### 1. Regulatory capital for credit, market and operational risks

The bases of regulatory capital calculation for credit risk, market risk and operational risk are described in Note 4.5 to the Financial Statements.

As a result of the adoption of Banking (Capital) (Amendment) Rules 2012 and Banking (Capital) (Amendment) Rules 2013 since 1 January 2013 and 30 June 2013 respectively, the capital disclosures for 2013 are not directly comparable to those of 2012.

The financial information contained in these supplementary notes has been prepared on a consolidated basis that comprises the positions of BOCHK and certain subsidiaries specified by the HKMA for its regulatory purposes and in accordance with the Banking (Capital) Rules. Subsidiaries that are not included in the consolidation for regulatory purposes in respect of calculation of capital ratios are set out in Note 4.5(A) to the Financial Statements.

The table below summarises the regulatory capital computed on the same consolidation basis for credit, market, and operational risks.

	2013 HK\$′m	2012 HK\$'m
Credit risk Market risk Operational risk	65,327 1,329 5,038	56,343 906 4,421
	71,694	61,670

For details of capital management and capital ratios of the Group, please refer to Note 4.5 to the Financial Statements.

### 2. Capital requirements for credit risk

The tables below show the capital requirements for each class and subclass of credit risk exposures as specified in the Banking (Capital) Rules.

	2013 HK\$'m
Capital required for exposures under the IRB approach	
Corporate	
Specialised lending under supervisory slotting criteria approach	
– Project finance	76
Small-and-medium sized corporate	3,946
Other corporates	33,669
Bank	
Banks	16,179
Securities firms	77
Retail	
Residential mortgages	
– Individuals	985
<ul> <li>Property-holding shell companies</li> </ul>	46
Qualifying revolving retail	866
Small business retail	70
Other retail to individuals	502
Others	
Cash items	
Other items	6,084
Securitisation	8
Credit valuation adjustment	515
Total capital requirements for exposures under the IRB approach	63,023
Capital required for exposures under the standardised (credit risk) approach On-balance sheet exposures Sovereigns	82
Public sector entities	63
Multilateral development banks	-
Banks	18
Securities firms	-
Corporate	726
Regulatory retail	526
Residential mortgage loans	342
Other exposures which are not past due	288
Past due exposures	4
Off-balance sheet exposures	
Off-balance sheet exposures other than securities financing transactions	
and derivative contracts	233
Securities financing transactions and derivative contracts	22
Securitisation	-
Total capital requirements for exposures under the standardised	
(credit risk) approach	2,304
Total capital requirements for credit risk exposures	65,327

## 2. Capital requirements for credit risk (continued)

	2012 HK\$'m
Capital required for exposures under the IRB approach	
Corporate	
, Specialised lending under supervisory slotting criteria approach	
– Project finance	115
Small-and-medium sized corporate	3,726
Other corporates	31,896
Bank	
Banks	9,180
Securities firms	7
Retail	· · ·
Residential mortgages	
– Individuals	674
– Property-holding shell companies	42
Qualifying revolving retail	836
Small business retail	79
Other retail to individuals	403
Others	405
Cash items	
Other items	— Г 970
Other items	5,879
Securitisation	12
otal capital requirements for exposures under the IRB approach	52,849
Capital required for exposures under the standardised (credit risk) approach On-balance sheet exposures	1 2 2 2
Sovereigns	1,333
Public sector entities	43
Multilateral development banks	-
Banks	6
Securities firms	-
Corporate	1,156
Regulatory retail	379
Residential mortgage loans	231
Other exposures which are not past due	105
Past due exposures	3
Off-balance sheet exposures	
Off-balance sheet exposures other than OTC derivative transactions and	
credit derivative contracts	231
OTC derivative transactions	7
Securitisation	-
otal capital requirements for exposures under the standardised	
(credit risk) approach	3,494
otal capital requirements for credit risk exposures	56,343

### 3. Credit risk under the internal ratings-based approach

#### 3.1 The internal rating systems and risk components

The Group adopts the FIRB approach to calculate the regulatory capital requirements for most of the corporate and bank exposures, and adopts the supervisory slotting criteria approach to project finance exposures under "specialised lending". The Group adopts retail IRB approach for retail exposures to individuals and small business. The following is the table showing the Group's different capital calculation approaches to each asset class and sub-classes of exposures (other than securitisation exposures).

Asset class	Exposure sub-class	Capital calculation approach
Corporate exposures	Specialised lending under supervisory slotting criteria approach (project finance)	Supervisory Slotting Criteria Approach
	Small-and-medium sized corporates	FIRB Approach
	Other corporates	
Sovereign exposures	Sovereigns	Standardised (credit risk)
	Sovereign foreign public sector entities	Approach
	Multilateral development banks	
Bank exposures	Banks	FIRB Approach
	Securities firms	
	Public sector entities (excluding sovereign foreign public sector entities)	Standardised (credit risk) Approach
Retail exposures	Residential mortgages to individuals	Retail IRB Approach
	Residential mortgages to property- holding shell companies	
	Qualifying revolving retail	
	Small business retail	
	Other retail to individuals	
Equity exposures		Standardised (credit risk) Approach
Other exposures	Cash items	Specific Risk-weight Approach
	Other items	

### 3. Credit risk under the internal ratings-based approach (continued)

#### 3.1 The internal rating systems and risk components (continued)

# (A) The structure of internal rating systems and the relationship between internal ratings and external ratings

The Group's internal rating system is a two dimensional rating system that provides separate assessment of borrower and transaction characteristics. For corporate and bank portfolios, the obligor rating dimension reflects exclusively the risk of borrower default and the facility rating dimension reflects transaction specific factors that affect the loss severity in the case of borrower default.

The Group developed statistical models to provide own estimated probability of default ("PD") for its corporate, bank and retail borrowers, and loss given default ("LGD") and exposure at default ("EAD") for retail exposures under retail IRB approach.

The Group uses internal rating system to assess the borrower's likelihood of default for all IRB portfolios. PD estimates the risk of borrower default over a one-year period. A borrower credit grade means a grouping of similar credit-worthiness to which borrowers are assigned on the basis of specified and distinct set of rating criteria, from which the average PD are derived for RWA calculation.

In the process of obligor rating assignment, variables of latest financial performance, management quality, industry risks, group connection and negative warning signals of each obligor are assessed as critical factors to predict borrower's ability and willingness to meet with the contractual obligations under different economic conditions.

The obligors for corporate and bank, and retail PD pools are assigned into eight broad obligor ratings including seven grades for non-defaulted obligors with sub-divisions into 26 minor credit grades and one for defaulted obligors. In the supervisory slotting criteria approach for the project finance exposures, there are four grades for non-defaulted borrowers and one for defaulted borrowers in accordance with the HKMA guidance. The estimates for retail IRB portfolios are pooled by nature of obligors, facility types, collateral types and delinquency status into different PD, EAD and LGD pools. This pooling process provides the basis of accurate and consistent estimation for PD, LGD and EAD at the pool level for exposures arising from residential mortgages to both individuals and property-holding shell companies, gualifying revolving retail exposures and other retail exposures to individuals and small business retail exposures. All credit transactions for corporates and banks are assigned facility ratings (in terms of LGD) in accordance with the HKMA guidance. LGD estimates multiplied by the PD estimates produce the expected loss ("EL") estimates, which are used to assess credit risk quantitatively.

### 3. Credit risk under the internal ratings-based approach (continued)

#### 3.1 The internal rating systems and risk components (continued)

(A) The structure of internal rating systems and the relationship between internal ratings and external ratings (continued)

For each internal rating, the equivalent external rating in terms of default risk is as below:

Internal Credit Grades	Definition of Internal Ratings	Standard & Poor's Equivalent
1	1 The obligors in grades "1" and "2" have extremely low default risk.	
2	The obligor's capacity to meet its financial commitment on the obligation is extremely	AA+
	strong.	AA
		AA-
3	The obligors in grade "3" have low default risk but are somewhat susceptible to the	A+
	adverse effects of changes in circumstances and economic conditions. However, the obligor's capacity to meet its financial commitment on the obligation is	А
	very strong.	A-
4	The obligors in grade "4" have relatively low default risk and are currently under	BBB+
	adequate protection. However, adverse economic conditions or changing circumstances are likely to lead	BBB
	to a weakened capacity of the obligor to meet its financial commitment on the obligation.	
5	5 The obligors in grade "5" have medium default risk which are less vulnerable to nonpayment than other speculative obligors. However, they face major ongoing uncertainties or exposure to adverse business, financial, or economic conditions which could lead to the obligor's inadequate capacity to meet its financial commitment on the obligation.	
6	The obligors in grade "6" have significant to very high default risk and are vulnerable	B+
	to nonpayment.	В
	The obligors currently and in the near term have the capacity to meet its financial commitment on the obligation but adverse business, financial, or economic conditions will very likely impair the obligor's capacity or willingness to meet its financial commitment on the obligation.	
7	The obligors in grade "7" have very high default risk and are currently quite	ССС
	vulnerable to nonpayment. The obligors' ability to meet their financial commitment and obligation are dependent upon favorable business, financial, and economic conditions.	
	In the event of adverse business, financial, or economic conditions, these obligors are not likely to have the capacity to meet its financial commitment on the obligation.	
8	Obligors rated "8" are in payment default.	D

### 3. Credit risk under the internal ratings-based approach (continued)

#### 3.1 The internal rating systems and risk components (continued)

#### (B) Use of internal estimates

Besides using PD estimates for regulatory capital calculation in corporate and bank exposures, the Group uses the PD together with the LGD and EAD estimates in the credit approval, credit monitoring, reporting and analysis of credit risk information, etc., for the purpose of strengthening the daily management on all credit related matters.

#### (C) Process of managing and recognising credit risk mitigation

For those collaterals recognised under capital management, the Group has well-defined policies and procedures for collateral valuation and management which are compliant with the operational requirements for recognised collateral of credit risk mitigation as stated in the Banking (Capital) Rules.

For the credit exposures adopting FIRB approach for capital calculation purpose, the recognised eligible guarantees include the guarantees provided by banks, corporates and securities firms with a lower risk weights than the counterparty. The Group takes into account the credit risk mitigation effect of recognised collaterals through its determination of the net credit exposures and the effective LGD.

For retail IRB approach, the effect of the credit risk mitigation is incorporated into the internal risk parameters of PD or LGD depending on the nature of the guarantees and collaterals for calculating the risk exposures.

The credit and market risk concentrations within the credit risk mitigation (recognised collateral and guarantees for capital calculation) used by the Group are under a low level.

Up to the date of report, for capital calculation, except OTC derivative transactions cleared by central counterparties, the Group has not used any other on-balance sheet or off-balance sheet recognised netting for credit risk mitigation. The Group also has not used any recognised credit derivative contracts for credit risk mitigation.

#### (D) The control mechanisms used for internal rating systems

The Group has established a comprehensive control mechanism to ensure the integrity, accuracy and consistency of the rating systems including the processes for using the risk components in the day-to-day business to assess credit risk.

All of IRB risk models are approved by the RC of the Board on the recommendation of the Group's Basel Steering Committee ("SC"). The Basel SC supervises the use of these internal rating models for risk identification and assessments in the Group's credit decisions.

In order to achieve reasonably accurate risk ratings assignment, the Group has established a rating approval process which is independent of the sales and marketing units. Since internal rating is one of the key inputs to credit decision making, a control mechanism is put in place to ensure the integrity, accuracy and consistency of the rating assignment. For the wholesale (corporate and bank) credit portfolio, internal ratings are normally approved by credit officers who are functionally separated from the sales and marketing units. In some cases where the transactions are in small amount and of very low credit risk, the credit ratings can be assigned and approved by staff within the sales and marketing units, subject to the periodic post-approval review of ratings by RMD and other credit monitoring units.

### 3. Credit risk under the internal ratings-based approach (continued)

#### 3.1 The internal rating systems and risk components (continued)

#### (D) The control mechanisms used for internal rating systems (continued)

The rating assignment and risk quantification process of retail portfolio are highly automated. As an integral part of the daily credit assessment process, the accuracy and completeness of data input for automatic rating assignment are verified by units independent from business development function.

The obligor rating is reviewed at least annually as required by the Group's credit risk policy. When credit events occur to the obligor, rating review is triggered promptly in accordance with the Group's credit risk policy.

Rating override is designed to allow the credit analyst to include any other relevant credit information that has not yet been captured in the rating models. For reasons of conservatism and prudential considerations, overrides are unlimited in terms of downgrades but more restricted for upgrades. All upgrades will be limited to a maximum of two sub-grades supported by a very narrowly pre-defined list of appropriate reasons. All overrides need to be signed off by a higher level of credit approval authority. The internal rating policy sets a trigger point of 10% overrides on rating cases. The use of overrides and override reasons are analysed as part of performance review on IRB rating models.

The performance of internal rating system is put under ongoing periodic monitoring. The senior management periodically reviews the performance and predictive ability of the internal rating system. The effectiveness of the internal rating system and processes are reviewed by independent control functions. The model maintenance unit conducts assessment on the discriminatory power, accuracy and stability of the rating systems while the validation unit performs comprehensive review of the internal rating system. Internal audit reviews the internal rating system and the operations of the related credit risk control units. The results of the review are reported to the Board and senior management regularly.

A model validation team which is independent from the model development unit and rating assignment units, conducts periodic model validations using both qualitative and quantitative analysis. Model acceptance standards are established to ensure the discriminatory power, accuracy and stability of the rating systems meet regulatory and management requirements. Review of a rating model will be triggered if the performance of the model deteriorates materially against pre-determined tolerance limits.

#### (E) Approach for determining provisions

The approach in determining provisions is in line with the Group's accounting policies. For details, please refer to Note 2.14 "Impairment of financial assets" to the Financial Statements.

### 3. Credit risk under the internal ratings-based approach (continued)

### 3.2 Exposures by IRB calculation approach

The tables below show the Group's exposures other than securitisation exposures (including the EAD of on-balance sheet exposures and off-balance sheet exposures) by each IRB calculation approach.

	2013				
	Foundation IRB Approach HK\$'m	Supervisory Slotting Criteria Approach HK\$'m	Retail IRB Approach HK\$'m	Specific Risk-weight Approach HK\$'m	Total exposures HK\$'m
Corporate	741,926	851	-	-	742,777
Bank	565,535	-	-	-	565,535
Retail Residential mortgages to individuals and property-					
holding shell companies	-	-	211,727	-	211,727
Qualifying revolving retail Other retail to individuals and	-	-	57,868	-	57,868
small business retail	-	-	37,110	-	37,110
Others		-	_	196,371	196,371
Total	1,307,461	851	306,705	196,371	1,811,388

	2012				
	Foundation IRB Approach HK\$'m	Supervisory Slotting Criteria Approach HK\$'m	Retail IRB Approach HK\$'m	Specific Risk-weight Approach HK\$'m	Total exposures HK\$'m
Corporate Bank Retail Residential mortgages to individuals and property-	640,927 429,712	1,391 –	-	-	642,318 429,712
holding shell companies Qualifying revolving retail Other retail to individuals and	-	-	209,677 55,256	-	209,677 55,256
small business retail Others	-	-	31,938 -	– 163,857	31,938 163,857
Total	1,070,639	1,391	296,871	163,857	1,532,758

### 3. Credit risk under the internal ratings-based approach (continued)

#### 3.3 Exposures subject to supervisory estimates under the IRB approach

The table below shows the total EAD of the Group's exposures subject to supervisory estimates under the use of IRB approach (including the specialised lending subject to the supervisory slotting criteria approach).

	2013 HK\$′m	2012 HK\$'m
Corporate Bank Others	742,777 565,535 196,371	642,318 429,712 163,857
	1,504,683	1,235,887

#### 3.4 Exposures covered by credit risk mitigation used

#### (A) Exposures covered by recognised collateral

The table below shows the Group's exposures (after the effect of any on-balance sheet or off-balance sheet recognised netting) which are covered by recognised collateral after the application of haircuts required under the Banking (Capital) Rules. The exposures as at 31 December 2013 exclude securities financing transactions and derivative contracts while those as at 31 December 2012 exclude OTC derivative transactions and repo-style transactions.

	2013 HK\$′m	2012 HK\$'m
Corporate Bank Others	107,841 1,889 –	97,907 440 -
	109,730	98,347

#### (B) Exposures covered by recognised guarantees

The table below 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 after the application of haircuts required under the Banking (Capital) Rules. The exposures as at 31 December 2013 exclude securities financing transactions and derivative contracts while those as at 31 December 2012 exclude OTC derivative transactions and repo-style transactions.

	2013 HK\$'m	2012 HK\$'m
Corporate Bank Retail Others	142,723 17,406 –	20,834 17,451 –
	160,129	38,285

### 3. Credit risk under the internal ratings-based approach (continued)

#### 3.5 Risk assessment for corporate and bank exposures under IRB approach

The tables below detail the Group's total EAD of corporate and bank exposures by exposure-weighted average risk-weight and exposure-weighted average PD for each obligor grade as at 31 December.

The EAD and PD disclosed below in respect of corporate and bank exposures have taken into account the effect of recognised collateral, recognised netting and recognised guarantees. The Group did not have any recognised credit derivative contracts.

For definition of each obligor grade, please refer to page 247.

# (A) Corporate exposures (other than specialised lending under supervisory slotting criteria approach)

		2013		
Internal Credit Grades	Exposure at default HK\$'m	Exposure- weighted average risk-weight %	Exposure- weighted average PD %	
Grade 1	-	-	-	
Grade 2	20,498	20.38	0.03	
Grade 3	177,400	26.72	0.08	
Grade 4	254,284	44.08	0.23	
Grade 5	193,997	78.28	1.07	
Grade 6	92,999	132.60	5.54	
Grade 7	492	211.60	22.51	
Grade 8/Default	2,256	162.90	100.00	
	741,926			

		2012		
Internal Credit Grades	Exposure at default HK\$'m	Exposure- weighted average risk-weight %	Exposure- weighted average PD %	
Grade 1 Grade 2 Grade 3 Grade 4 Grade 5 Grade 6 Grade 7 Grade 8/Default	- 22,607 163,693 152,425 199,136 100,041 1,272 1,753	- 16.14 24.50 45.17 84.56 133.52 220.60 153.97		
	640,927	. 33.37	100.00	

### 3. Credit risk under the internal ratings-based approach (continued)

3.5 Risk assessment for corporate and bank exposures under IRB approach (continued)

(B) Corporate exposures (specialised lending under supervisory slotting criteria approach)

	2013		2012	
Supervisory Rating Grades	Exposure at default HK\$'m	Exposure- weighted average risk-weight %	Exposure at default HK\$'m	Exposure- weighted average risk-weight %
Strong	171	70.00	16	70.00
Good	-	-	953	90.00
Satisfactory	680	115.00	422	115.00
Weak	-	-	-	-
Default	-	-	-	-
	851		1,391	

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

#### (C) Bank exposures

		2013	
Internal Credit Grades	Exposure at default HK\$'m	Exposure- weighted average risk-weight %	Exposure- weighted average PD %
Grade 1	-	-	-
Grade 2	63,883	22.22	0.04
Grade 3	388,691	29.85	0.06
Grade 4	106,471	52.82	0.19
Grade 5	6,446	80.23	0.68
Grade 6	44	132.12	2.78
Grade 7	-	-	-
Grade 8/Default	-	-	-
	565,535		

### 3. Credit risk under the internal ratings-based approach (continued)

## 3.5 Risk assessment for corporate and bank exposures under IRB approach (continued)

(C) Bank exposures (continued)

		2012	
Internal Credit Grades	Exposure at default HK\$'m	Exposure- weighted average risk-weight %	Exposure- weighted average PD %
Grade 1	_	_	_
Grade 2	41,148	16.89	0.04
Grade 3	314,401	22.34	0.06
Grade 4	72,441	41.53	0.20
Grade 5	1,711	62.29	0.56
Grade 6	11	53.36	5.02
Grade 7	-	-	-
Grade 8/Default	-	-	-
	429,712		

#### 3.6 Risk assessment for retail exposures under IRB approach

The tables below show breakdown of retail exposures on a pool basis by expected loss percentage (EL%) range as at 31 December.

#### **Residential mortgages**

	2013 HK\$'m	2012 HK\$'m
Up to 1% >1% Default	210,430 1,199 98	208,576 969 132
	211,727	209,677

#### **Qualifying revolving retail**

	20 <sup>-</sup> HK\$'	
Up to 10% >10% Default	57,20	
	57,80	<b>55</b> ,256

### 3. Credit risk under the internal ratings-based approach (continued)

#### **3.6** *Risk assessment for retail exposures under IRB approach (continued)* Other retail

	2013 HK\$'m	2012 HK\$'m
Up to 2% >2% Default	27,513 348 81	21,895 248 78
	27,942	22,221

#### Small business retail

	2013 HK\$′m	2012 HK\$'m
Up to 1% >1% Default	8,936 175 57	9,459 209 49
	9,168	9,717

#### 3.7 Analysis of actual loss and estimates

The table below shows the actual losses broken down by class of risk exposure, which represent the net charges (including write-offs and individually assessed impairment allowances) made by each class of exposures under the internal ratings-based approach for the year.

	2013 HK\$'m	2012 HK\$'m
Corporate	285	488
Bank	-	-
Residential mortgages to individuals and property-holding shell companies	_	_
Qualifying revolving retail	159	127
Other retail to individuals	12	12
Small business retail	21	12
	477	639

Decrease in the loan impairment charge of corporate exposures was mainly due to the decrease in the amount of new classified or impaired loans in 2013.

### 3. Credit risk under the internal ratings-based approach (continued)

#### 3.7 Analysis of actual loss and estimates (continued)

The table below shows the expected loss broken down by class of risk exposure, which is the estimated loss likely to be incurred arising from the potential default of the obligors in respect of the exposure over a one-year period.

	Expected loss at 31 December 2012 HK\$'m	Expected loss at 31 December 2011 HK\$'m
Corporate Bank Residential mortgages to individuals and	4,428 164	2,914 189
property-holding shell companies	98	93
Qualifying revolving retail Other retail to individuals Small business retail	329 84 31	309 111 32
	5,134	3,648

The tables below set out the actual default rate compared against the estimated PD of the respective portfolio.

	Actual default rate during 2013 %	Estimated PD at 31 December 2012 %
Corporate	0.33	1.88
Bank	-	0.48
Residential mortgages to individuals and		
property-holding shell companies	0.04	0.62
Qualifying revolving retail	0.17	0.60
Other retail to individuals	0.61	1.70
Small business retail	0.69	1.35

	Actual default	Estimated PD at
	rate during	31 December
	2012	2011
	%	%
Corporate	0.49	1.81
Bank	-	0.48
Residential mortgages to individuals and		
property-holding shell companies	0.04	0.62
Qualifying revolving retail	0.17	0.61
Other retail to individuals	0.76	1.75
Small business retail	0.58	1.34

### 3. Credit risk under the internal ratings-based approach (continued)

#### 3.7 Analysis of actual loss and estimates (continued)

It should be noted that expected loss and actual loss are measured and calculated using different methodologies compliant with relevant regulatory and accounting standards, which therefore may not be directly comparable. The limitation arises mainly from the fundamental differences in the definition of "loss". The expected loss under Basel Accord which estimates the economic loss arising from the potential default of the obligor by taking into account the time value of money and including the direct and indirect costs associated with the recoveries on the credit exposures during the workout process, while actual loss is the net charge of individually assessed impairment allowances and write-offs made during the year in accordance with the accounting standards.

The actual default rate is measured by using the number of obligors (for wholesale exposures) or number of accounts (for retail exposures) defaulted whereas the estimated probability of default is an estimate of the long run average default rate over an economic cycle and is the estimated one-year forward-looking PD from the date of rating assignment.

Hence, actual default rate in a particular year ("point-in-time") will typically differ from the estimated probability of default which is the "through-the-cycle" estimates as economies move above or below the cyclical norms.

The estimated probability of default is more conservative than the actual default rate for all asset classes.

### 4. Credit risk under the standardised (credit risk) approach

#### 4.1 Use of ratings from External Credit Assessment Institutions ("ECAI")

The Group continues to adopt STC approach based on external credit rating to determine the risk weight of the small residual credit exposures that was approved by HKMA to be exempted from FIRB approach and the following asset classes of exposures:

- Sovereign
- Public sector entity
- Multilateral development bank

The Group performs the ECAI issuer ratings mapping to its exposures in banking book in accordance with Part 4 of the Banking (Capital) Rules. The ECAIs recognised by the Group include Standard & Poor's, Moody's and Fitch.

#### 4.2 Credit risk mitigation

For credit exposures adopting STC approach, the main types of recognised collaterals include cash deposits, debt securities and equities for non-past due exposures. In addition, real estate collateral is also recognised for past due exposures. The treatment of recognised collateral is compliant with the comprehensive approach for credit risk mitigation as mentioned in the Banking (Capital) Rules. For credit exposures under STC approach, the recognised guarantees for capital calculation include the guarantees given by sovereigns, public sector entities, multilateral development banks, or banks and those corporates with ECAI issuer ratings both exempted from FIRB approach for credit exposures, that have lower risk weights than the counterparty.

### 4. Credit risk under the standardised (credit risk) approach (continued)

4.3 Credit risk exposures other than securitisation exposures under the standardised (credit risk) approach

				2013			
-	Total		iter CRM*	Risk-weighted amount		exposures covered by recognised	Total exposures covered by recognised guarantees ou recognised credit derivative
	Exposures HK\$'m	Rated HK\$'m	Unrated HK\$'m	Rated HK\$'m	Unrated HK\$'m	collateral HK\$'m	contracts HK\$'m
On-balance sheet exposures							
Sovereign	193,015	194,586	_	1,026	_	_	_
Public sector entity	26,605	26,530	_	784	_	-	191
Multilateral development bank	21,096	21,096	_	_	_	_	_
Bank	508	362	146	74	146	_	_
Securities firm	_	_	_	_	_	_	_
Corporate	11,424	1,572	8,241	844	8,241	231	1,380
Cash item	. 1		1	_	_	_	_
Regulatory retail	8,987	_	8,762	_	6,572	225	-
Residential mortgage loans	8,665	-	8,549	-	4,274	-	116
Other exposures which are not							
past due	3,335	-	2,826	-	3,600	509	-
Past due exposures	47	-	47	-	55	30	-
Total for on-balance sheet exposures	273,683	244,146	28,572	2,728	22,888	995	1,687
Off-balance sheet exposures Off-balance sheet exposures other than securities financing transactions and derivative contracts Securities financing transactions	4,425	1,847	2,578	424	2,489	-	355
and derivative contracts	404	13	391	1	268	39	-
Total for off-balance sheet exposures	4,829	1,860	2,969	425	2,757	39	355
Total for non-securitisation exposures	278,512	246,006	31,541	3,153	25,645	1,034	2,042
Exposures that are risk-weighted at 1,250%	_						

### 4. Credit risk under the standardised (credit risk) approach (continued)

# 4.3 Credit risk exposures other than securitisation exposures under the standardised (credit risk) approach (continued)

				2012			
	Total Exposures HK\$'m	Exposures after CRM*		Risk-weighted amount Rated Unrated HK\$'m HK\$'m		Total exposures covered by recognised collateral HK\$'m	Total exposures covered by recognised guarantees or recognised credit derivative contracts HK\$'m
	Πιτψ Πι	111(2)111	110,9111	11(2)111	111(ψ 111	TIX¥ III	111X¥ 111
On-balance sheet exposures Sovereign	237,263	238,873		16,662			
Public sector entity	237,203	236,675		538	_	_	- 193
Multilateral development bank	24,364	24,457		-			
Bank	382	382	_	78	_	_	_
Securities firm	-	-	_	-	_	_	_
Corporate	19,683	9.133	8,927	5,520	8,927	206	1,417
Regulatory retail	6,431	-	6,317	-	4,737	114	-
Residential mortgage loans Other exposures which are not	5,812	-	5,766	-	2,883	-	46
past due	1,560	-	1,317	-	1,317	243	-
Past due exposures	31	-	31	-	39	-	-
Total for on-balance sheet exposures	317,515	294,594	22,358	22,798	17,903	563	1,656
Off-balance sheet exposures Off-balance sheet exposures other than OTC derivative transactions and credit derivative contracts OTC derivative transactions	4,682 144	1,924 62	2,758 82	231 4	2,655 80	754	386 -
Total for off-balance sheet exposures	4,826	1,986	2,840	235	2,735	754	386
Total for non-securitisation exposures	322,341	296,580	25,198	23,033	20,638	1,317	2,042
Exposures deducted from Core Capital or Supplementary Capital	116						

\* Recognised credit risk mitigation satisfying the requirements and conditions set out in the Banking (Capital) Rules.

### 5. Counterparty credit risk-related exposures

The Group's counterparty credit risk arising from derivative contracts and securities financing transactions both in trading and banking book is subject to the same risk management framework as mentioned in Note 4 to the Financial Statements. The Group establishes credit limit through formal credit approval procedures to control the pre-settlement credit risk arising from derivative transactions and settlement limit to control the settlement risk arising from foreign exchange-related transactions for counterparties in both the trading book and banking book. The Group monitors the risk exposure due to fluctuations in the market by using the current exposure and the potential exposure value of the transactions. Exceptions or excesses are timely and closely identified and monitored by RMD.

Credit equivalent amount and capital charge for the relevant counterparty credit exposures are determined following the regulatory capital requirements. Currently, the Group has adopted the Current Exposure Method to measure the relevant credit equivalent amount, which comprises current exposures and potential future exposures. The relevant counterparty default risk capital charge is calculated under the FIRB/STC approach. In addition, the Group has adopted standardised credit valuation adjustment ("CVA") method to calculate the relevant counterparty CVA capital charge.

The Group establishes prudent eligibility criteria and haircut policy of debt securities being pledged as collateral for securities financing transactions.

The Group formulates policy for classification of credit assets according to the PD of counterparties and the period of overdue. If there is objective evidence that an impairment loss has been incurred, impairment allowance will be provided according to HKFRS and regulatory requirements.

In controlling and monitoring of wrong-way risk (risk of existence of positive correlation between the PD of a counterparty and credit exposures driven by mark-to-market value of the underlying transactions), specific wrong-way risk transactions are generally not allowed and monitoring measures have been formulated for those counterparties identified by stress testing that would be exposed to potential general wrong-way risk.

### 5. Counterparty credit risk-related exposures (continued)

#### 5.1 Counterparty credit risk exposures under the internal ratings-based approach

The following table summarises the Group's exposures to counterparty credit risk arising from securities financing transactions and derivative contracts calculated using the Current Exposure Method. There is no effect of valid cross-product netting agreements on these exposures.

	2013	
	Securities financing transactions HK\$'m	Derivative contracts HK\$'m
Gross total positive fair value		11,078
Default risk exposures after the effect of valid bilateral netting agreements	4,220	22,719
Less: Value of recognised collateral – debt securities – others	(314) (3,362)	_ (2,117)
Default risk exposures after the effect of valid bilateral netting agreements net of recognised collateral	544	20,602
Default risk exposures by counterparty type Corporate Banks Retail Others	4,220 - - 4,220	1,135 21,584 - - 22,719
Risk-weighted amounts by counterparty type Corporate Banks Retail Others	_ 265 _ _ 265	917 5,760 – – 6,677

### 5. Counterparty credit risk-related exposures (continued)

# 5.1 Counterparty credit risk exposures under the internal ratings-based approach (continued)

The following table summarises the Group's exposures to counterparty credit risk arising from OTC derivative. There is no effect of valid bilateral netting agreements on the credit equivalent amounts.

	2012
	OTC derivative HK\$'m
Gross total positive fair value	12,884
Credit equivalent amounts Less: Value of recognised collateral	22,591
<ul> <li>debt securities</li> <li>others</li> </ul>	
Net credit equivalent amounts	22,591
Exposure at default by counterparty type Corporate Banks Retail Others	797 21,794 - - 22,591
Risk-weighted amounts by counterparty type Corporate Banks Retail Others	509 4,443 - - 4,952

There were no outstanding repo-style transactions under the internal ratings-based approach as at 31 December 2012.

## 5. Counterparty credit risk-related exposures (continued)

#### 5.2 Counterparty credit risk exposures under the standardised (credit risk) approach

The following table summarises the Group's exposures to counterparty credit risk arising from derivative contracts calculated using the Current Exposure Method. There is no effect of valid cross-product netting agreements on these exposures.

	2013
	Derivative contracts HK\$'m
Gross total positive fair value	118
Default risk exposures after the effect of valid bilateral netting agreements	404
Less: Value of recognised collateral – debt securities – others	_ (39)
Default risk exposures after the effect of valid bilateral netting agreements net of recognised collateral	365
Default risk exposures by counterparty type Sovereign Public sector entity Bank Corporate	73 3 - 213 113
Regulatory retail Other exposures which are not past due exposures Past due exposures	404
Risk-weighted amounts by counterparty type Sovereign Public sector entity	8
Bank Corporate Regulatory retail Other exposures which are not past due exposures Past due exposures	- 173 85 2 -
	269

There were no outstanding securities financing transactions under the standardised (credit risk) approach as at 31 December 2013.

### 5. Counterparty credit risk-related exposures (continued)

# 5.2 Counterparty credit risk exposures under the standardised (credit risk) approach (continued)

The following table summarises the Group's exposures to counterparty credit risk arising from OTC derivative. There is no effect of valid bilateral netting agreements on the credit equivalent amounts.

	2012
	OTC derivative HK\$'m
Gross total positive fair value	41
Credit equivalent amounts Less: Value of recognised collateral – debt securities – others	144 _ _
Net credit equivalent amounts	144
Credit equivalent amounts net of recognised collateral by counterparty type Sovereign Public sector entity Bank Corporate Regulatory retail Other exposures which are not past due exposures Past due exposures	51 5 5 75 8 - - - 144
Risk-weighted amounts by counterparty type Sovereign Public sector entity Bank Corporate Regulatory retail Other exposures which are not past due exposures Past due exposures	- 1 3 74 6 - - - 84

There were no outstanding repo-style transactions under the standardised (credit risk) approach as at 31 December 2012.

There were no outstanding credit derivative contracts as at 31 December 2013 (2012: Nil).

#### 6. Assets securitisation

The Group continues to adopt the ratings-based method under IRB approach to calculate the credit risk for both securitisation and re-securitisation exposures as an investing institution in the year 2013. Since this approach employs mapping of external credit ratings for risk weights calculations, the Group adopts the three ECAIs (Standard & Poor's, Moody's and Fitch) recognised by HKMA for this purpose.

The Group monitors the risks inherent in its securitisation assets and re-securitisation assets on an ongoing basis. The external credit ratings, assessment of the underlying assets and market prices are used for managing credit risk associated with the investment. For interest rate risk in its banking book, control measures for asset backed securities and mortgage backed securities include, but not limited to AFS EV and PVBP.

The Group has no outstanding exposures that are held with the intention of transferring exposures booked in the banking book and trading book into securitisation transactions as at 31 December 2013 and 2012.

Securitisation exposures arising from the Group's investing activities are analysed as follows:

	2013	2012
	On-balance sheet Banking Book HK\$'m	On-balance sheet Banking Book HK\$'m
Residential mortgage loans Commercial mortgage loans Student loans Re-securitisations	703 _ 79 _	1,156 - 172 3
	782	1,331

#### 6.1 Securitisation exposures

Reduction in securitisation exposures was due to repayments of principal.

There were no on-balance sheet securitisation exposures booked in trading book as at 31 December 2013 and 2012.

There were no off-balance sheet securitisation exposures booked in banking and trading books as at 31 December 2013 and 2012.

There were no securitisation transactions in trading book subject to the IMM approach as at 31 December 2013 and 2012.

There were no securitisation exposures that the Group has allocated a risk-weight of 1,250% as at 31 December 2013.

There were no securitisation exposures deducted from core and/or supplementary capital as at 31 December 2012.

The Group did not have credit risk mitigations which are treated as part of securitisation and resecuritisation transactions as at 31 December 2013 and 2012.

### 6. Assets securitisation (continued)

6.2 Breakdown by risk-weights of the securitisation exposures (excluding re-securitisation exposures) under internal ratings-based (securitisation) approach

	20	013	20	12
	Securitisation exposures HK\$'m	Capital requirements HK\$'m	Securitisation exposures HK\$'m	Capital requirements HK\$'m
7% 8%	576 27	4	1,043 51	6 -
10% 12% 15%	16 87	- 1	59 105	1 1
18% 20%	-	-	-	-
25% 35%	- 27	- 1		-
50% 60% 75%	34	- 2	_ 50	- 2
100% 250%	15	1	20	2
425% 650%		-	-	-
Deducted from capital	- 782	- 9	- 1,328	- 12

Reduction in securitisation exposures and capital requirements were due to repayments of principal.

### 6. Assets securitisation (continued)

#### 6.3 Breakdown by risk-weights of the re-securitisation exposures under internal ratingsbased (securitisation) approach

	20	)13	20	12
	Securitisation exposures HK\$'m	Capital requirements HK\$'m	Securitisation exposures HK\$'m	Capital requirements HK\$'m
20%	_	-	_	-
25%	-	-	-	-
30%	-	-	-	-
35%	-	-	3	-
40%	-	-	-	-
50%	-	-	-	-
60%	-	-	-	-
65%	-	-	-	-
100%	-	-	-	-
150%	-	-	-	-
200%	-	-	-	-
225%	-	-	-	-
300%	-	-	-	-
500%	-	-	-	-
650%	-	-	-	-
750%	-	-	-	-
850%	-	-	-	-
Deducted from capital		-	-	-
	-	-	3	-

Reduction in securitisation exposures and capital requirements were due to repayments of principal.

#### 6.4 Summary of accounting policies for securitisation exposures

The Group held certain securitised debt securities at the end of the reporting period. They are classified and measured for accounting purpose in accordance with the Group's accounting policies as outlined in Note 2.8 "Financial assets", 2.11 "Recognition and derecognition of financial instruments", 2.12 "Fair value measurement" and 2.14 "Impairment of financial assets" to the Financial Statements. For those investments measured at fair value, further details on their valuation are outlined in Note 5.1 "Financial instruments measured at fair value" to the Financial Statements.

### 7. Capital charge for market risk

	2013 HK\$′m	2012 HK\$'m
Under the standardised (market risk) approach		
Foreign exchange exposures (net)	-	-
Interest rate exposures		
<ul> <li>non-securitisation exposure</li> </ul>	50	117
Commodity exposures	6	6
Equity exposures	57	36
Under the internal models approach		
General foreign exchange and interest rate exposures	1,216	747
Capital charge for market risk	1,329	906

Market risk regulatory capital charge is calculated under the Banking (Capital) (Amendment) Rules 2011 to incorporate capital charge for stressed VAR. The following table sets out the IMM VAR and stressed VAR<sup>1</sup> for the general market risk exposure calculated under the IMM approach of the Group.

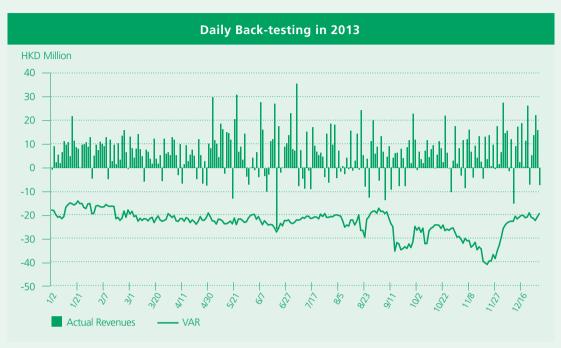
	Year	At 31 December HK\$'m	Minimum for the year HK\$'m	Maximum for the year HK\$'m	Average for the year HK\$'m
IMM VAR for foreign exchange and	2013	80.8	33.2	113.8	61.2
interest rate risk	2012	38.5	35.0	105.1	63.9
IMM VAR for foreign exchange risk	2013	59.2	17.8	71.7	40.3
	2012	19.7	16.2	70.1	36.3
IMM VAR for interest rate risk	2013	88.7	23.1	135.1	61.9
	2012	24.9	15.5	104.9	44.8
Stressed VAR for foreign exchange and	2013	246.6	203.7	489.4	338.7
interest rate risk	2012	221.9	140.7	334.6	217.4
Stressed VAR for foreign exchange risk	2013	171.9	27.2	195.9	77.4
	2012	25.0	24.3	73.2	43.2
Stressed VAR for interest rate risk	2013	379.3	190.7	531.9	371.6
	2012	216.9	133.2	339.1	218.3

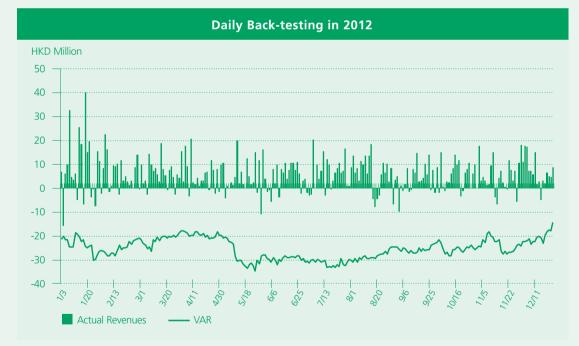
Note:

 IMM VAR and stressed VAR measures used for market risk regulatory capital purposes are calculated to a 99% confidence level and use a 10-day holding period. The stressed VAR uses the same methodology as the VAR model and is generated with inputs calibrated to the historical market data from a continuous 12-month period of significant financial stress relevant to the Group's portfolio.

## 7. Capital charge for market risk (continued)

The graph below shows the regulatory back-testing result of the Group's market risk under IMM approach.





There was no actual loss exceeding the VAR for the Group as shown in the back-testing results.

### 8. Capital charge for operational risk

	2013 HK\$'m	2012 HK\$'m
Capital charge for operational risk	5,038	4,421

The Group uses the standardised (operational risk) approach to calculate its operational risk capital charge.

### 9. Equity exposures in banking book

Equity holdings in other entities are accounted for in accordance with the underlying intentions of holdings at the inception of acquisition. The classifications for equity holdings taken for relationship and strategic purposes will be separated from those taken for other purposes (including capital appreciation). Investments in equity shares which are intended to be held on a continuing basis, but which do not comprise investments in associates, joint venture or subsidiaries, are classified as available-for-sale securities and are reported in the balance sheet as "Investment in securities".

For equity exposures in banking book other than associates, joint venture or subsidiaries, the Group applies the same accounting treatment and valuation methodologies as detailed in the Notes 2.8(4), 2.11, 2.12 and 2.14 to the Financial Statements, further details on their valuation are outlined in Note 5.1 "Financial instruments measured at fair value" to the Financial Statements. If additional investment is made subsequently such that an investee becomes an associate, joint venture or subsidiary, then the investment is reclassified in accordance with the Group's accounting policies.

Gains or losses related to equity exposures are summarised below:

	2013 HK\$′m	2012 HK\$'m
Realised gains from sales	-	6
Unrealised gains on revaluation recognised in reserves but not through income statement	1,179	771

The unrealised gains included in supplementary capital for the year ended 31 December 2012 were HK\$347 million.

### **10. Connected transactions**

In 2013, BOCHK, a wholly-owned subsidiary of the Company, and its subsidiaries engaged on a regular basis in the usual course of their business in numerous transactions with BOC and its Associates. As BOC is the Company's controlling shareholder and therefore a connected person of the Company, all such transactions constituted connected transactions for the purposes of the Listing Rules. The Group is subject to the control of the State Council of the PRC Government through China Investment Corporation ("CIC"), its wholly-owned subsidiary Central Huijin Investment Ltd. ("Central Huijin"), and BOC in which Central Huijin has controlling equity interests. Central Huijin is the ultimate controlling shareholder of the Company. Central Huijin has accepted PRC Government's authorisation in carrying out equity investment in core financial enterprises. For the purposes of this report, therefore, Central Huijin and its Associates have not been treated as connected persons to the Company.

The transactions fell into the following two categories:

- 1. exempted transactions entered into in the usual course of business and under normal commercial terms. Such transactions were exempted from disclosure and independent shareholder approval by virtue of Rules 14A.31, 14A.33 and 14A.65 of the Listing Rules;
- certain continuing connected transactions conducted pursuant to the Services and Relationship 2 Agreement entered into among, inter alia, the Company and BOC dated 6 July 2002 (as amended and supplemented from time to time, which has been amended for a period of three years commencing 1 January 2011), whereas BOC has agreed to, and agreed to procure its Associates to, enter into all future arrangements with the Group on an arm's length basis, on normal commercial terms and at rates no less favourable than those offered to independent third parties, in relation to certain areas including, among others, information technology services, training services, physical bullion agency services, correspondent banking arrangements, treasury transactions, provision of insurance and syndicated loans, and the Company has agreed to, and agreed to procure its subsidiaries to, enter into all future arrangements on the same basis, provided that the rates offered by the Group to BOC and its Associates will be no more favourable than those offered to independent third parties. The Services and Relationship Agreement is also amended to allow for the provision of (i) call center services, cash management services and card services and other related business between BOC or its Associates and the Group; and (ii) information technology services by the Group to BOC's worldwide branches and subsidiaries. On 30 December 2010 the Company made an announcement (the "Announcement") in accordance with Rule 14A.47 of the Listing Rules, and has got the approval from the independent shareholders on 25 May 2011. The Announcement listed those continuing connected transactions that exceeded the de minimus threshold and set out caps in respect of such transactions for the three years 2011-2013. These transactions were conducted in the ordinary course of its business and on normal commercial terms. Details of these continuing connected transactions are set out below and are described in the announcements which may be viewed at the Company's website. The Company has complied with the disclosure requirements in accordance with Chapter 14A of the Listing Rules.

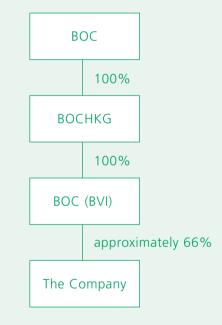
Type of Transaction	2013 Cap (HK\$'m)	2013 Actual Amount (HK\$'m)
Information Technology Services	1,000	58
Property Transactions	1,000	152
Bank-note Delivery	1,000	159
Provision of Insurance Cover	1,000	134
Card Services	1,000	126
Custody Business	1,000	38
Call Center Services	1,000	51
Securities Transactions	7,500	240
Fund Distribution Transactions	7,500	48
Insurance Agency	7,500	755
Foreign Exchange Transactions	7,500	319
Trading of Financial Assets	250,000	10,268
Inter-bank Capital Markets	250,000	5,673

### 11. Reconciliation between HKFRSs vs IFRS/CAS

The Company understands that BOC, an intermediate holding company as well as controlling shareholder of the Company, will prepare and disclose consolidated financial information in accordance with IFRS and CAS for which the Company and its subsidiaries will form part of the consolidated financial statements. CAS is the new set of PRC accounting standards that has been effective for annual periods beginning on or after 1 January 2007 for companies publicly listed in PRC. The requirements of CAS have substantially converged with HKFRSs and IFRS.

The consolidated financial information of "BOC Hong Kong Group" for the periods disclosed by BOC in its consolidated financial statements is not the same as the consolidated financial information of the Group for the periods published by the Company pursuant to applicable laws and regulations in Hong Kong. There are two reasons for this.

First, the definitions of "BOC Hong Kong Group" (as adopted by BOC for the purpose of its own financial disclosure) and "Group" (as adopted by the Company in preparing and presenting its consolidated financial information) are different: "BOC Hong Kong Group" refers to BOCHKG and its subsidiaries, whereas "Group" refers to the Company and its subsidiaries (see the below organisation chart). Though there is difference in definitions between "BOC Hong Kong Group" and "Group", their financial results for the periods presented are substantially the same. This is because BOCHKG and BOC (BVI) are holding companies only and have no substantive operations of their own.



Second, the Group has prepared its consolidated financial statements in accordance with HK GAAP prior to 1 January 2005 and as from 1 January 2005 onwards in accordance with HKFRSs; whereas the consolidated financial information reported to BOC is prepared in accordance with IFRS and CAS respectively. Despite the fact that HKFRSs have converged with IFRS, there is a timing difference in the initial adoption of HKFRSs and IFRS by the Group and by BOC respectively.

The Board considers that the best way to ensure that shareholders and the investing public understand the material differences between the consolidated financial information of the Group published by the Company on the one hand, and the consolidated financial information of BOC Hong Kong Group disclosed by BOC in its financial statements on the other hand, is to present reconciliations of the profit after tax/ net assets of the Group prepared under HKFRSs to the profit after tax/net assets of the Group prepared under IFRS and CAS respectively for the periods presented.

### 11. Reconciliation between HKFRSs vs IFRS/CAS (continued)

The major differences between HKFRSs and IFRS/CAS, which arise from the difference in measurement basis in IFRS or CAS and the timing difference in the initial adoption of HKFRSs and IFRS relate to the following:

- restatement of carrying value of bank premises; and
- deferred taxation impact arising from the above different measurement basis.

#### (a) Restatement of carrying value of bank premises

The Company has elected for a revaluation model rather than cost model to account for bank premises and investment properties under HKFRSs. On the contrary, BOC has elected for the cost model for bank premises and revaluation model for investment properties under IFRS and CAS. Therefore, adjustments have been made to the carrying value of bank premises as well as to recalculate the depreciation charge and disposal gain/loss under IFRS and CAS.

#### (b) Deferred tax adjustments

These represent the deferred tax effect of the aforesaid adjustments.

The difference in classification and measurement of certain investment securities under HKFRSs and IFRS due to the different timing in first adoption of HKFRSs and IFRS by the Group and BOC are vanished as those investment securities were all matured before 31 December 2012.

### Profit after tax/net assets reconciliation

	Profit after tax		Net assets	
	2013 HK\$′m	2012 HK\$'m	2013 HK\$′m	2012 HK\$'m
Profit after tax/net assets of BOC Hong Kong (Holdings) Limited prepared under HKFRSs	23,075	21,547	163,008	155,074
Add: IFRS/CAS adjustments Re-measurement of carrying value of treasury products Restatement of carrying value of	-	(12)	-	-
bank premises Deferred tax adjustments	719 (78)	658 (106)	(38,515) 6,383	(35,148) 5,798
Profit after tax/net assets of BOC Hong Kong (Holdings) Limited prepared under IFRS/CAS	23,716	22,087	130,876	125,724

#### **HKFRSs vs IFRS/CAS**