
							exposures	recognised
						Total risk-	covered by	credit
2005	m . 1		**	5	**	weighted	recognised	derivative
2007	Total exposures ¹	Rated	Unrated	Rated	Unrated	amounts	collateral	contracts
	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
On-balance sheet								
Sovereign	367,647	359,205	-	18,767	-	18,767	10,285	-
Public sector entity	19,952	52,255	-	12,500	-	12,500	-	279
Multilateral development bank	7,529	7,529	-	-	-	-	-	-
Bank	1,178,298	945,010	27,365	234,669	9,290	243,959	210,907	719
Securities firm	11,110	5,974	5,654	1,231	2,827	4,058	223	-
Corporate	745,665	94,680	588,371	74,324	579,848	654,172	55,241	12,004
Collective investment scheme	2,354	-	2,354	-	2,354	2,354	-	-
Cash items	123,842	-	123,842	-	408	408	-	-
Regulatory retail	125,431	-	124,160	-	93,120	93,120	1,271	-
Residential mortgage loan	366,291	-	333,368	-	155,079	155,079	325	32,341
Other exposures which are not								
past due exposures	100,155	5,924	93,001	5,924	93,001	98,925	1,229	-
Past due exposures	5,177	16	5,161	3	6,405	6,408	101	177
Total of on-balance sheet	3,053,451	1,470,593	1,303,276	347,418	942,332	1,289,750	279,582	45,520

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

		Exposures afte credit risk		Risk-weighte	ed amounts			Total exposures covered by
2007 (continued)	Total exposures ¹ HK\$m	Rated HK\$m	Unrated HK\$m	Rated HK\$m	Unrated HK\$m	Total risk- weighted amounts HK\$m	Total exposures covered by recognised collateral HK\$m	recognised guarantees or recognised credit derivative contracts HK\$m
Off-Balance Sheet Off-balance sheet exposure other than OTC derivatives transactions or credit								
derivative contracts OTC derivative	203,967	50,483	147,956	32,771	140,887	173,658	5,528	5,744
transactions Credit derivatives	171,208	122,191	31,762	34,197	30,828	65,025	17,255	-
contracts	24,361	20,376	2,426	5,118	2,405	7,523	1,559	
Total of off-balance sheet	399,536	193,050	182,144	72,086	174,120	246,206	24,342	5,744
Total	3,452,987	1,663,643	1,485,420	419,504	1,116,452	1,535,956	303,924	51,264

Exposures deducted from Core Capital or Supplementary Capital

¹Total 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.

6 Counterparty credit risk-related exposures

a 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 in the transaction 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.

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

2008

	OTC derivative transactions	Repo-style transactions	Credit derivative contracts
	HK\$m	HK\$m	HK\$m
OTC derivative & credit derivative:			
Gross total positive fair value	396,124	-	34,886
Credit equivalent amounts	214,581	-	10,405
Repo-style transactions:			
Net credit exposures	-	258,148	-
Value of recognised collateral by type			
- debt securities	833	207,926	-
- others	12,232	19,626	<u>-</u>
	13,065	227,552	-
Credit equivalent amounts/net credit			
exposures net of recognised collateral	201,516	30,596	10,405
Exposure at default	214,581	258,148	10,405
Risk weighted amounts	78,821	2,897	2,782
Notional amounts of recognised credit derivative contracts which provide credit protection	-	-	-

6 Counterparty credit risk-related exposures (continued)

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

2008

2008	OTC derivative transactions	Repo-style transactions	Credit derivative contracts
	HK\$m	HK\$m	HK\$m
OTC derivative & credit derivative: Gross total positive fair value Credit equivalent amounts	11,392 12,482		87 87
Repo-style transactions: Net credit exposures	-	249	-
Value of recognised collateral by type - debt securities - others		217	- -
	-	217	-
Credit equivalent amounts/net credit exposures net of recognised collateral Risk weighted amounts	12,482 8,330	32 27	87 87
Notional amounts of recognised credit derivative contracts which provide credit protection	-	-	-
2007			
	OTC derivative transactions HK\$m	Repo-style transactions HK\$m	Credit derivative contracts HK\$m
OTC derivative & credit derivative: Gross total positive fair value Credit equivalent amounts	177,645 171,208	-	8,313 24,361
Repo-style transactions: Net credit exposures	-	248,658	-
Value of recognised collateral by type - debt securities - others	209 17,046 17,255	175,364 30,110 205,474	143 1,416 1,559
Credit equivalent amounts/net credit exposures net of recognised collateral Risk weighted amounts Notional amounts of recognised credit derivative contracts which provide credit protection	153,953 65,025	43,184 9,162	22,802 7,523
		-	

6 Counterparty credit risk-related exposures (continued)

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

2008	OTC derivative transactions	Repo-style transactions	Credit derivative contracts
2006	HK\$m	HK\$m	HK\$m
Notional amounts			
Sovereigns	155,161	17,775	1,442
Banks	13,339,461	237,101	736,273
Corporates	1,503,384	3,272	42,536
	14,998,006	258,148	780,251
Exposure at default			
Sovereigns	2,708	17,775	110
Banks	131,151	237,101	8,475
Corporates	80,722	3,272	1,820
	214,581	258,148	10,405
Risk-weighted amounts			
Sovereigns	462	863	8
Banks	37,240	1,725	2,091
Corporates	41,119	309	683
	78,821	2,897	2,782

6 Counterparty credit risk-related exposures (continued)

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

2008	OTC derivative transactions	Repo-style transactions	Credit derivative contracts
2000	HK\$m	HK\$m	HK\$m
Notional amounts		·	·
Sovereigns	14,641	-	-
Public sector entities	104,216	-	-
Banks	21,005	224	-
Corporates	180,910	25	209
	320,772	249	209
Credit equivalent amounts/ net credit			
exposures	12,482	32	87
	,		
Risk-weighted amounts	8,330	27	87
2007	OTC derivative transactions	Repo-style transactions	Credit derivative contracts
2007	HK\$m	HK\$m	HK\$m
Notional amounts	1112¢111	1114111	11124111
Sovereigns	160,807	13,395	795
Public sector entities	46,152	· -	_
Banks	14,700,955	199,624	617,521
Corporates	2,541,937	35,639	90,102
	17,449,851	248,658	708,418
Credit equivalent amounts/ net credit			
exposures	153,953	43,184	22,802
Risk-weighted amounts	65,025	9,162	7,523

6 Counterparty credit risk-related exposures (continued)

f Risk exposures to derivative transactions

2008	Notional amount HK\$m	Risk- weighted amount HK\$m	Fair value HK\$m
Exchange rate contracts			
- forward	4,174,573	24,530	38,675
- option purchased	254,772	10,394	13,719
- swap	1,196,579	16,872	20,977
	5,625,924	51,796	73,371
Interest rate contracts			
- forward	275,615	919	1,395
- option purchased	181,641	726	1,980
- swap	9,053,697	24,158	33,297
•	9,510,953	25,803	36,672
Credit derivative contracts	780,460	2,869	2,288
Other OTC derivative contracts	181,901	9,552	22,024
	16,099,238	90,020	134,355
2007	Notional amount HK\$m	Risk- weighted amount HK\$m	Fair value HK\$m
Exchange rate contracts			44.040
- forward	1,542,620	13,281	11,018
- option purchased	946,923 4,446,445	10,903	2,458
- swap	6,935,988	21,495 45,679	16,829 30,305
	0,733,700	43,077	30,303
Interest rate contracts			
- forward	221,790	38	20
- option purchased	394,679	911	1,005
- swap	9,751,016	13,124	22,273
	10,367,485	14,073	23,298
Credit derivative contracts	708,418	7,523	4,927
Other OTC derivative contracts	146,378	5,273	24,104
	18,158,269	72,548	82,634

The table above gives the notional amounts, risk-weighted amounts and the fair value of derivative exposures. The information is consistent with that in the 'Capital Adequacy Ratio' return submitted to the Hong Kong Monetary Authority ('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. Therefore, the notional amounts in the above table are different from those disclosed in Note 16 of the 2008 Annual Report and Accounts.

The fair values are calculated after taking into account the effect of valid bilateral netting agreements amounting to HK\$308,134 million (2007: HK\$103,324 million).

6 Counterparty credit risk-related exposures (continued)

g Notional amounts of credit derivatives contracts which create exposures to counterparty credit risk

	2008 HK\$m	2007 HK\$m
Used for credit portfolio		
Credit default swap		
Protection bought	7,721	7,346
Protection sold	1,201	819
Total return swap		
Protection bought	3,025	12,549
Protection sold	-	_
	11,947	20,714
Used for intermediation activities		
Credit default swap		
Protection bought	385,974	339,552
Protection sold	382,209	342,527
Total return swap		
Protection bought	330	5,009
Protection sold	-	616
	768,513	687,704

7 Credit risk mitigation

Mitigation of credit risk is an important aspect of effective management and takes many forms.

In terms of IRB parameters, risk mitigants are considered in two broad categories: first, those which reduce the intrinsic probability of default of an obligor and therefore operate as adjustments to PD estimation, and second, those which affect estimated recoverability of obligations and require adjustment of LGD/EAD. The first includes, for example, full parental guarantees; the second, collateral security of various kinds such as cash or mortgages over residential property or third party guarantees.

For wholesale exposures, LGD values are determined by reference to parameters provided by the Hong Kong Monetary Authority. For retail portfolios, credit mitigation data is incorporated into the internal risk parameters for risk exposures and feeds continuously into the calculation of the expected loss band value summarising both customer delinquency and product or facility risk. Credit and risk mitigation data forms part of the inputs submitted to a centralised database, upon which a risk engine then performs calculations by applying the relevant Basel II rules and approach.

The main types of recognised collateral taken by the group are those as stated in Section 80 of the Banking (Capital) Rules, including (but not limited to) cash on deposit, gold bullion, 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. In order for corporate guarantees to be recognised as credit risk mitigants, the guarantor must have an external rating or an estimated PD which is deemed to be equivalent to a credit rating of A- or better by Standard & Poor's Ratings Services, Fitch Ratings or Rating and Investment Information, Inc, or a credit rating of A3 or better by Moody's Investors Service. For sovereign and bank guarantees, these exposures are managed by central teams in HSBC Group Head Office in London.

For credit derivative contracts such as credit default swaps or total return swaps, banks are the main type of protection sellers to the group and these exposures are managed centrally by the Group Head Office.

The group's policy provides that netting only be applied where there is a legal right to do so. Under the Banking (Capital) Rules, 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.

It is the group's policy that all facilities in wholesale portfolios be reviewed (and hence collateral revalued) at least on an annual basis. Where facilities have been overdue for more than 90 days and are secured by tangible assets, the collateral must be revalued at least every 3 months.

For residential mortgages, valuations are updated at a minimum of once every three years. Residential real estate portfolios exceeding USD500m follow this approach through the consistent use of reputable local house or real estate price indices and/or in-house estimates. Where the market is subject to significant changes in conditions, revaluations are made more frequently. For those residential real estate portfolios which are calculated under the IRB approach regardless of the portfolio size, update of valuations is performed at a minimum once every year.

For accounts more than 90 days past due, an updated valuation of the mortgaged property is required upon downgrading. An updated valuation is obtained on an annual basis or earlier if there is reason to believe that the value of the property has declined.

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.

8 Asset securitisation

Starting from 2008, the group has used the internal ratings-based (securitisation) approach to calculate the credit risk for securitisation exposures. In 2007, the group used the standardised (securitisation) approach.

a Investing institution

The group is an investing institution for all classes of exposures below. In some cases the group also has other roles (for example, as a swap provider).

Standard & Poor's Rating Services, Moody's Investors Services, Fitch Ratings and Rating and Investment Information, Inc. are the External Credit Assessment Institutions that the group has used in relation to each and all classes of securitisation exposures below.

Securitisation exposures under the internal ratings-based (securitisation) approach

	2008
	HK\$m
Residential mortgage loans	28,128
Student loans	11,080
Commercial mortgage loans	10,824
Others	29,789
Total amount of securitisation exposures	79,821

Breakdown by risk-weights of the securitisation exposures

		2000	
	Securitisation	Risk-weighted	Capital
Risk-weight	exposures	amount	requirements
	HK\$m	HK\$m	HK\$m
7%	78,347	5,813	465
8%	1,049	89	7
Deducted from capital	425	-	-
	79,821	5,902	472

2008

Exposures deducted from Core Capital or Supplementary Capital

	HK\$m
Residential mortgage loans	347
Commercial mortgage loans	19
Others	59_
	425

Securitisation exposures under the standardised (securitisation) approach

becarrisation exposures under the standardised (securitisation) approach	
	2007
	HK\$m
Residential mortgage loans	6,460
Student loans	2,256
Commercial mortgage loans	763
Others	449
Total amount of securitisation exposures	9,928
Risk-weighted amount	2,017
Capital requirements	161
Exposures deducted from Core Capital or Supplementary Capital	

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 per cent.

2008

8 Asset securitisation (continued)

b Originating institution

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 purposes 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 assumption concerns the appropriate value to be attributed to the counterparty credit risk for securitisation. This requires exposure at default, probability of default and recovery in the event of default to be estimated

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 all classes of exposures below. The group does not report any amounts under the internal ratings-based (securitisation) approach and therefore the risk-weighted amounts, the capital requirements and the amounts deducted from core capital under the internal ratings-based (securitisation) approach are all nil.

(i) Securitisations where the group continues to retain exposure

	2008	2007
	HK\$m	HK\$m
Traditional securitisations:		
Residential mortgage loans	3,275	5,240
Synthetic securitisations		
•		1.000
Commercial loans	<u> </u>	1,883

- (ii) The group did not originate any securitisation transactions during the year.
- (iii) Securitisation exposures of the institution resulting from the securitisation transactions in which the institution acted as a sponsor

	2008	2007
	HK\$m	HK\$m
Residential mortgage loans	1,719	-
Commercial loans	10,148	8,159
Others	3,148	_
Total amount of securitisation exposures	15,015	8,159

- (iv) There were no material impaired or overdue exposures securitised during the year and there were no losses recognised during the reporting period.
- (v) There were no securitisation transactions repurchased by the group during the year.
- (vi) There were no securitisation transactions entered into during the year that were subject to an early amortisation provision.

9 Market risk

The group uses the internal models approach to calculate general 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

	2008	2007
	HK\$m	HK\$m
Interest rate exposures	3,177	4,965
Equity options	174	599
Other equity exposures	214	199
General market risk	1,043	636
Capital charge for market risk	4,608	6,399

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

Historic Simulation is used to model foreign currency and general interest rate risk, generated by revaluing the portfolio for each of 500 historical scenarios from 1-day market movements, and are derived from a clean two-year time series of historic market risk factor data.

For equity options a conservative market risk measurement on Disaster Limit Matrix is taken with the worst case scenario for each underlying aggregated in absolute.

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 in Global Markets with trading book portfolios adopt the Group's Historic Simulation VAR approach.

Characteristics and coverage of market risk model

The VAR models cover all material sources of price risk relating to foreign exchange risk and general 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 interest rate curves and interest rate option volatilities.

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

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

Historical, hypothetical and technical scenario stress testing is performed on positions on a weekly basis.

Back-testing of the interest rate and foreign exchange model uses clean 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 rolling year basis.

Back-testing the trading VAR model with actual profit and loss involves tracking the trading VAR with next day actual profit and loss. It will be regarded as a loss side exception if actual loss exceeds loss side trading VAR.

10 Operational risk

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

	2008	2007
	HK\$m	HK\$m
Capital charge for operational risk	15,003	12,550

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 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 4(g) & (h) on the financial statements. Included within this category are 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.

Realised gains from sales for the year	2008 HK\$m 1,853	2007 HK\$m 737
Unrealised gains:		
Amount included in reserves but not through income statement	19,456	59,364
Amount included in supplementary capital	582	3,900

12 Interest rate exposures in the banking book

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. The group monitors the sensitivity of projected net interest income under varying interest rate scenarios (simulation modelling) on a monthly basis.

For simulation modelling, businesses use a combination of scenarios relevant to local businesses and local markets and standard scenarios which are required throughout the 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 an incremental 25 basis points parallel fall or rise in all yield curves at the beginning of each quarter during the 12 months from 1 January 2009. Assuming no management actions, the sensitivity of projected net interest income is as follows:

	HK\$m
Change in 2009 projected net interest income arising from a shift in yield curves of:	
+25 basis points at the beginning of each quarter	(86)
-25 basis points at the beginning of each quarter	(3,170)
Change in 2008 projected net interest income arising from a shift in yield curves of:	
+25 basis points at the beginning of each quarter	1,084
-25 basis points at the beginning of each quarter	(271)

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 proforma 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 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 all positions run to maturity.

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 Global Markets.

- Core deposit franchises: these are exposed to changes in the cost of deposits raised and spreads on wholesale funds. 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 Global Markets, under the group's policy of transferring interest rate risk to Global Markets to be managed within defined limits and with flexibility as to the instruments used.

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

- Decreases in interest rates which have restricted the group's ability to pass on further rate reductions to depositors thereby increasing exposures to further rate falls; and
- Global Markets increased 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 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 per cent. 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:

	2008	2007
Hong Kong branches of the Bank	51.2%	57.0%

14 Off-balance sheet exposures other than derivative transactions

Contract amounts	2008 HK\$m	2007 HK\$m
Direct credit substitutes	60,136	84,428
Transaction-related contingencies	73,847	77,995
Trade-related contingencies	72,541	86,225
Forward asset purchases	4,441	1,968
Forward forward deposits placed	696	-
Commitments that are unconditionally cancellable without prior notice	983,881	946,574
Commitments which have an original maturity of not more than one year	42,874	73,192
Commitments which have an original maturity of more than one year	72,723	93,381
	1,311,139	1,363,763
Risk-weighted amounts	118,991	173,658

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 Hong Kong Monetary Authority ('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 the purposes of these financial statements, 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.

15 Principal subsidiaries and basis of consolidation

The basis of consolidation for accounting purposes is in accordance with HKFRS.

The major subsidiaries of the Bank for accounting purposes are:

Hang Seng Bank Limited HSBC Bank (China) Company Limited HSBC Bank Australia 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 the consolidation for regulatory purposes are specified in a notice from the Hong Kong Monetary Authority 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 14 the principal subsidiaries that are not included in the consolidation for regulatory purpose are:

HSBC Insurance (Asia Pacific) Holdings Limited

HSBC Securities Japan Limited

Hang Seng General Insurance (Hong Kong) Company Limited

Hang Seng Insurance Company Limited

The group operates subsidiaries in a number of countries and territories where capital will be 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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