Basel II Pillar 3 Disclosures

Year ended 31 December 2008

DBS Group Holdings Ltd and its subsidiaries (the Group) have adopted Basel II as set out in the revised Monetary Authority of Singapore Notice to Banks No. 637 (Notice on Risk Based Capital Adequacy Requirements for Banks incorporated in Singapore or MAS Notice 637) with effect from 1 January 2008.

The Group views Basel II as part of continuing efforts to strengthen its risk management culture and ensure that the Group pursues business growth across segments and markets with the right risk management discipline, practices and processes in place.

The following information concerning the Group's risk exposures, risk management practices and capital adequacy is disclosed as accompanying information to the annual report, and does not form part of the audited accounts.

1 SCOPE OF APPLICATION

The Group applies the Basel II Internal Ratings-Based Approach (IRBA) for computing part of its regulatory capital requirements for credit risk. Approved wholesale portfolios are on the Foundation IRBA, while the approved retail portfolios are on the Advanced IRBA. DBS Bank (Hong Kong) Limited will adopt IRBA and Standardised Approach (SA) with effect from 1 January 2009. For 2008, the Hong Kong Monetary Authority prescribed Basic Approach was adopted for the credit exposures of DBS Bank (Hong Kong) Limited. Most of the remaining credit exposures are on the Standardised Approach. The Group also adopts the Standardised Approaches for operational and market risks.

The Group's capital requirements are generally based on the principles of consolidation adopted in the preparation of its financial statements, as discussed in Note 2.2 to the Financial Statements, except where deductions from eligible capital are required under MAS Notice 637 or where entities meet separation requirements set by the MAS. Refer to Note 52 to the Financial Statements for the list of consolidated entities.

Certain subsidiaries are subject to minimum capital requirements imposed by their respective regulatory agencies. During the course of the year, these subsidiaries did not experience any impediments in the distribution of dividends.

2 REGULATORY CAPITAL MANAGEMENT

2.1 Key capital management principles

The Group's capital management policies are to diversify its sources of capital; to allocate capital efficiently, guided by the need to maintain a prudent relationship between available capital and the risks of its underlying businesses; and to meet the expectations of key constituencies, including investors, regulators and rating agencies.

The capital management process, which is centrally supervised by senior management, includes periodic reviews of both the demand for and supply of capital across the Group. Available capital is allocated across competing demands, guided by the policies outlined above, and to ensure regulatory compliance. Quarterly updates are provided to the Board of Directors.

2.2 Capital structure and adequacy

The following table sets forth details on the capital resources and capital adequacy ratios for the Group as of 31 December 2008. The capital adequacy ratios of the Group are not materially different from that of DBS Bank Group (DBS Bank Ltd and its subsidiaries). MAS Notice 637 sets out the current requirements relating to the minimum capital adequacy ratios for a bank incorporated in Singapore and the methodology for calculating these ratios. The Group's tier 1 and total capital adequacy ratios as of 31 December 2008 were 10.1% and 14.0% respectively, which are above the MAS minimum requirements of 6.0% and 10.0%.

The constituents of total eligible capital are set out in MAS Notice 637 Part VI. These include shareholders' funds after regulatory-related adjustments, minority interests, and eligible capital instruments issued by the Group. Refer to Notes 36 and 38 to the Financial Statements for the terms of these capital instruments.

In $ millions	2008
Tier 1 Capital	
Share capital	4,215
Disclosed reserves	15,996
Paid-up non-cumulative preference shares	1,100
Minority interests	463
Innovative Tier 1 instruments	2,621
Less: Deductions from Tier 1 capital	
Goodwill and deferred tax assets	5,916
Other deductions (50%)	106
Eligible Tier 1 capital	18,373
Tier 2 capital subject to limits	7,254
Less: Deductions from Tier 2 capital	
Other deductions (50%)	106
Total eligible capital	25,521
Risk-Weighted Assets (RWA)	
Credit	144,088
Market	28,394
Operational	10,203
Total RWA	182,685
Tier 1 Capital Adequacy Ratio (%)	10.1
Total Capital Adequacy Ratio (%)	14.0

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Year ended 31 December 2008

In $ millions	RWA 2008
Credit risk:	
Internal ratings-based approach (IRBA)	
Retail exposures	
Residential mortgage exposures	2,644
Other retail exposures	839
Wholesale exposures	
Sovereign exposures	2,619
Bank exposures	16,169
Corporate exposures	53,756
Corporate small business exposures	2,592
Specialised lending exposures	17,603
Equity exposures	4,596
Securitisation exposures	240
Total IRBA RWA	101,058
Adjusted IRBA RWA post scaling factor of 1.06	107,121
Standardised approach (SA)	
Residential mortgage exposures	559
Regulatory retail exposures	614
Corporate exposures	3,249
Private equity and venture capital (PE/VC) investment exposures	145
Other exposures	
Real estate, premises, equipment and other fixed assets	1,031
Exposures to individuals	3,414
Others	4,326
Total SA RWA	13,338
Basic approach	23,629
Total RWA for credit risk	144,088
Market risk:	
Standardised approach (SA)	
Interest rate risk	22,510
Equity position risk	185
Foreign exchange risk	5,699
Commodity risk	#
Total RWA for market risk	28,394
Operational risk standardised approach	10,203
Total RWA	182,685

 # Amount under $500,000

3 CREDIT RISK – GENERAL DISCLOSURES

3.1 Credit risk management

Credit risk is the risk of loss resulting from the failure of a borrowers or counterparties to meet their debt or contractual obligations. Credit exposure can arise from financial activities including lending, sales, trading, derivatives, payment transactions and securities settlements.

The Group Credit Risk Committee serves as an executive forum for discussion on credit trends and all aspects of credit risk management, including the identification, measurement, monitoring, mitigation and control processes.

The Group Credit Risk Committee sets and ensures adherence to the credit limits and policies at the country, sector and business levels. An enterprise-wide Core Credit Risk Policy sets forth the principles by which the Group conducts its credit risk management activities. The Policy ensures consistency in credit risk underwriting across the Group, and provides guidance in the formulation of business-specific credit policies.

Consumer credit risks are generally managed on a portfolio basis. Each account is assigned to a risk pool, taking into consideration factors such as borrower characteristics and collateral type. On the other hand, wholesale credit risks are analysed individually and approved by experienced credit officers who consider a number of factors related to the borrower's financial condition in the identification and assessment of credit risk. Validated credit risk rating tools are used in these assessments so that deteriorating exposures are systematically identified and appropriate remedial actions can be taken.

Credit control functions ensure that credit risks are being taken and maintained in compliance with group-wide credit policies and guidelines. These functions ensure proper activation of approved limits, appropriate endorsement of excesses and policy exceptions, and also monitor compliance with credit standards and/or credit covenants established by management and/or regulators.

An independent credit risk review team conducts regular reviews of credit exposures and judgmental credit risk management processes. It also conducts independent validation of internal credit risk rating processes on an annual basis. These reviews provide senior management with objective and timely assessments of the effectiveness of credit risk management practices and ensure group-wide policies, internal rating models and guidelines are being adopted consistently across different business units including relevant subsidiaries.

Stress testing of credit risk has assumed increasing importance in the discipline of credit risk management. DBS uses credit risk stress testing approaches to assess the vulnerability of the portfolio to "exceptional but plausible" adverse credit risk events.

3.2 Country risk

The principles and approach in the management of cross-border risk are set out in the Group's Country Risk Management Framework. The Framework includes an internal country (and sovereign) risk rating system where the assessments are made independent of business decisions. Benchmark country limits are set to alert the Group when exposures rise to levels that may imply concentration risk. Day-to-day operational country limits, called working limits, are also imposed to manage the shape and growth of the cross-border exposures as they build up. A rigorous scanning process is established, with the objective of adjusting country exposures according to risks perceived at the global, regional and country level. There are close consultations with the businesses and credit management in right sizing cross-border exposures to take into account not only risks and opportunities, but also the strategic intent of the Group.

3.3 Summary of credit exposures[(a)]

The following table summarises the Group's credit exposures:

In $ millions	2008 Exposures
Advanced IRBA	
Retail exposures	
Residential mortgage exposures	21,554
Other retail exposures	3,045
Foundation IRBA	
Wholesale exposures	
Sovereign exposures	31,680
Bank exposures	62,680
Corporate exposures	78,459
Corporate small business exposures	3,341
Specialised lending exposures	16,875
IRBA for equity exposures	2,417
IRBA for securitisation exposures	1,246
Total IRBA	221,297
SA	
Residential mortgage exposures	1,591
Regulatory retail exposures	818
Corporate exposures	3,288
PE/VC investment exposures	72
Other exposures	
Real estate, premises, equipment and other fixed assets	1,031
Exposures to individuals	3,398
Other exposures	5,721
Total SA	15,919
Total Basic Approach	34,312
Total	271,528

(a) Above amounts represent exposures after credit risk mitigation and where applicable include on-balance sheet amounts and credit equivalent amounts of off-balance sheet items determined in accordance with MAS Notice 637

Refer to Notes 46.1 and 48 to the Financial Statements for analysis of maximum exposures to credit risk by geographic, industry and residual contractual maturity distribution.

4 CREDIT RISK ASSESSED USING INTERNAL RATINGS-BASED APPROACH

4.1 Scope of application

The Group adopts various rating systems for the different asset classes under IRBA. There is a robust governance process for the development and approval of a credit risk model. Credit risk models developed are validated by an independent risk unit in the Group to ensure they are fit for purpose. The models are placed through a rigorous review process prior to endorsement by Group Credit Risk Committee and have to be approved by the Board Risk Management Committee before use.

To ensure the adequacy and robustness of these rating systems on a continual basis, the Group conducts monthly performance monitoring on these rating systems and reports the results to the Group Credit Risk Committee. This process will highlight any material deterioration in the credit systems for management attention. In addition, an independent risk unit conducts formal validation annually for each of the rating systems. The validation processes are also subject to an independent review by Group Audit.

The internal credit risk ratings produced by credit rating models are used to calculate the IRBA capital requirements. In addition, the ratings from the credit models are used as the basis to support the underwriting of credit, monitoring the performance of the portfolios and determining business strategies.

The Group applies the supervisory Loss Given Default (LGD) estimate provided by MAS for its Foundation IRBA portfolios. These supervisory LGD estimates are used in the computation of risk-weights and regulatory capital calculations for the portfolios. For its Advanced IRBA portfolios, the LGD is estimated based on internal models, and used in capital calculations and risk return assessments.

Exposure or Exposure-at-Default (EAD) is the sum of the on-balance sheet amount and/or credit equivalent of the off-balance sheet item multiplied by a credit conversion factor determined in accordance with MAS Notice 637.

4.2 Retail exposures

Retail portfolios are categorised into asset classes under the Advanced IRBA, namely Residential Mortgages and Other Retail Exposures, including vehicle loans extended to individuals.

Within each asset class, exposures are managed on a portfolio basis. Each account is assigned to a risk pool, taking into consideration factors such as borrower characteristics and collateral type. Loss estimates are based on historical default and realised losses within a defined period. The definition of

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default is applied at the level of a particular facility, rather than at the level of the obligor. Business-specific credit risk policies and procedures including underwriting criteria, scoring models, approving authorities, frequency of asset quality and business strategy reviews; as well as systems, processes and techniques to monitor portfolio performance against benchmarks are in place. Risk models are being used for secured loans to update risk level of each loan on a monthly basis, reflecting the broad usage of risk models in portfolio quality reviews in accordance with Basel II principles.

The following tables summarise the Group's retail credit exposures measured using IRBA as of 31 December 2008:

(A) Residential mortgage exposures[c]

EL% range	Exposures (In $ millions)	Exposure-weighted average risk-weights[a] (%)
Up to 0.10%	15,984	4
> 0.10% to 0.50%	5,374	36
> 0.50%	196	68[b]
Total	21,554	12[b]

(a) Percentages disclosed are before the application of applicable IRBA scaling factor
(b) Excludes default exposures
(c) Includes undrawn commitments set out in table (C) below

(B) Other retail exposures

EL% range	Exposures (In $ millions)	Exposure-weighted average risk-weights[a] (%)
Up to 0.30%	2,524	21
> 0.30%	521	61[b]
Total	3,045	28[b]

(a) Percentages disclosed are before the application of applicable IRBA scaling factor
(b) Excludes default exposures

(C) Undrawn commitment for retail exposures

In $ millions	Notional amount	Credit equivalent amount[a]
Residential mortgage exposures	2,390	1,943
Total	2,390	1,943

(a) Credit equivalent amount represents notional amounts multiplied by the applicable credit conversion factors

4.3 Wholesale exposures

Wholesale exposures comprised sovereign, bank, corporate, corporate small business, specialised lending and securitisation exposures. These exposures are assessed under the Foundation IRBA. The risk ratings for the wholesale exposures (other than securitisation exposures) have been mapped to likely corresponding external rating equivalents. A description of the rating grades is provided in the following table to give a qualitative explanation of the risk benchmarks.

Sovereign exposures are risk rated using internal risk rating models and guidelines in line with IRBA portfolios. Country specific macro-economic risk factors, political risk factors, social risk factors and liquidity risk factors are reviewed objectively in the sovereign rating models to assess the sovereign credit risk in a disciplined and systematic approach.

Bank exposures are assessed using a bank rating model covering various credit risk factors such as capital levels and liquidity, asset quality, earnings, management and market sensitivity. The risk ratings derived are benchmarked against external credit risk ratings, ensuring the internal rating systems are well aligned and appropriately calibrated.

Individual corporate credit are assessed using approved credit models, and reviewed and analysed by experienced credit approvers taking into consideration the relevant credit risk factors. Large corporate credits are assessed using approved models as well as reviews by designated credit approvers. Credit factors considered in the risk assessment process include the obligor's financial standing and outlook, industry and economic conditions, market position, access to capital and management strength. The Counterparty Risk Rating assigned to smaller business borrowers is primarily based on the borrower's financial position and strength, which are assessed via the use of a validated quantitative tool. This is supplemented by expert judgement of qualitative factors such as management strength by credit officers.

Credit ratings under the IRBA portfolios are reviewed on an annual basis at a minimum unless credit conditions require more frequent assessment. The Counterparty Risk Rating process is reinforced by the Facility Risk Rating Systems which considers other exposure risk mitigants, such as collateral, third party guarantees and transfer risk.

A default is considered to have occurred with regard to a particular obligor when either or both of the two following events have taken place.

- Subjective default: Obligor is unlikely to pay its credit obligations in full, without recourse by the Group to actions such as realising security (if held).
- Technical default: Obligor is past due more than 90 days on any credit obligation to the Group.

This is consistent with the guidance provided under MAS Notice 637.

A description of the internal ratings used for the various portfolios is as follows:

DBS Group PD Grade (ACRR)	Description of Rating Grade	Internal Classification	Likely Corresponding MAS Classification	Likely Corresponding S&P Rating Equivalent
PD Grade 1	Taking into account the impact of relevant economic, social or geopolitical conditions, capacity to meet its financial commitment is exceptional	Exceptional	Passed	AAA
PD Grade 2	Taking into account the impact of the relevant economic, social or geopolitical conditions, capacity to meet its financial commitment is excellent	Excellent	Passed	AA+, AA, AA-
PD Grade 3	More susceptible to adverse economic, social, geopolitical conditions and other circumstances. Capacity to meet its financial commitment is strong	Strong	Passed	A+, A, A-
PD Grade 4A/4B	Adequate protection against adverse economic, social or geopolitical conditions or changing circumstances. More likely to lead to a weakened capacity of the obligor to meet its financial commitment	Good	Passed	BBB+/BBB
PD Grade 5	Relatively worse off than an obligor rated "4B" but exhibits adequate protection parameters	Satisfactory	Passed	BBB-
PD Grade 6A/6B	Satisfactory capacity to meet its financial commitment but capacity may become inadequate due to adverse business, financial, economic, social or geopolitical conditions and changing circumstances	Acceptable	Passed	BB+/BB
PD Grade 7A/B	Marginal capacity to meet its financial commitment but capacity may become inadequate or uncertain due to adverse business, financial, economic, social or geopolitical conditions and changing circumstances	Marginal	Passed	BB-
PD Grade 8A	Sub-marginal capacity to meet its financial commitment. Adverse business, financial, or economic conditions will likely impair the obligor's capacity or willingness to meet its financial commitment	Sub-Marginal	Passed	B+
PD Grade 8B/8C	Low capacity to meet its financial commitment. Adverse business, financial, or economic conditions will likely impair the obligor's capacity or willingness to meet its financial commitment	Special Caution	Special Mention	B/B-
PD Grade 9	Vulnerable to non-payment and is dependent upon favourable business, financial, and economic conditions for the obligor to meet its financial commitment. Likely to have little capacity to meet its financial commitment under adverse conditions	Sub-Performing	Sub-Standard (Non-Defaulting)	CCC-C
PD Grade 10 and Above	An obligor rated "10" and above is in default (as defined under Basel II)	Default	Sub-Standard and Below (Defaulting)	D

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The following tables summarise the Group's wholesale credit exposures using IRBA as of 31 December 2008:

(A) Sovereign exposures

PD grade	PD range (%)	Exposures (In $ millions)	Exposure-weighted average risk-weights[a] (%)
PD grade 1-3	0.00 – 0.10	30,508	6
PD grade 4A/4B	0.10 – 0.33	145	35
PD grade 6A/6B	0.47 – 1.11	784	70
PD grade 7A-9	1.11 – 99.99	243	101
Total		31,680	8

(a) Percentages disclosed are before the application of applicable IRBA scaling factor

(B) Bank exposures

PD grade	PD range (%)	Exposures (In $ millions)	Exposure-weighted average risk-weights[a] (%)
PD grade 1-3	0.03[c] – 0.10	42,764	13
PD grade 4A/4B	0.10 – 0.33	10,635	41
PD grade 5	0.33 – 0.47	3,073	53
PD grade 6A/6B	0.47 – 1.11	4,691	66
PD grade 7A-9	1.11 – 99.99	1,469	111
PD grade 10	Default	48	NA
Total		62,680	26[b]

NA Not Applicable
(a) Percentages disclosed are before the application of applicable IRBA scaling factor
(b) Excludes default exposures
(c) For bank exposures, the PD is the greater of the one-year PD associated with the internal borrower grade to which that exposure is assigned, or 0.03% as specified in MAS Notice 637

(C) Corporate exposures

PD grade	PD range (%)	Exposures (In $ millions)	Exposure-weighted average risk-weights[a] (%)
PD grade 1-3	0.03[c] – 0.10	10,905	17
PD grade 4A/4B	0.10 – 0.33	8,058	44
PD grade 5	0.33 – 0.47	13,786	55
PD grade 6A/6B	0.47 – 1.11	23,135	72
PD grade 7A-9	1.11 – 99.99	21,618	112
PD grade 10	Default	957	NA
Total		78,459	69[b]

NA Not Applicable
(a) Percentages disclosed are before the application of applicable IRBA scaling factor
(b) Excludes default exposures
(c) For corporate exposures, the PD is the greater of the one-year PD associated with the internal borrower grade to which that exposure is assigned, or 0.03% as specified in MAS Notice 637

(D) Corporate small business[c] exposures

PD grade	PD range (%)	Exposures (In $ millions)	Exposure-weighted average risk-weights[a] (%)
PD grade 4A/4B	0.10 – 0.33	35	48
PD grade 5	0.33 – 0.47	257	49
PD grade 6A/6B	0.47 – 1.11	1,837	67
PD grade 7A-9	1.11 – 99.99	1,130	108
PD grade 10	Default	82	NA
Total		3,341	80[b]

NA Not Applicable
(a) Percentages disclosed are before the application of applicable IRBA scaling factor
(b) Excludes default exposures
(c) Corporate small business refers to corporations with reported annual sales of less than $100 million as defined under MAS Notice 637

4.4 Specialised lending exposures

Specialised lending IRBA portfolios consisting of income-producing real estate finance, project finance, object finance, hotel finance and structured trade/commodities finance adopt the supervisory slotting criteria specified under Annex 7V of MAS Notice 637. The supervisory slotting criteria guidelines under the supervisory rating categories are used to determine the risk-weights to calculate the credit risk-weighted exposures.

The following table summarises the Group's specialised lending exposures as of 31 December 2008:

2008	RWA (In $ millions)	Exposures (In $ millions)	Exposure-weighted average risk-weights[a] (%)
Strong	1,872	3,136	60
Good	6,218	8,080	77
Satisfactory	3,712	3,229	115
Weak	5,801	2,375	244
Default	NA	55	NA
Total	17,603	16,875	105[b]

NA Not Applicable
(a) Percentages disclosed are before the application of applicable IRBA scaling factor
(b) Excludes default exposures

4.5 Securitisation exposures

The Group invests in securitised assets to meet various corporate objectives, including asset diversification and yield enhancement. Securitised assets are typically rated by external rating agencies, and the Ratings-Based Method (RBM) is used to calculate the risk-weights of the exposures. The Group only accepts ratings from Standard & Poor's, Moody's and Fitch for such exposures.

The Group's investments in securitised assets are accounted for using the principles of Financial Reporting Standards (FRS) 39. Refer to Note 2.7 to the Financial Statements for the Group's accounting policies on financial assets. The Group is not active in securitisation activities that are motivated by credit risk transfer or other strategic considerations.

The table below sets out the securitisation exposures (net of specific allowances) purchased by the Group, analysed by risk-weights:

2008 In $ millions	Exposures subject to Rating-Based Method (RBM)	Exposures not subject to RBM	RWA	Deductions from Tier 1 capital and Tier 2 capital
Risk-weights				
0% -12%	192	–	21	–
15% - 18%	455	–	69	–
20% - 50%	563	–	130	–
60% - 650%	20	–	20	–
Deducted	6	10	–	16
Total	1,236	10	240	16

The table below sets out the securitisation exposures (net of specific allowances) purchased by the Group, analysed by exposure type:

2008 In $ millions	Total exposures	Exposures subject to RBM	Deductions from Tier 1 capital and Tier 2 capital
Exposure type			
ABS collateralised debt/loan obligations (CDO)	81	75	6
Non-ABS CDO, Mortgage-Backed Securities (MBS) and others	1,165	1,155	10
Total	1,246	1,230	16

There was no other divestment of securitised assets except for the redemption of notes by their respective issuers during the year.

4.6 Provisioning policies for past due and impaired exposures

Refer to the Notes to the Financial Statements listed in the following table for the Group's provisioning policies in relation to past due and impaired exposures.

Notes to the Financial Statements	Financial disclosures
2.8	The Group's accounting policies on the assessment of specific and general allowances on financial assets
46.3	Classified loans and past due loans by geographic and industry distribution
13, 20, 21 and 33	Movements in specific and general allowances during the year for the Group

4.7 Analysis of actual losses

The following table indicates the actual loss during the financial year ended 31 December 2008. Actual loss refers to impairment loss allowance and charge-off to the Group's income statement during the financial year ended 31 December 2008.

In $ millions	2008 Actual loss
Retail exposures	
Residential mortgage and other retail exposures	(5)
Wholesale exposures	
Bank and sovereign exposures	40
Corporate and specialised lending exposures	131
Total	166

5 CREDIT RISK ASSESSED USING STANDARDISED APPROACH

5.1 Scope of application

The Group applies the SA for portfolios which are individually immaterial in terms of both size and risk profile and for transitioning portfolios. These portfolios include:

- IRBA-transitioning retail exposures
- IRBA-exempt retail exposures
- IRBA-exempt wholesale exposures

The transitioning retail exposures, namely revolving clean line of credit and credit cards portfolios, are expected to transit to the Advanced IRBA over the next few years subject to certification by MAS. In the meantime, the SA has been applied.

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The portfolios under the SA are subject to the Group's overall governance framework and credit risk management practices. Under this framework, the Group continues to monitor the size and risk profile of these portfolios and will look to enhance the sophistication of risk measurement process should these risk exposures become material.

The Group uses external ratings for credit exposures under the SA, where relevant, and the Group only accepts ratings from Standard & Poor's, Moody's and Fitch in such cases. The Group follows the process prescribed in MAS Notice 637 to map the ratings to the relevant risk-weights.

For DBS Bank (Hong Kong) Limited, the Hong Kong Monetary Authority prescribed Basic Approach was adopted for its credit exposures for 2008. With effect from 1 January 2009, DBS Bank (Hong Kong) Limited will adopt IRBA and SA.

5.2 Exposures by risk-weights

The following table represents the exposures under SA (excluding PE/VC investment exposures disclosed in Note 10 to the Basel II Pillar 3 Disclosures), analysed by risk-weights:

In $ millions	2008 Exposures
Risk-weights	
0%	1,364
20%	39
35%	1,587
50%	83
75%	817
100%	11,920
150%	37
Total	15,847

6 CREDIT RISK MITIGATION

Credit risk mitigation techniques are taken into account when analysing credit risk-weighted asset amount. Amounts are adjusted for eligible financial collateral or other eligible collaterals allowed under MAS Notice 637.

Recognised collaterals include both financial and physical assets. Financial collaterals consist of mainly cash deposits, debt securities and shares, while physical collaterals include lands and buildings, vehicles and equipments.

Eligible credit protection is also used to abate credit losses in the event that the exposure defaults. Refer to Note 46 to the Financial Statements for the policies and procedures on credit risk mitigation techniques. The Group adopts the comprehensive approach for credit risk mitigation and the impact on PD or LGD is based on the same guidelines for Foundation IRBA portfolios.

The following table summarises the extent to which credit exposures are covered by eligible financial collateral, other eligible collateral and eligible credit protection after the application of haircuts:

2008 In $ millions	Eligible financial collateral	Other eligible collateral	Amount by which credit exposure have been reduced by eligible credit protection
Foundation IRBA			
Wholesale exposures			
Sovereign exposures	375	–	–
Bank exposures	774	–	63
Corporate exposures	2,555	3,326	2,040
Corporate small business exposures	78	1,313	11
Sub-total	3,782	4,639	2,114
SA			
Residential mortgage exposures	118	–	–
Regulatory retail exposures	9	–	–
Corporate exposures	1,756	–	11
Sub-total	1,883	–	11
Total	5,665	4,639	2,125

The above table excludes exposures where collateral has been taken into account directly in the risk-weights such as the specialised lending exposures and the residential mortgage exposures. It also excludes exposures where the collateral generally considered as eligible under Basel II may not meet the required legal/operational standards under Basel II in specific locations as in the case of legal enforcement uncertainty in specific jurisdictions. Certain exposures where the collateral is eligible under Foundation IRBA and not under SA have also been excluded under the SA section (for example, exposures collateralised by commercial properties).

7 COUNTERPARTY CREDIT RISK-RELATED EXPOSURES

7.1 Notional principal amounts of credit derivatives

In $ millions	Notional of Credit Derivatives: Protection Bought	Notional of Credit Derivatives: Protection Sold
Own Credit Portfolio	39,109	38,198
Client Intermediation Activities	18,145	18,387
Total	57,254	56,585
Credit default swaps	57,083	56,585
Total return swaps	171	–
Total	57,254	56,585

Notional values of credit derivatives do not accurately reflect their economic risks. They comprise both beneficiary and guarantor (buy and sell protection) positions.

The Group generally has a mismatch between the total notional amounts of protection bought and sold as these credit derivatives are used to hedge risks from other instruments, including those from customer flows. The protection sold in credit derivatives are largely matched with the protection bought after notional amounts are adjusted, either to a duration-based equivalent basis, or to reflect the level of subordination in tranched structures.

The Group actively monitors its counterparty credit risk in credit derivative contracts. More than 95% of the notional value of the Group's credit derivative positions as of 31 December 2008 is to 15 large, established names with which the Group maintains collateral agreements.

7.2 Counterparty risk management

Counterparty credit exposure is viewed similarly to loan exposures and included under the Group's overall lending limits to counterparties.

The Group actively monitors and manages its exposure to counterparties in over-the-counter derivative trades to protect its balance sheet in event of counterparty default. Counterparty risk exposures which may be materially and adversely affected by market risk events are identified, reviewed and acted upon by management and highlighted to the appropriate risk committees. The current exposure method is used for calculating the Group's net credit exposure and regulatory capital for counterparty exposures, using the mark-to-market exposures with an appropriate add-on factor for potential future exposures.

The Group further manages its credit exposure by entering into master netting arrangements with counterparties where it is appropriate and feasible to do so. The credit risk associated with favourable contracts is reduced by a master netting arrangement to the extent that if an event of default occurs, all amounts with the counterparty are settled on a net basis.

The Group may also enter into Credit Support Annexes with counterparties for credit risk reduction and increased competitiveness. These are governed by internal guidelines with respect to the eligibility of various collaterals and the frequency of collateral calls.

7.3 Credit equivalent amounts for counterparty exposures

In $ millions	2008
Replacement cost	34,708
Potential future exposure	18,181
Gross credit equivalent amount	52,889
Comprising:	
Interest rates contracts	17,040
Credit derivative contracts	11,449
Equity contracts	473
Foreign exchange contracts and gold	23,926
Commodities contracts	1
Gross credit equivalent amount	52,889
Less: Effect of netting arrangement	13,451
Credit equivalent amount after netting	39,438
Less: Collateral amount	
Eligible financial collateral	861
Other eligible collateral	22
Net credit equivalent amount	38,555

Counterparty credit exposure is mitigated by exposure netting through ISDA agreements and recognition of eligible collateral, effects of which have been included in regulatory capital calculations where appropriate.

8 MARKET RISK

8.1 Trading market risk management

Trading market risk arises from the impact on trading positions of changes in foreign exchange rates, commodity prices, equity prices, interest rate yields and credit spreads. It also includes the impact from changes in the correlations and volatilities of the above risk factors. The Group manages trading market risk in the course of market-making, structuring and packaging products for investors and other clients, as well as to benefit from market opportunities. The Group's market risk framework identifies the types of the market risk to be covered, the risk metrics and methodologies to be used to capture such risk and the standards governing the management of market risk within the Group including limit setting and independent model validation, monitoring and valuation.

The Board establishes the Group's risk appetite for trading market risk. The CEO delegates responsibility to the Group Market Risk Committee to allocate risk appetite limits to risk-taking units. The Committee also oversees the Group's market risk management infrastructure, sets market risk control limits and provides enterprise-wide oversight of all market risks and their management.

The independent market risk management function comprising risk control, model analytics, risk architecture and policy reports to the Chief Risk Officer and is responsible for day-to-day risk monitoring and analysis.

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The principal market risk appetite measures for trading market risk are Value-at-Risk (VaR) and stress loss. The VaR is supplemented by risk control measures, such as sensitivities to risk factors, including their volatilities, as well as stop-loss limits.

The Group's general market risk VaR methodology uses a historical simulation approach (at a 99% confidence level over a one-day holding period, using a 2-year historical observation period) to forecast the Group's trading market risk. VaR risk factor scenarios are generally aligned to parameters and market data used for valuation. These are maintained in the risk system and are used to compute VaR daily for each trading business unit and location, and at Group-level. VaR is back-tested against the profit and loss of the trading book in line with policy in order to monitor its predictive power. Quantitative data regarding the Group's VaR may be found in Note 47.1 to the Financial Statements.

Although VaR provides valuable insights, no single measure can capture all aspects of trading market risk. Therefore, regular stress testing is carried out to monitor the Group's vulnerability to shocks.

8.2 Non-trading market risk management

Non-trading market risk arises from changes in foreign exchange rates, interest rates and equity prices. Non-trading market risk arises in the course of (a) the Group's management of funds arising from banking intermediation and (b) the Group's banking business and investments; specifically, from mismatches in the interest rate profile of assets and liabilities, from the effect of exchange rate movements on the Group's earnings, capital accounts and investments denominated in foreign currencies and from the effect of changes in equity prices on the carrying value of strategic investments in associates and other major stakes.

To optimise its income and balance sheet management, the Group deploys funds in debt securities, equities and funds or in the interbank market. Derivatives may be used to hedge non-trading market risk. Senior Management establishes a framework governing the Group's investment of its surplus funds. The market risk arising in the course of managing these funds comprises interest rate and equity price risks. Risk appetite limits are allocated and risk oversight for these risks is performed in a manner similar to that for traded market risk.

(A) Interest rate risk in banking book

The Group distinguishes two major sources of non-trading interest rate risk arising from (a) the deployment of funds in investments (and associated hedges) and interbank market activities and (b) from mismatches in the interest rate profile of assets, liabilities and capital instruments (and associated hedges) in major funding currencies. The Group Market Risk Committee is charged with oversight of non-trading interest rate risk from an economic value perspective. Major funding currencies are SGD in Singapore and HKD and USD in Hong Kong. The principal market risk appetite measure for the former source of non-trading interest rate risk is value-at-risk, complemented by more granular risk and loss limits, in a similar manner as for trading market risk, as described above and subject to similar methodological limitations.

Interest rate risk arising from mismatches in the interest rate profile of assets, liabilities and capital instruments (and associated hedges) has several aspects: basis risk arising from different interest rate benchmarks, interest rate re-pricing risk, yield curve risks and embedded optionality. This risk is subject to limits established by the Board. The Group Asset-Liability Committee is charged with oversight and broad strategy for this risk. To monitor this risk, the Group uses various tools, including re-pricing gap reports, sensitivity analysis and income scenario simulations. The Group manages and monitors its interest rate sensitivity to these mismatches by various currencies.

Refer to Note 47.2 to the Financial Statements for the interest rate sensitivity analysis of the Group's interest rate risk in the banking book. Outcomes may differ from the sensitivity impact as the Group manages factors such as changes in volumes, margins (for interest rate risk) and future business strategies, the impact of which is not captured in the sensitivity assessment.

(B) Foreign currency risk

Foreign currency loans and investments in fundable currencies are generally funded in the same foreign currencies. However, positions arising from investments in currencies which have high hedging costs or which are illiquid or controlled are reviewed by senior management and may be managed with alternative strategies or left unhedged. This foreign exchange risk is subject to limits established by the Board and is monitored using foreign exchange net open position reports.

8.3 Capital treatment for market risk

As at 31 December 2008, the Group used the Standardised Approach to calculate market risk capital requirements under MAS Notice 637.

The following table summarises the capital amounts by risk types:

In $ millions	2008
Interest rate risk[(a)]	1,801
Equity risk[(b)]	15
Foreign exchange risk[(c)]	456
Commodity risk	#
Total	2,272

 # Amount under $500,000
(a) Includes market risk capital on credit derivative transactions
(b) Comprises general and specific risks
(c) Includes positions arising from investments denominated in foreign currencies

9 OPERATIONAL RISK

9.1 Operational risk management

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people or systems, or from external events, including legal risk, but does not include strategic or reputation risk. An Operational Risk Management Framework, approved by the Board Risk Management Committee, has been developed with the objective to ensure that operational risks within the Group are identified, monitored, managed and reported in a structured, systematic and consistent manner.

To manage and control operational risk, the Framework encompasses various tools including, control self-assessment, risk event management, key risk indicator monitoring and process risk mapping. Risk events, including any significant incidents that may impact the Group's reputation, are required to be reported based on certain thresholds established. Key risk indicators with pre-defined escalation triggers are employed to facilitate risk monitoring in a forward looking manner. A process risk mapping framework was developed to identify the key risks and controls of key products/services in an end-to-end transaction cycle.

A key component of the Framework is a set of Core Operational Risk Standards which provides guidance on the baseline controls to ensure a controlled and sound operating environment. Each new product or service introduced is subject to risk review and sign-off process where relevant risks are identified and assessed by departments independent of the risk-taking unit proposing the product or service. Variations of existing products or services and outsourcing initiatives, are also subject to a similar process. Major operational risk mitigation programmes include Business Continuity Management and Global Insurance Programme. On an annual basis, the CEO provides an attestation to the Board on the state of business continuity management of the Group, including any residual risks.

The Group Operational Risk Committee oversees the Group’s operational risk management infrastructure, including the Framework, policies, processes, information, methodologies and systems. The Group Operational Risk Committee also performs regular review of the operational risk profiles of the Group, and endorses and recommends corporate operational risk policies to be approved by senior management.

9.2 Capital treatment for operational risk

The Standardised Approach has been adopted to calculate operational risk equivalent amounts as of 31 December 2008.

10 EQUITY EXPOSURES IN BANKING BOOK

10.1 Scope of application

The Group’s banking book equity investments consists of:

- Investments held for yield and/or long-term capital gains;
- Strategic stakes in entities held as part of growth initiatives and/or in support of business operations.

The Group’s banking book equity investments are classified and measured in accordance with Financial Reporting Standards and are categorised as either Available for Sale investments or Investments in associates. Refer to Notes 2.2 and 2.7 to the Financial Statements for the Group’s accounting policies. Entities in which the Group holds significant interests are disclosed in Note 52 to the Financial Statements.

10.2 Capital treatment

The Group has adopted the IRBA simple risk-weight method to calculate regulatory capital for equity exposures in its banking book, except for private equity and venture capital (PE/VC) investments which are subject to supervisory risk-weights and capital deductions as set out in MAS Notice 637.

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The following table summarises the Group's exposures to equity, in the banking book, including investments in Tier 1 capital instrument of financial institutions:

2008 In $ millions	Fair value	Amounts disclosed in the balance sheet	Exposures subject to risk-weighting	Risk-weights (%)	Deductions in Tier 1 or Tier 2 Capital
Simple risk-weight method					
Equities listed on MAS recognised exchanges	371	424	478	150	23
Equities not listed on MAS recognised exchanges	2,177	1,795	1,939	200	56
Sub-total	2,548	2,219	2,417	–	79
Supervisory risk-weight method					
PE/VC	72	72	72	200	#
Total	2,620	2,291	2,489	–	79

 # Amount under $500,000

Equity exposures under simple risk-weight method are further analysed by equity groupings as follows:

2008	Exposures (In $ millions)	Exposure-weighted average risk-weights[(a)] (%)
Major stake companies approved under section 32 of the Banking Act	524	194
Capital investments in financial institutions incorporated in Singapore, approved, licensed, registered or otherwise regulated by the Authority ≤ 2% of Eligible Total Capital	37	150
Other equity exposures	1,856	189
Total	2,417	190

(a) Percentages disclosed are before the application of applicable IRBA scaling factor

Realised gains arising from sales and liquidations of equity exposures:

In $ millions	Realised gains
2008	271

Total unrealised gains for equity that have not been reflected in the Group's income statement, but have been included in Tier 2 Capital, amounted to $27 million.