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**Standard Chartered Bank (Thai) PCL**  
**Pillar 3 Disclosures**  
**31 December 2010**

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Registered Office: 90 North Sathorn Road, Silom Bangkok, 10500, Thailand

# Standard Chartered Bank (Thai) PCL

## Pillar 3 Disclosures

### 31 December 2010

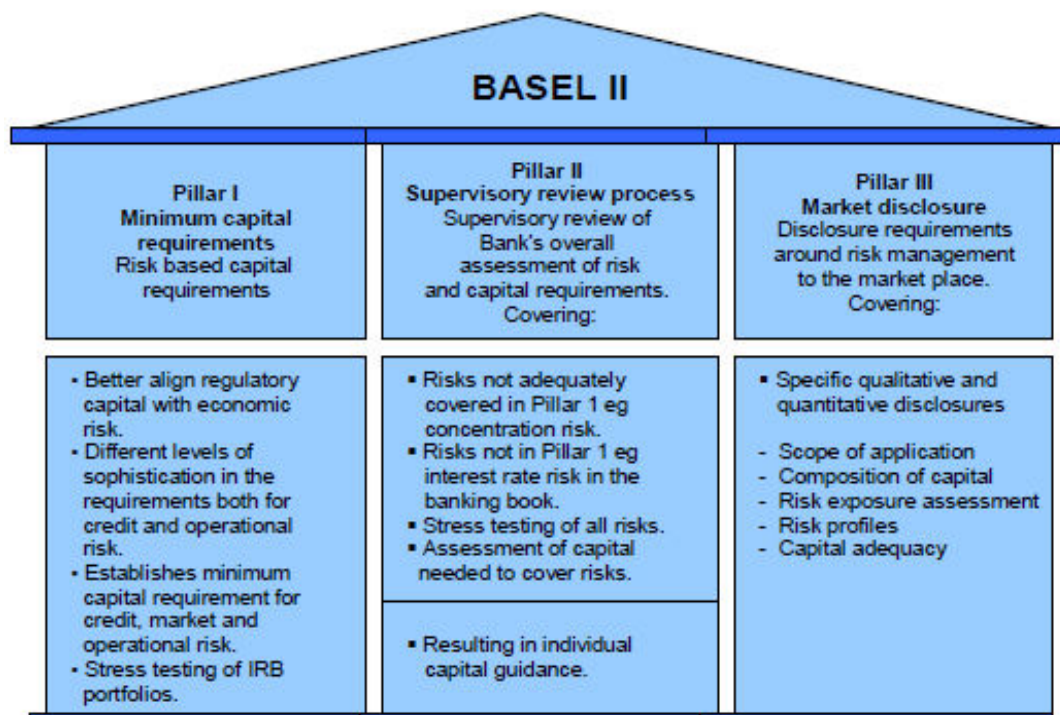
## Overview

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In November 2008, the Bank of Thailand (“BOT”) published the notification for Capital Maintenance Supervision of Commercial Banks and several related notifications which are based on “International Convergence of Capital Measurement and Capital Standards – A Revised Framework” (Comprehensive Version: June 2006) from the Basel Committee on Banking Supervision (“BCBS”), which developed from Basel I guidelines. The objectives of these notifications are to enhance the risk management system and ensure the sound capital adequacy assessment of losses in commercial banks.

This notification (commonly referred to as “Basel II”) introduces a more risk-based approach to regulatory capital with a distinct charge for operational risk in addition to the existing credit and market risk capital charges. Basel II is designed to be a catalyst for more advanced risk management techniques, enterprise-wide cultures of risk management and improved corporate governance and public disclosure.

Basel II is structured around three ‘pillars’ which are demonstrated in below diagram.



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Basel II provides an incentive scheme encouraging banks to adopt more advanced risk management practices. To achieve this, three “pillars” are outlined below:

Pillar 1 sets out minimum regulatory capital requirements – the minimum amount of regulatory capital banks must hold against the risks they assume;

Pillar 2 sets out the key principles for supervisory review of a bank’s risk management framework and its capital adequacy. It sets out specific oversight responsibilities for the Board and senior management, thus reinforcing principles of internal control and other corporate governance practices; and

Pillar 3 covered in this report, aims to bolster market discipline through enhanced disclosure by banks.

Under Basel II, Standard Chartered Bank (Thai) PCL, has adopted Advanced Internal Ratings Based Approach (“AIRB”) for the measurement of credit risk and applied The Standardised Approach (“SA”) for determining the capital requirements for market and operational risks.

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## **1. Scope of Basel II Framework**

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### **Pillar 1: Minimum Capital Requirement**

The BOT has approved Standard Chartered Bank (Thai) PCL (“the Bank”) to adopt the AIRB approach which is more advanced risk management framework for the measurement of credit risk capital and under the notification, the Bank has been using AIRB approach for the credit risk capital calculation from Basel II method as regulatory capital since December 2009.

The Bank is also required to calculate a capital charge to cover market risk and operational risk for which the Bank applies the Standardised Approach.

During the initial years of Basel II implementation (2009-2011), the minimum capital requirements were restricted by reference to the Basel I framework, so they could not fall below 90 per cent of the Basel I capital requirements in 2009-2010 reducing to 80 per cent in 2011.

### **Pillar 2: Supervisory Review Process**

Pillar 2 requires banks to undertake a comprehensive assessment of their risks and to determine the appropriate amounts of capital to be held against these risks where other suitable mitigants are not available. This risk and capital assessment is commonly referred to as an Internal Capital Adequacy Assessment Process (“ICAAP”) which covers much broader risk types than Pillar 1, which cover only credit risk, market risk, and operational risk.

The Bank has developed an ICAAP policy and framework which closely integrates the risk and capital assessment processes, and ensures that adequate levels of capital are maintained to support the Bank’s current and projected demand for capital under expected and stressed conditions.

Under Pillar 2, the BOT would undertake a review of Banks’ ICAAPs. This is referred to

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as the Supervisory Review and Evaluation Process ("SREP").

#### **Pillar 3: Market Discipline**

Pillar 3 aims to provide a consistent and comprehensive disclosure framework that enhances comparability between banks and further promotes improvements in risk practices. According to the BOT notification, the Bank is required to disclose the data and information relative to risk profile, risk management and capital funds.

The Bank has implemented a Pillar 3 policy and procedure framework to address the requirements laid down for Pillar 3 disclosure. The information provided has been reviewed and validated by senior management and the Risk Committee. In accordance with the Bank's policy, the Pillar 3 disclosure will be published on the Standard Chartered Bank (Thai) PCL website - [www.standardchartered.co.th](http://www.standardchartered.co.th).

The BOT has also set the frequency of disclosure on semi-annual basis and annual basis. Quantitative data of Capital Structure & Adequacy and Market risk will be disclosed on a semi-annual basis. Whereas, the full Pillar 3 disclosures will be made annually on both qualitative and quantitative data.

## **2. Scope of Application**

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In compliance with the requirement under Basel II Pillar 3 and sets of the BOT's disclosure requirements, the Bank has developed a set of disclosures for its position (Solo basis) as at 31 December 2010 covering the following areas:

- Qualitative and quantitative data for Capital and the minimum capital requirement for Credit risk, Market risk and Operational risk
- Qualitative for Risk Exposure and Assessment
  - Credit Risk
  - Market Risk
  - Operational Risk



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- Equities Exposure in the Non-trading Book (Banking Book)
- Interest Rate Risk in the Non-trading Book (Banking Book)
- Quantitative data for Credit Risk, Market risk, Equities Exposure in Non-Trading Book (Banking Book) and Interest Rate Risk in Non-trading Book (Banking Book)

### **3. Capital Management**

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The Bank's capital management approach is driven by its desire to maintain a strong capital base to support the development of the Bank business activities, to meet regulatory minimum capital requirements at all times and to maintain appropriate credit ratings.

The Bank's capital planning is dynamic and regularly refreshed to reflect the business forecasts as they evolve during the course of each year. The strategy-setting and planning is presented to the Board on an annual basis with regularly update on the financial outlook and performance as to the capital adequacy is aligned with the business plan.

The capital plan takes the following into account:

- Current regulatory capital requirements and the Bank's assessment of on-going regulatory expectation.
- Demand for capital due to business growth forecasts, loan impairment outlook and market shocks or stresses
- Forecast demand for capital to support credit ratings and as a signalling tool to the market
- Available supply of capital and capital raising options

The Asset and Liabilities Management Committee ("ALCO") as appointed by Executive Committee<sup>1</sup> ("EXCO") is responsible for managing the balance sheet, liquidity and capital adequacy in accordance with Standard Chartered Bank Group policies adopted by the Bank and regulatory requirements.

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<sup>1</sup> Executive Committee is previously named Management Committee (MANCO).

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**3.1 Capital Structure**

The Bank maintains capital to meet the minimum regulatory capital requirements set by the BOT. In addition, the Bank assesses its capital adequacy to support current and future business activities.

The following table is a breakdown of total regulatory capital of the Bank as at 31 December 2010, comparing with the positions as at 30 June 2010.

**Table1: Capital Structure**

	Unit: Million Baht	
	<b>31 Dec 10</b>	<b>30 Jun 10</b>
<b>Tier 1 Capital</b>		
Paid up share capital	14,837	14,837
Share premium account	9,056	9,056
Statutory reserve	408	408
Retained earnings	6,648	6,648
Less: excess expected loss	(350)	-
<b>Total Tier 1 Capital</b>	<b>30,599</b>	<b>30,949</b>
<b>Tier 2 Capital</b>		
Capital tier 2 before deduction	398	399
- General Provision under SA	394	373
- Surplus of provision (Excess Provisions)	-	25
- Gain on equity securities under available-for-sale	4	1
Less: excess expected loss	(350)	-
<b>Total Tier 2 Capital</b>	<b>48</b>	<b>399</b>
<b>Total Regulatory Capital</b>		
<b>Deductions</b>	<b>(700)</b>	<b>-</b>
<b>Total Regulatory Capital</b>	<b>30,647</b>	<b>31,348</b>

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#### Capital Sources

The Bank's Tier 1 Capital consists of issued and paid up share capital & premium, statutory reserve and retained earnings.

The Bank's Tier 2 Capital comprises of the general provision for normal performing loans and surplus of provision and the revaluation gain on equity securities under available-for-sale ("AFS") portfolio in the amount as allowed by the BOT.

#### Movement in Capital

On a Basel II basis, total capital decreased by THB 701 million which mainly due to excess expected loss.

### 3.2 Capital Adequacy

Under the BOT guidelines, the Bank is required to maintain a minimum ratio of total capital to risk weighted assets of 8.50%, with the minimum ratio of tier 1 capital to risk weighted assets at 4.25%. In addition, Tier 2 capital cannot exceed Tier 1 capital.

Total Capital Adequacy Ratio of the Bank as at 31 December 2010 was 15.12%. Tier 1 Capital Ratio was at 15.10% which exceeded minimum requirements of the BOT.

**Table 2: Capital Adequacy**

Unit: Percent

	<b>BOT Minimum Requirement</b>	<b>31 Dec 10</b>	<b>30 Jun 10</b>
Total capital funds to risk weighted assets	8.50	15.12	18.32
Tier 1 capital funds to risk weighted assets	4.25	15.10	18.09

### 3.3 Minimum Capital Requirement

The Bank maintains minimum capital inline with the BOT's requirement. Table 3 shows the breakdown of minimum Capital requirement for Credit Risk, Market Risk and Operational risk of the Bank as at 31 December 2010.

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**Table 3: Minimum Capital Requirement**

Unit: Million Baht

<b>Minimum Capital</b>	<b>31-Dec-10</b>	<b>30-Jun-10</b>
Credit Risk	12,928	10,564
Market Risk	2,671	2,250
Operational Risk	1,631	1,730
<b>Total Minimum Capital Requirements</b>	<b>17,230</b>	<b>14,544</b>

**AIRB Adoption**

The Bank uses AIRB approach to calculate credit risk for material portfolios whilst SA approach is applied to portfolios that are classified as permanently exempt from the AIRB approach as well as those portfolios that are currently under transition to the AIRB approach.

The following tables show Minimum Capital Requirement for Credit Risk Classified by Asset Classes under AIRB (table 4), Minimum Capital Requirement for Credit Risk Classified by Asset Classes under SA (table 5) and Minimum Capital Requirement for Equity Exposure under AIRB (table 6).

**Table 4: Minimum Capital Requirement for Credit Risk Classified by Asset Classes under AIRB**

Unit: Million Baht

<b>Asset Class</b>	<b>31-Dec-10</b>	<b>30-Jun-10</b>
<b><i>Non-Default exposures</i></b>		
Claims on sovereigns, financial institutions and Corporates	7,673	7,395
Claims on retail portfolios		
-Claims on residential mortgage	-	-
-Qualifying revolving retail exposures	1,175	-
-Other retail exposures	874	-
Equity exposures	10	10

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Other assets	125	127
<b>Default exposures</b>	<b>288</b>	<b>16</b>
<b>First-to-default credit derivatives and Securitisation</b>	<b>-</b>	<b>-</b>
<b>Total minimum capital requirement for credit risk – AIRB</b>	<b>10,144</b>	<b>7,548</b>

Minimum capital requirement for credit risk under AIRB increased by THB 2,596 million which mainly due to an AIRB implementation of Claims on retail portfolio, comprised of qualifying revolving retail exposures and other retail exposures, in mid 2010. The implementation subsequently leads to decrease in total capital requirement for credit risk calculated by SA approach (as shown in table 5 below).

**Table 5: Minimum Capital Requirement for Credit Risk Classified by Asset Classes under SA**

Unit: Million Baht

<b>Asset Class</b>	<b>31-Dec-10</b>	<b>30-Jun-10</b>
<b>Non-Default exposures</b>		
Claims on sovereigns and central banks, MDBs and PSEs treated as claims on sovereigns	-	-
Claims on financial institutions, PSEs treated as claims on financial institutions, and securities firms	626	52
Claims on corporates, PSEs treated as claims on corporate	738	824
Claims on retail portfolios	628	1,444
Claims on residential mortgage	763	671
Other assets	-	-
<b>Default exposures</b>	<b>29</b>	<b>26</b>
<b>First-to-default credit derivatives and Securitisation</b>	<b>-</b>	<b>-</b>
<b>Total minimum capital requirement for credit risk – SA</b>	<b>2,784</b>	<b>3,016</b>

Note: PSE is non-central government public sector entities

Total minimum capital requirement for credit risk under SA approach slightly dropped by THB 232 million which mainly due to the transformation of retail portfolios from SA to AIRB approach in mid 2010.

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**Table 6: Minimum Capital Requirement for Equity Exposure under AIRB**

Unit: Million Baht

Item	31-Dec-10	30-Jun-10
Equity exposure exempted from credit risk calculation by IRB	10	10
Equity exposure subject to the IRB approach		
1. Equity holdings subject to the Market-based approach		
1.1 Simple Risk Weight Approach	-	-
1.2 Internal Model Approach (for equity exposure in non-trading book (banking book))	-	-
2. Equity holdings subject to a PD/LGD approach	-	-
<b>Total minimum capital requirement for equity exposure – AIRB</b>	<b>10</b>	<b>10</b>

## 4. Risk Management

The management of risk lies at the heart of the Bank's business. One of the main risks incurred arises from extending credit to customers through trading and lending operations. Beyond credit risk, the Bank is also exposed to a range of other risk types such as country cross border, market, liquidity, operational, reputational and other risks that are inherent to the Bank's strategy and its product range.

### 4.1 Risk Management Framework ("RMF")

Effective risk management is fundamental to being able to generate profits consistently and sustainably and is thus a central part of the financial and operational management of the Bank.

Through its risk management framework the Bank manages bank-wide risks, with the objective of maximising risk-adjusted returns while remaining within its risk appetite.

As part of this framework, the Bank uses a set of principles that describe the risk management culture the Bank wishes to sustain:

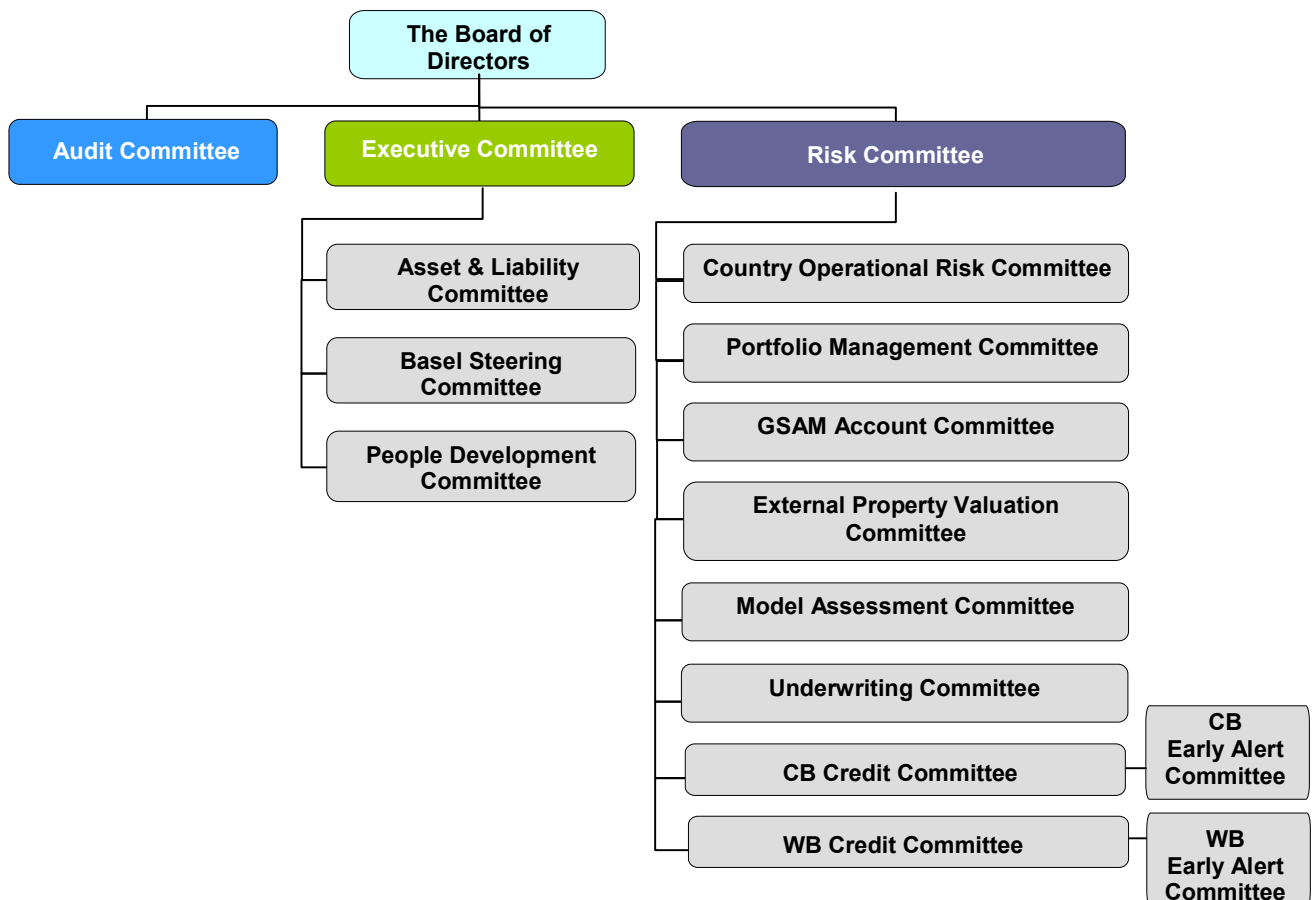
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- Balancing risk and return: risk is taken in support of the requirements of the Bank's stakeholders, in line with the Bank's strategy and within its risk appetite;
- Responsibility: it is the responsibility of all employees to ensure that risk-taking is disciplined and focused. The Bank takes account of its social responsibilities, and its commitment to customers in taking risk to produce a return;
- Accountability: risk is taken only within agreed authorities and where there is appropriate infrastructure and resource. All risk-taking must be transparent, controlled and reported;
- Anticipation: the Bank seeks to anticipate future risks and ensure awareness of all known risks; and
- Competitive advantage: the Bank seeks to achieve competitive advantage through efficient and effective risk management and control.

The following diagram illustrates the high level risk committee structure:



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**4.2 Risk Governance**

Ultimate responsibility for setting the Bank's risk appetite and for the effective management of risk rests with the Board. The Board delegates the authority for the management of risks to several committees.

The Executive Committee ("EXCO") is responsible for the day to day management, operation and control of the Bank in conformity with policies and strategies approved by the Board of Directors. The EXCO is chaired by the CEO and comprises senior executives from Consumer Banking, Wholesale Banking (Origination and Client Coverage and Financial Markets), Finance, Group Technology & Operations, Legal, Risk Management, Human Resources, Compliance & Assurance and Corporate Affairs.

The Asset & Liability Committee ("ALCO") ensures that the balance sheet of the Bank is managed in accordance with the policies of Standard Chartered Bank Group adopted by the Bank and any other applicable regulatory requirements relating to management of liquidity, capital adequacy and structural market risks.

The Risk Committee's ("RC") main responsibilities are to provide leadership on forward looking and anticipating risk issues covering strategic risk, operational risk, credit risk, market & liquidity risk, legal & regulatory risk, and reputational risk etc. The Committee also supervises and directs the management of all risks within the Bank to be in accordance with standards of Standard Chartered Bank Group and policies laid down by the RC.

Roles and responsibilities for risk management are defined under a Three Lines of Defence model. Each line of defence describes a specific set of responsibilities for risk management and control.

The first line of defence is that all employees are required to ensure the effective management of risks within the scope of their direct organisational responsibilities. Business and function heads are accountable for risk management in their respective businesses and functions.



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The second line of defence comprises the Risk Control Owners and Assurance Team, supported by their respective control functions. Risk Control Owners are responsible for ensuring that the risks within the scope of their responsibilities remain within appetite. The scope of a Risk Control Owner's responsibilities is defined by a given Risk Type and the risk management processes that relate to that Risk Type as mentioned above.

The third line of defence is the independent assurance provided by the Internal Audit function. Its role is defined by the Audit Committee. The findings from its audit are reported to all relevant management, relevant oversight functions or committees and committees of the Board. The Internal Audit provides independent assurance of the effectiveness of management's control of its own business activities (the first line) and of the processes maintained by the Risk Control Function (the second line). As a result, the Internal Audit provides assurance that the overall system of control effectiveness is working as required within the Risk Management Framework.

#### **The Risk Function**

The Country Chief Risk Officer ("CCRO") directly manages a Risk function which is separated from the origination, trading and sales functions of the businesses. The CCRO also chairs the RC and is a member of EXCO. The roles of the Risk function are:

- To ensure the effective application of the Bank's Risk Management Framework.
- To ensure risk identification and measurement capabilities are objective, consistent and compliant with the Bank standards and applicable regulations, and that risk control and risk origination decisions are properly informed.
- To ensure the effective application of the Bank's risk assurance framework to evidence that existing governance and risk control processes are effectively implemented within the Bank.
- To ensure that the Committee's authorities are effectively delegated to properly constituted sub-committees or authorised individuals, to achieve the right balance between business efficiency and risk control.
- To set and maintain risk control parameters for all types of risk of the Bank, including policies, control standards, risk exposure limits or other control levers; to maintain the Bank's risk profile within the boundaries set by the Board and Standard Chartered Bank Group.

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- To monitor all material risk exposures and key external trends.
- To initiate stress tests and scenario plans and review their results and those of any Group-wide, business, country or specific risk type stress tests or scenario plans which would have a material impact on the Bank.
- To review the findings of sub-committees, Group Internal Audit, Credit Risk Review, other internal functions and external regulators on material risk issues.
- To direct appropriate action in response to material risk issues or themes those come to the attention.
- To ensure that material risk issues and changes are reported to the Board and Standard Chartered Bank Group risk committees as appropriate.
- To ensure that authorities for the setting of policies, control standards, exposure limits and other risk control levers are delegated appropriately, in line with the Bank's Committees and Standard Chartered Bank Group risk authorities frameworks.

**4.3 Risk Appetite**

Risk Appetite is an expression of the amount of risk the Bank is willing to take in pursuit of its strategic objectives, reflecting the Bank's capacity to sustain losses and continue to meet its obligation arising from a range of different stress trading conditions.

Risk appetite is defined in terms of both volatility of earnings and the maintenance of minimum regulatory capital requirements under stress scenarios. The Bank also defines risk appetite with respect to liquidity risk.

The Bank's quantitative risk profile is assessed through a 'bottom-up' analytical approach covering all of the Bank's major businesses and products. The risk appetite is approved by the Board and forms the basis for establishing the risk parameters within which businesses must operate, including policies, concentration limits and business mix.

The RC and ALCO are responsible for ensuring that the Bank's risk profile is managed in compliance with the risk appetite set by the Board.

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**4.4 Stress Testing**

Stress testing and scenario analysis are used to assess the financial and management capability of the Bank to continue operating effectively under extreme but plausible trading conditions. Such conditions may arise from economic, legal, political, environmental and social factors.

The Bank's stress testing framework is designed to:

- Contribute to the setting and monitoring of risk appetite
- Identify key risks to strategy, financial position, and reputation
- Examine the nature and dynamics of the risk profile and assess the impact of stresses on profitability and business plans
- Ensure effective governance, processes and systems are in place to co-ordinate and integrate stress testing
- Inform senior management
- Ensure adherence to regulatory requirements.

Annual Stress Testing with participation from Group Research, Country Credit Risk, Country Finance and Group Treasury aim to ensure that the earnings and capital implications of specific stress scenarios are fully understood. Such Stress Testing team generates and considers pertinent and plausible scenarios that have the potential to adversely affect the Bank's business.

The Bank's stress testing activity focused on specific asset classes, customer segments and the potential impact of macroeconomic factors which are in line with the Bank's internal capital adequacy assessment process and framework, as well as regulatory requirement. Stress tests have taken into consideration possible future scenarios that could arise as a result of the development of prevailing market conditions.

## **5. Credit Risk**

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### **5.1 Credit Risk**

Credit risk is the potential for loss due to the failure of a counterparty to meet its obligations to pay the Bank in accordance with agreed terms. Credit exposures may arise from both the non-trading (banking) and trading books.

Credit risk is managed through a framework which sets out policies and procedures covering the measurement and management of credit risk. There is a clear segregation of duties between transaction originators in the businesses and approvers in the Risk function. All credit exposure limits are approved within a defined credit approval authority framework.

#### **Credit Policies**

The Bank's credit policies and standards are considered and approved by the Board, which also oversees the delegation of credit approval and loan impairment provisioning authorities via the Risk Committee.

Policies and procedures specific to each business are established by authorised risk committees within Wholesale ("WB") and Consumer Banking ("CB"). These are consistent with the Bank's credit policies, but are more detailed and adapted to reflect the different risk environments and portfolio characteristics.

#### **Credit Rating and Measurement**

Risk measurement plays a central role, along with judgment and experience, in informing risk taking and portfolio management decisions. It is a primary area for sustained investment and senior management attention.

For IRB portfolios, a standard alphanumeric credit risk grade ("CG") system is used in both Wholesale and Consumer Banking. The grading is based on the Bank's internal estimate of probability of default over a one-year horizon, with customers or portfolios assessed against a range of quantitative and qualitative factors.

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The numeric grades run from 1 to 14 and some of the grades are further sub-classified A, B, C or D. Lower credit grades are indicative of a lower likelihood of default. Credit grades 1A to 12D are assigned to performing customers or accounts, while credit grades 13 and 14 are assigned to non-performing or defaulted customers<sup>2</sup>.

The Bank's credit grades in Wholesale Banking are not intended to replicate external credit grades, and ratings assigned by external ratings agencies are not used in determining the Bank's internal credit grades. Nonetheless, as the factors used to grade a borrower may be similar, a borrower rated poorly by an external rating agency is typically assigned a worse internal credit grade.

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

IRB risk measurement models are reviewed by Model Assessment Committee ("MAC"). The MAC supports RC in ensuring risk identification and measurement capabilities are objective and consistent, so that risk control and risk origination decisions are properly informed. Prior to review by the MAC, all IRB models are validated in detail by a model validation team, which is separated from the teams that develop and maintain the models. Models undergo a detailed annual review. Reviews are also triggered if the performance of a model deteriorates materially against predetermined thresholds during the ongoing model performance monitoring process.

#### **Credit Approval**

Major credit exposures to individual counterparties, groups of connected counterparties and portfolios of retail exposures are reviewed and approved by either CB Credit Committee ("CBCC") or WB Local Credit Committee ("WBCC"). Both committees derive their authorities from RC.

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<sup>2</sup> Credit grade 12D is applied for Retailed Portfolios of Consumer Banking only.

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The RC delegates credit approval authorities to Country Chief Risk Officer (“CCRO”) and Country Credit Head Consumer Bank (“CCH”). Both individuals in turn, delegate credit authorities within their departments. The level of credit authority delegated is based on their judgment and experience and a risk-adjusted scale that takes account of the estimated maximum potential loss from a given customer or portfolio.

Credit origination and approval roles are segregated in all but a very few authorised cases. In those very few exceptions where they are not, originators can only approve limited exposures within defined risk parameters.

**Concentration Risk**

Credit concentration risk is managed within concentration caps set by counterparty or groups of connected counterparties, by country and industry in Wholesale Banking and tracked by product in Consumer Banking. Additional targets are set and monitored for concentrations by credit rating.

Credit concentrations are monitored by the responsible risk committees in each of the businesses and concentration limits that are material to the Bank are reviewed and approved at least annually by RC.

**Credit Monitoring**

The Bank regularly monitors credit exposures, portfolio performance, and external trends that may impact risk management outcomes. Internal risk management reports are presented to risk committee, containing information on key environmental, political and economic trends; portfolio delinquency and loan impairment performance; and IRB portfolio metrics including credit grade migration.

WBCC is a subcommittee of RC. WBCC meets regularly to assess the impact of external events and trends on the Wholesale Banking credit risk portfolio and to define and implement the response in terms of appropriate changes to portfolio shape, portfolio and underwriting standards, risk policy and procedures.

Clients or portfolios are placed on early alert when they display signs of weakness or financial deterioration, for example, where there is a decline in the customer’s

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position within the industry, a breach of covenants, non-performance of an obligation, or there are issues relating to ownership or management.

Such accounts and portfolios are subjected to a dedicated process overseen by Early Alert Committees in the Bank. Account plans are re-evaluated and remedial actions are agreed and monitored. Remedial actions include, but are not limited to, exposure reduction, security enhancement, exiting the account or immediate movement of the account into the control of Group Special Assets Management (GSAM), the Bank's specialist recovery unit.

In Consumer Banking, portfolio delinquency trends are monitored continuously at a detailed level. Individual customer behaviour is also tracked and is considered for lending decisions. Accounts that are past due are subject to a collections process, managed independently by the Risk function. Charged-off accounts are managed by specialist recovery teams.

The small and medium-sized enterprise ("SME") business is managed within Consumer Banking in two distinct customer subsegments: small businesses and medium enterprises, differentiated by the annual turnover of the counterparty. The credit processes are further refined based on exposure at risk. Larger exposures are managed through the Discretionary Lending approach, in line with Wholesale Banking procedures, and smaller exposures are managed through Programmed Lending, in line with Consumer Banking procedures.

Tables 7 to 14 below show outstanding balance of On-balance and Off-balance sheet assets before taking the effect of Credit Risk Mitigation into account. The outstanding is presented in different aspects, for instance, as classified by country or geographic area of debtor. The loan and investment in debt securities, as well as their respective provision and charge-off amounts are also illustrated.

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**Table 7: Outstanding Balance of On-Balance Sheet and Off-Balance Sheet Assets before Credit Risk Mitigation**

Unit: Million Baht

Item	31-Dec-10
<b>1. On Balance sheet assets</b>	
1.1 Net loans <sup>1/</sup> (including interbank and money market item)	156,524
1.2 Net investment in debt securities <sup>2/</sup>	42,833
1.3 Deposits (including accrued interests)	2,318
<b>2. Off Balance sheet assts<sup>3/</sup></b>	
2.1 Aval of bills, loan guarantees, and letters of credit	3,843
2.2 OTC derivatives <sup>4/</sup>	2,308,428
2.3 Undrawn committed line	13,759
2.4 Repo-style transaction	16,146

<sup>1/</sup>Including accrued interests and net of deferred revenues, allowances for doubtful accounts and revaluation allowances for debt restructuring.

<sup>2/</sup>Excluding accrued interests and net of revaluation allowances for equity and impairment allowances for equities.

<sup>3/</sup>Before applying credit conversion factor (CCF)

<sup>4/</sup>Including equity derivatives

**Table 8: Outstanding balance of On-balance sheet and Off-balance sheet assets before Credit Risk Mitigation Classified by Country or Geographic Area of Debtor**

Unit: Million Baht

Item	Thailand	Asia Pacific (exclude Thailand)	North America & Latin	Africa & Middle East	Europe	Total
<b>On-balance sheet items</b>						
Net loans <sup>1/</sup>	153,863	1,294	438	-	929	156,524
Net Investment in debt securities <sup>2/</sup>	42,758	-	-	75	-	42,833
Deposits (including accrued interests)	945	317	-	-	1,056	2,318
<b>Total</b>	<b>197,566</b>	<b>1,611</b>	<b>438</b>	<b>75</b>	<b>1,985</b>	<b>201,675</b>
<b>Off-balance sheet items<sup>3/</sup></b>						
Aval of bills, guarantees, and letters of credit	2,801	452	83	92	415	3,843



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OTC derivatives	959,415	169,796	289,902	1,738	887,577	2,308,428
Undrawn committed line	12,767	87	905	-	-	13,759
Repo-style transaction	-	16,146	-	-	-	16,146
<b>Total</b>	<b>974,983</b>	<b>186,481</b>	<b>290,890</b>	<b>1,830</b>	<b>887,992</b>	<b>2,342,176</b>

<sup>1/</sup> Including accrued interests and net of deferred revenues, allowances for doubtful accounts and revaluation allowances for debt restructuring.

<sup>2/</sup> Excluding accrued interests and net of revaluation allowances for equity and impairment allowances for equities.

<sup>3/</sup> Before applying credit conversion factor (CCF)

**Table 9: Outstanding Balance of On-Balance Sheet and Off-Balance Sheet Assets before Credit Risk Mitigation Classified by Residual Maturity**

Unit: Million Baht

**31-Dec-10**

<b>Item</b>	<b>Maturity ≤ 1 year</b>	<b>Maturity &gt; 1 year</b>	<b>Total</b>
<b>1. On Balance sheet assets</b>	<b>111,535</b>	<b>90,140</b>	<b>201,675</b>
1.1 Net loans <sup>1/</sup> (including interbank and money market item)	89,778	66,746	156,524
1.2 Net investment in debt securities <sup>2/</sup>	19,741	23,092	42,833
1.3 Deposits (including accrued interests)	2,016	302	2,318
<b>2. Off Balance sheet assts<sup>3/</sup></b>	<b>1,234,831</b>	<b>1,107,345</b>	<b>2,342,176</b>
2.1 Aval of bills, loan guarantees, and letters of credit	3,812	31	3,843
2.2 OTC derivatives <sup>4/</sup>	1,209,312	1,099,116	2,308,428
2.3 Undrawn committed line	5,561	8,198	13,759
2.4 Repo-style transaction	16,146	-	16,146

<sup>1/</sup> Including accrued interests and net of deferred revenues, allowances for doubtful accounts and revaluation allowances for debt restructuring.

<sup>2/</sup> Excluding accrued interests and net of revaluation allowances for equity and impairment allowances for equities.

<sup>3/</sup> Before applying credit conversion factor (CCF)

<sup>4/</sup> Including equity derivatives

Outstanding Balance of On-Balance Sheet and Off-Balance Sheet Assets before Credit Risk Mitigation are classified by maturity of EAD of asset classes. Approximately 53 percent of the Bank's exposure to customers is short term, having contractual maturity of one year or less. The Wholesale Banking portfolio is predominantly short term with 99 per cent of EAD having a remaining contractual maturity of one year or less.

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**Table 10: Loans and Accrued Interests and Investments in Debt Securities before Credit Risk Mitigation Classified by Country or Geographic Area of Debtor and by Asset Classification Specified by the Bank of Thailand**

Unit: Million Baht

**31-Dec-10**

Country or geographic area of debtor	Loans and accrued interests <sup>1/</sup>						Investment in debt securities
	Normal	Special mentioned	Sub standard	Doubtful	Doubtful loss	Total	Doubtful loss
1. Thailand	150,540	3,063	213	183	1,304	155,303	292
2. Asia Pacific (exclude Thailand)	1,294	-	-	-	-	1,294	-
3. North America & Latin	438	-	-	-	-	438	-
4. Africa & Middle East	-	-	-	-	-	-	-
5. Europe	928	-	-	-	-	928	-
<b>Total</b>	<b>153,200</b>	<b>3,063</b>	<b>213</b>	<b>183</b>	<b>1,304</b>	<b>157,963</b>	<b>292</b>

<sup>1/</sup> Including loans and accrued interest receivables of interbank and money market item

The outstanding of Loans and accrued interest and investment in Debt securities is broken down by the booking location of the exposure. Majority of the Bank's exposure is domestic loans (98 percent of total exposure).

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**Table11: Provisions (Divided into General Provisions and Specific Provision) and Charge-offs for Loans and Accrued Interests and Investments in Debt Securities Classified by Country or Geographic Area**

Unit: Million Baht

**31-Dec-10**

Country or geographic area of debtor	Loans and accrued interests <sup>1/</sup>			Investment in debt securities
	General provision	Specific provision	Charge-off between period	Doubtful loss
1. Thailand		1,439	1,329	292
2. Asia Pacific (exclude Thailand)		-	-	-
3. North America & Latin		-	-	-
4. Africa & Middle East		-	-	-
5. Europe		-	-	-
<b>Total</b>	<b>1,824</b>	<b>1,439</b>	<b>1,329</b>	<b>292</b>

<sup>1/</sup> Including loans and accrued interest receivables of interbank and money market item

The Bank's provision of THB 3,263 million comprising of general provision (THB 1,824 million) and specific provision (THB 1,439 million) The Bank also has charge-off item and allowance for investment in debt instruments at amount of THB 1,329 million and THB 292 million respectively.

The following tables present the amount of loans and accrued interest and provision classified by business together with movement of the Bank's provision.

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**Table 12: Loans and Accrued Interests before Credit Risk Mitigation Classified by Type of Business and by Asset Classification Specified by the Bank of Thailand**

Unit: Million Baht

**31-Dec-10**

Type of business	Normal	Special mentioned	Sub standard	Doubtful	Doubtful loss	Total
Agriculture and Quarry	1,796	-	-	-	8	1,804
Manufacturing and Commerce	26,015	2,504	2	67	879	29,467
Commercial real estate and Construction	4,074	7	1	2	122	4,206
Public utility and Service	12,060	56	-	4	84	12,204
Residential real estate	24,001	138	98	73	71	24,381
Others	85,254	358	112	37	140	85,901
<b>Total</b>	<b>153,200</b>	<b>3,063</b>	<b>213</b>	<b>183</b>	<b>1,304</b>	<b>157,963</b>

**Table 13: Provisions (Divided into General Provisions and Specific Provision) and Charge-offs for Loans and Accrued Interests Classified by Type of Business**

Unit: Million Baht

**31-Dec-10**

Type of business	General provision	Specific provision	Charge-off between period
Agriculture and Quarry		6	-
Manufacturing and Commerce		922	243
Commercial real estate and Construction		108	10

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Public utility and Service	86	17
Residential real estate	74	6
Others	243	1,053
<b>Total</b>	<b>1,824</b>	<b>1,329</b>

**Table 14: Movement in Provisions for Loans including Accrued Interests\***

Unit: Million Baht

**31-Dec-10**

Item	General provision	Specific provision	Total
Provisions at the beginning of the period	977	2,113	3,090
Charge-offs during the period		(1,329)	(1,329)
Increases or decreases of provisions during the period	847	655	1,502
Other provisions (provisions for losses from foreign exchange, provisions for merger and sale of business)	-	-	-
<b>Provisions at the end of period</b>	<b>1,824</b>	<b>1,439</b>	<b>3,263</b>

\* Including loans and accrued interests of interbank and money market item

## **5.2 Internal Ratings Based Approach to Credit Risk**

The Bank uses the AIRB approach to manage credit risk for the majority of its portfolios. This allows the Bank to use its own internal estimates of Probability of Default (PD), Loss Given Default (LGD) Exposure at Default (EAD) and Credit Conversion Factor (CCF) to determine an asset risk weighting.

PD is the likelihood that an obligor will default on an obligation. The Bank must produce an internal estimate of PD for all borrowers in each borrower grade. EAD is the expected amount of exposure to a particular obligor at the point of default. CCF is an internally modeled parameter based on historical experience to determine the amount that is expected to be further drawn down from the undrawn portion in a committed facility. LGD is the percentage of EAD that a lender expects to lose in the event of obligor default. All assets under the AIRB approach have sophisticated PD, LGD and EAD/CCF models developed to support the credit decision making process. RWA under the AIRB approach is determined by regulatory specified formulae dependent on the Bank's estimates of PD, LGD, EAD and CCF. The development, use and governance of models

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under the AIRB approach is covered in more detail in section 5.5 Internal Ratings Based models.

The table below presents outstanding balance of On-balance sheet and Off-balance sheet assets for credit risk under AIRB.

**Table 15: Outstanding of On-Balance Sheet Assets and Off-Balance Sheet Items\* for Credit Risk under the AIRB Approach Classified by Type of Asset**

Unit: Million Baht

**31-Dec-10**

Type of asset	On-balance sheet asset	Off-balance sheet asset**	Total
1. Non-defaulted assets			
1.1 Claims on sovereigns, banks, and corporate	143,054	129,854	272,908
1.2 Claims on retail portfolios			
1.2.1 Residential mortgage exposures	-	-	-
1.2.2 Qualifying revolving retail exposures	7,354	21,832	29,186
1.2.3 Other claims on retail portfolios	7,437	-	7,437
1.3 Equity exposures	114	-	114
1.4 Other assets	64,261	-	64,261
2. Defaulted assets	717	168	885
3. First-to-default credit derivatives and Securitisation	-	-	-
<b>Total</b>	<b>222,937</b>	<b>151,854</b>	<b>374,791</b>

\* After credit conversion factor and specific provision

\*\* Including Repo and Reverse Repo transactions

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**Table 16: Undrawn Lines after Multiplying by CCF and Exposure-weighted-average EAD for Credit Risk under the AIRB Approach Classified by Type of Asset**

Unit: Million Baht  
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Type of asset	Undrawn lines multiplied by CCF	Exposure-weighted average EAD
Sovereigns, bank and corporate exposures **	10,969	11.49%
Equity exposures under the PD/LGD method	-	-
<b>Total</b>	<b>10,969</b>	<b>11.49%</b>

\*\* Including purchased receivables

### 5.3 Standardised Approach to Credit Risk

For Sovereigns, Corporates and Institutions, external ratings are used to assign risk weights. These external ratings must come from BOT approved rating agencies, known as External Credit Assessment Institutions (ECAI); namely Moody's, Standard & Poor's and Fitch. The Bank uses ratings from these agencies as part of its day to day business. External ratings for the counterparty are determined as soon as a relationship is established and these ratings are tracked and kept updated.

The following major assets are applied for Standardised Approach:

1. Residential Mortgages
2. Auto Loans
3. SME Loans (business exposures with annual sales amount less than THB1,000 million)
4. Receivable Services
5. Income-Producing Real Estate (IPRE)

The Bank will ensure that 85% of the Bank's Risk Weighted Assets are covered by approved IRB models by the end of 2012.

The Standardised Approach to credit risk measures credit risk pursuant to fixed risk weights and is the least sophisticated of the capital calculation methodologies. The risk

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weight applied under the Standardised Approach is given by the BOT and is based on the asset class to which the exposure is assigned.

The table below presents outstanding balance of On-balance sheet and Off-balance sheet assets for credit risk under SA.

**Table 17: Outstanding of On-Balance Sheet Assets and Off-Balance Sheet Items\* for Credit Risk under the SA Approach Classified by Type of Asset**

Unit: Million Baht

**31 Dec 10**

Type of asset	On-balance sheet asset	Off-balance sheet asset**	Total
<b>1. Non-defaulted assets</b>			
1.1 Claims on sovereigns and central banks <sup>1/</sup>	-	411	411
1.2 Claims on banks and securities companies <sup>2/</sup>	4,911	-	4,911
1.3 Claims on corporate <sup>3/</sup>	9,334	1,016	10,350
1.4 Claims on retail portfolios	10,482	120	10,602
1.5 Residential mortgage exposures	24,140	27	24,167
1.6 Other assets	-	-	-
<b>2. Defaulted assets <sup>4/</sup></b>	325	1	326
<b>3. First-to-default credit derivatives and Securitisation</b>	-	-	-
<b>Total</b>	<b>49,192</b>	<b>1,575</b>	<b>50,767</b>

\* After applying credit conversion factor and specific provision

\*\* Including Repo and Reverse Repo transactions

<sup>1/</sup> Including Claims on Multilateral development banks (MBDs), Provincial administrations, government entities and state enterprises (PSEs) using the same risk weight as Claims on Sovereigns and Central Bank

<sup>2/</sup> Including Claims on Provincial administrations, government entities and state enterprises (PSEs) using the same risk weight as Claims on Financial Institutions

<sup>3/</sup> Including Claims on Provincial administrations, government entities and state enterprises (PSEs) using the same risk weight as Claims on Corporate

<sup>4/</sup> Risk-weight (%) for unsecured portion is based on its provision reserved.



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**5.4 Credit Risk Mitigation**

Potential credit losses from any given account, customer or portfolio are mitigated using a range of tools such as collateral, netting agreements, credit insurance, credit derivatives and other guarantees. The reliance that can be placed on these mitigants is carefully assessed in light of issues such as legal certainty and enforceability, market valuation correlation and counterparty risk of the guarantor.

Risk mitigation policies determine the eligibility of collateral types. Collateral types that are eligible for risk mitigation include: cash; residential, commercial and industrial property; fixed assets such as motor vehicles, aircraft, plant and machinery; marketable securities; commodities; bank guarantees and letters of credit. The Bank also enters into collateralised reverse repurchase agreements.

Where guarantees or credit derivatives are used as Credit Risk Mitigation (“CRM”) the creditworthiness of the guarantor is assessed and established using the credit approval process in addition to that of the obligor or main counterparty. The main types of guarantors include bank guarantees, insurance companies, parent companies, shareholders and export credit agencies. Credit derivatives, due to their potential impact on income volatility are used in a controlled manner with reference to their expected volatility.

Collateral is valued in accordance with the risk mitigation policy, which prescribes the frequency of valuation for different collateral types, based on the level of price volatility of each type of collateral and the nature of the underlying product or risk exposure. Collateral held against impaired loans is maintained at fair value.

The Bank uses bilateral and multilateral netting to reduce pre- settlement and settlement counterparty risk. Pre-settlement risk exposures are normally netted using the bilateral netting documentation in legally approved jurisdictions. Settlement exposures are generally netted using Delivery vs. Payments or Payment vs. Payments systems.

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##### ***Wholesale Banking***

The process of managing and recognising credit risk mitigation is governed by policies which set out the eligibility criteria that must be met. The credit risk mitigation policy sets out clear criteria that must be satisfied if the mitigation is to be considered effective:

- Excessive exposure to any particular risk mitigants or counterparties should be avoided. Collateral concentration mitigation standards are maintained at both the portfolio and counterparty level;
- Risk mitigants should not be correlated with the underlying assets such that default would coincide with a lowering of the Forced Sale Value (FSV) of the collateral;
- Where there is a currency mismatch, haircuts should be applied to protect against currency fluctuations;
- Legal opinions and documentation must be in place; and
- Ongoing review and controls exist where there is a maturity mismatch between the collateral and exposure.

For all credit risk mitigants that meet the policy criteria, a clear set of procedures are applied to ensure that the value of the underlying collateral is appropriately recorded and updated regularly.

For further information regarding credit risk mitigation in the trading book see section 5.8 Counterparty credit risk in the trading book.

##### ***Consumer Banking***

The effective use of collateral is a key tool by which credit risk is mitigated in Consumer Banking. All eligible collateral accepted by Consumer Banking is covered by a product proposal approved by senior credit officers delegated with the relevant authority.

In order to be recognised as security and for the loan to be classified as secured, all items pledged must be valued and there must exist an active secondary resale market for the collateral. Documentation must be held to enable Consumer Banking to realise the asset without the cooperation of the asset owner in the event that this is necessary.

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Regular valuation of collateral is required. The valuation frequency is driven by the level of price volatility of each type of collateral and the nature of the underlying product or risk exposure. Stress tests are performed on changes in collateral values for key portfolios to assist senior management in managing the risks in those portfolios. Physical collateral is required to be insured at all times and against all risks, with the Bank as the loss payee under the insurance policy. Detailed procedures over collateral management must be in place for each business at the country level.

#### **5.5 Internal Rating Based Models**

##### **Model Governance**

The AIRB models used by the Bank calculate a conservative Probability of Default (“PD”), Loss Given Default (“LGD”) and Exposure at Default (“EAD”), as borne out by the model performance data contained in this section. The product of this is a conservative view of Regulatory Expected Loss, which is considered necessary for the prudent calculation of regulatory capital.

Models are developed by Standard Chartered Bank Group Risk and Consumer Bank and Wholesale Bank Risk functions. The model development process is conducted and documented in line with specific criteria setting out the minimum standards for model development. All AIRB models developed by Standard Chartered Bank Group are validated annually by a model validation team reporting to Standard Chartered Bank Group Chief Credit Officer, thereby maintaining independence from the model build processes. Model validation findings are presented to Standard Chartered Bank Group Model Assessment Committee which in turn makes approval recommendations to the Consumer Banking and Wholesale Banking Risk Committees. These decision making bodies are comprised of divisional senior management whose role is to challenge model assumptions and performance and agree on appropriate model use for business decision making.

The Bank leverages models developed by Standard Chartered Bank Group by having the Model Assessment Committee (MAC) as appointed by RC to review and

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recommend any model development to ensure full compliance with local regulatory requirements. The RC approves the overall risk model.

The model validation process involves a qualitative and quantitative assessment of the model, data, systems and governance. This would typically include an assessment of the:

- Model assumptions;
- Validity of the technical approach used;
- Statistical and empirical measures of performance;
- Appropriateness of intended model use;
- Model application and infrastructure;
- Data integrity and history;
- Model response to changes in internal and external environment - the extent to which the model provides point in time or through the cycle measures of risk;
- Model monitoring standards and triggers; and
- Levels of conservatism applied.

Statistical testing is used to determine a model's discriminatory power, predicted versus actual performance and stability over time with pre-defined thresholds for passing such tests.

#### **PD model development**

Standard Chartered Bank Group and the Bank employ a variety of techniques to develop its PD models. In each case the appropriate approach is dictated by the availability and appropriateness of both internal and external data.

If there is a perceived weakness in the data, for example shorter histories or fewer instances of default, an appropriate amount of conservatism is applied to predicted default rates.

The general approaches fall into three categories:

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Default History Based ('Good-Bad') – where a sufficient number of defaults are available, the Bank deploys a variety of statistical methods to determine the likelihood of default on existing exposures. These methods afford very high discriminatory power by identifying exposure characteristics that have a significant predictive ability. The majority of the Bank's consumer and corporate exposures are rated under such an approach.

Shadow Rating Approach – if it is determined that the Bank internal data does not provide a sufficient default history (for example, so called 'low default portfolios'), then Standard Chartered Bank Group or the Bank develops models which are designed to reflect ratings made by established external credit assessment institutions, those agencies having access to large databases of defaults on a variety of credit obligations. These external ratings are customised to develop the Bank's own customer rating systems.

Constrained Expert Judgement – for certain types of exposure there is little or no internal or external default history, and therefore no reliable external ratings. In such rare cases, Standard Chartered Bank Group, with contribution from the Bank, develops quantitative frameworks which include the expert opinions of Standard Chartered Bank Group's credit risk management personnel. These frameworks are called 'knowledge based systems' and are regularly reviewed with respect to historical outcomes.

**LGD model development**

Standard Chartered Bank Group and the Bank develop LGD models by assessing unsecured recoveries and the forced sale value of collateral together with the economic costs in securing these recoveries, and the timing with which such cash flows occur. All such cash values are then measured at net present value using a suitable discount rate to derive a recovery rate. LGD is therefore the EAD less these estimated recoveries.

Unsecured recoveries are estimated based upon empirical evidence which has shown that factors such as customer segment, product and geography have predictive content.

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All LGD models are conservatively calibrated to a 'downturn' – with lower assumed collateral values and lower recoveries on unsecured exposures.

#### **EAD model development**

An EAD model is developed for uncertain exposure products such as lines of credit, credit cards, overdrafts and other commitments. Based on Standard Chartered Bank Group and the Bank's experience (and supplemented by external data), EAD models assess changes to limits and the likely draw-down of committed and uncommitted limits as an exposure approaches default. The factor generated by the model and applied to the undrawn limit is referred to as the credit conversion factor (CCF).

Standard Chartered Bank Group and the Bank have used conservative assumptions in assessing EAD, in keeping with the expected experience in an economic downturn.

#### **Wholesale Banking Model Results**

Wholesale Banking models have been developed from a data-set which runs to over a decade, including default and recovery experience from the 1997 Asian financial crisis. This data has been used to calibrate estimates of PD to the Bank and the Bank's long run experience. Actual ('point in time') default rates will typically differ from this 'through the cycle' experience as economies move above or below cyclical norms.

AIRB PD estimates are computed as of 1 January 2010 and are compared with default observations through 31 December 2010. The historical loss experience for institutions, central governments or central banks is minimal, so the predicted PD for these exposure classes reflects a particularly low number of defaults.

For central governments or central banks, there were no defaults during 2010. The actual default rate among corporates and institutions exposures in 2010 was maintained below AIRB model predictions as at beginning of 2010 reflecting the positive out-turn of corporate performance in the Bank.

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The predicted LGD is based on the model outputs as of 1 January 2010 compared with long run actual realisations of LGD including downturn periods since 1995. The calculation of actual versus predicted LGD is affected by the fact that it takes a number of years for the workout process to complete. The recovery process on defaults in 2010 is too immature to compute meaningful actual versus realised outcomes.

The predicted LGD estimate takes into account the impact of enhanced risk mitigation techniques (e.g. netting) and proactive Early Alert risk management actions. These have been more prevalent in recent years and are therefore not reflected in the long run average LGD to the same extent as predicted LGD, resulting in the higher actual LGD percentages seen for both institutions and corporates. The effect of increased netting is particularly material in the predicted LGD for institutions. Furthermore, due to the low number of defaults historically in institutions the long run average LGD is not considered to be statistically significant.

EAD takes into consideration potential drawdown of commitment as a counterparty defaults by estimating the credit conversion factor (CCF, also known as k-factor) of undrawn commitments. The comparison of actual versus predicted CCF is summarised in the ratio of the EAD of defaulted assets, 1 year before default, to the outstanding at the point of default. The ratio for both corporates and institutions are larger than one, indicating that the predicted EAD is higher than actual outstanding at default. This is due to the regulatory requirement to assign conservatism to the CCF of certain exposure types, as well as the impact of management action to reduce actual EAD prior to default.

**Consumer Banking Model Results**

Consumer Banking models have been developed from datasets which capture five years of performance data. This history includes periods of higher than average default rates contributed to by political crisis and the regulatory change to credit card minimum payment. These experiences are therefore reflected in the calibration of the AIRB models.

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The Consumer Banking models were only approved to be used for capital calculation by BOT in June 2010. While the tracking mechanisms are in place to measure actual versus predicted PD, as at December 2010 the Bank does not have sufficient data for validating the predicted PD with actual performance.

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

- Each model is governed by a separate policy and procedure which defines the applicability of that model and details the procedure for use;
- The model review policy governs the regular review of models and specifies statistical thresholds and other triggers which determine when models need to be redeveloped;
- The model override policy sets the conditions and approval authority required to override model output; and
- The parental support policy, for Wholesale Banking, determines the extent to which parental support may be utilised to adjust the credit grade of corporates' and financial institutions' subsidiaries.

## 5.6 Risk Grade Profile

### Exposures by Internal Credit Grading

For IRB portfolios a standard alphanumeric credit risk-grading system is used in both Wholesale and Consumer Banking. The grading is based on Standard Chartered Bank Group and the Bank's internal estimate of probability of default over a one-year horizon, with customers or portfolios assessed against a range of quantitative and qualitative factors.

As a guide the table below presents Standard Chartered Bank Group and the Bank's credit grades in relation to that of Standard and Poor's credit ratings.

Credit Grade	Standard & Poors Mapping	
	Corp / Non BFIs	Banks
1A	AAA	AAA, AA+
1B	AA+	AA, AA-
2A	AA	A+



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2B	AA-	A
3A	A+	A-
3B	A	BBB+
4A	A-	BBB+, BBB
4B	BBB+	BBB
5A	BBB	BBB-
5B	BBB-	BB+
6A		BB+, BB
6B	BB+	BB
7A		BB, BB-
7B	BB	BB-
8A		B+
8B	BB-	B+, B
9A		B
9B	B+	B, B-
10A	B	B-
10B		B-, CCC
11A - C	B-	CCC
12A - D	N/A	N/A

Credit grades for Consumer Banking accounts covered by AIRB models are based on a probability of default. These models are based on application and behavioural scorecards.

For Consumer Banking portfolios where AIRB models have not yet been developed, the probability of default is calculated using historical portfolio delinquency flow rates and expert judgement, where applicable.

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

The Bank makes use of internal risk estimates of PD, LGD and EAD in the areas of:

- Credit Approval and Decision – The level of authority required for the sanctioning of credit requests and the decision made is based on a combination of PD, LGD and EAD of the obligor with reference to the nominal exposure;

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- Pricing – In Wholesale Banking a pre-deal pricing calculator is used which takes into consideration PD, LGD and EAD in the calculation of expected loss and for the proposed transactions to ensure appropriate return. In Consumer Banking a scorecard approach is taken to assess the level of risk using PD, LGD and EAD;
- Limit Setting – In Wholesale Banking concentration limits for some portfolios, as counterparty limits are determined by PD, LGD and EAD. The limits operate on a sliding scale to ensure that the Bank does not have over concentration of low credit quality assets. This process operates similarly in Consumer Banking;
- Provisioning – Portfolio Impairment Provisions (PIP) are raised at the portfolio level and are set with reference to expected loss which is based on PD, LGD and EAD amongst other quantitative and qualitative factors; and
- Risk Appetite – PD, LGD and EAD models provide some of the key inputs into the risk-based methodologies used in the assessment of business and market variables which in turn are key components in the approach taken in setting Risk Appetite.

The following table sets out analysis of EAD, PD and within the AIRB portfolios by internal credit grading. EAD has been calculated after taking into account the impact of credit risk mitigation. Where exposure is guaranteed or covered by credit derivatives, exposure is shown against the asset class of the guarantor or derivative counterparty.

**Table 18: Credit Risk Assessment under the AIRB Approach for Sovereign, Bank and Corporate Exposures and Equity Exposures under the PD/LGD Approach Classified by Rating Grade\***

Unit: Million Baht

**31-Dec-10**

Type of asset		Sovereign, bank and corporate exposures**	Equity exposures under PD/LGD approach	Total
<b>Grade 1 - 4</b>	EAD <sup>1/</sup> (Million Baht)	200,399	-	<b>200,399</b>
	⊙ PD <sup>2/</sup> (%)	0.09%	-	-
	⊙ RW <sup>3/</sup> (%)	15.65%	-	-

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	⊗ LGD <sup>4/</sup> (%)	32.59%	-	-
<b>Grade 5 - 8</b>	EAD <sup>1/</sup> (Million Baht)	60,207	-	<b>60,207</b>
	⊗ PD <sup>2/</sup> (%)	0.73%	-	-
	⊗ RW <sup>3/</sup> (%)	66.18%	-	-
	⊗ LGD <sup>4/</sup> (%)	45.36%	-	-
<b>Grade 9 -12</b>	EAD <sup>1/</sup> (Million Baht)	12,358	-	<b>12,357</b>
	⊗ PD <sup>2/</sup> (%)	13.09%	-	-
	⊗ RW <sup>3/</sup> (%)	154.30%	-	-
	⊗ LGD <sup>4/</sup> (%)	40.92%	-	-
<b>Grade 13 - 14</b> <b>(Default)</b>	EAD <sup>1/</sup> (Million Baht)	715	-	<b>715</b>
	⊗ PD <sup>2/</sup> (%)	100.00%	-	-
	⊗ RW <sup>3/</sup> (%)	28.85%	-	-
	⊗ LGD <sup>4/</sup> (%)	38.54%	-	-

<sup>1/</sup> A number of grades is an example. FIs shall disclose the number of grades as appropriate in order for users to recognise the difference of credit risk levels.

<sup>2/</sup> Including purchased receivables

<sup>3/</sup> Outstanding of on-balance sheet assets and off-balance sheet items after multiplying by CCF and after CRM

<sup>4/</sup> ⊗ PD is the EAD-weighted average PD for each rating grade

<sup>3/</sup> ⊗ RW is the EAD-weighted average risk weights for each rating grade

<sup>4/</sup> ⊗ LGD is the EAD-weighted average LGD for each rating grade (only for FIs that use the AIRB approach)

**Table 19: Credit Risk Assessment under the AIRB Approach for Retail Exposures\***  
**(Pooled Basis)**

Unit: Million Baht

**31-Dec-10**

Type of asset		Residential mortgage exposures	Qualifying revolving retail exposures	Other retail exposures	Total
<b>Grade 1 - 4</b>	EAD <sup>1/</sup> (Million Baht)	-	8,800	-	8,800

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	⊗ PD <sup>2/</sup> (%)	-	0.13%	-	-
	⊗ RW <sup>3/</sup> (%)	-	6.90%	-	-
	⊗ LGD <sup>4/</sup> (%)	-	86.84%	-	-
<b>Grade 5 - 8</b>	EAD <sup>1/</sup> (Million Baht)	-	12,848	1,343	14,191
	⊗ PD <sup>2/</sup> (%)	-	0.78%	1.62%	-
	⊗ RW <sup>3/</sup> (%)	-	27.25%	111.89%	-
	⊗ LGD <sup>4/</sup> (%)	-	85.54%	88.51%	-
	EAD <sup>1/</sup> (Million Baht)	-	7,538	6,094	13,632
<b>Grade 9 -12</b>	⊗ PD <sup>2/</sup> (%)	-	8.78%	8.04%	-
	⊗ RW <sup>3/</sup> (%)	-	128.90%	143.98%	-
	⊗ LGD <sup>4/</sup> (%)	-	86.44%	88.51%	-
	EAD <sup>1/</sup> (Million Baht)	-	553	370	923
<b>Grade 13 - 14</b> <b>(Default)</b>	⊗ PD <sup>2/</sup> (%)	-	100.00%	100.00%	-
	⊗ RW <sup>3/</sup> (%)	-	367.33%	310.09%	-
	⊗ LGD <sup>4/</sup> (%)	-	75.71%	70.78%	-

\* Including purchased receivables

<sup>1/</sup> Outstanding of on-balance sheet assets and off-balance sheet items after multiplying by CCF and after CRM

<sup>2/</sup> ⊗ PD is the EAD-weighted average PD for each rating grade

<sup>3/</sup> ⊗ RW is the EAD-weighted average risk weights for each rating grade

<sup>4/</sup> ⊗ LGD is the EAD-weighted average LGD for each rating grade (only for FIs that use the AIRB approach)

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**Table 20: Outstanding and Undrawn Lines of each Group of Exposures\* after Multiplying by CCF and after Credit Risk Mitigation under the AIRB Approach Classified by Rating Grade of Expected Losses**

Unit: Million Baht

**31-Dec-10**

Retail Asset Class	EAD <sup>1/</sup>	EL <sup>2/</sup>			
		CG 1- 4	CG 5- 8	CG 9-12	CG 13-14
Residential Mortgage exposures	-	-	-	-	-
Qualifying revolving retail exposures	29,739	1.09%	9.25%	61.92%	27.75%
Other claims on retail portfolios	7,807	0.00%	3.09%	69.63%	27.28%
<b>Total</b>	<b>37,546</b>	-	-	-	-

\* Including purchased receivables

<sup>1/</sup> Outstanding of retail exposures and Undrawn Committed Line after CCF and Credit Risk Mitigation

<sup>2/</sup>  $EL = \sum (EL_i * EAD_i) \div \sum EAD_i$

The following table shows the EAD of retail exposure after taking impact of credit risk mitigation into account. Approximately 70 percent of expected loss of retail portfolio is fallen in grade 9-12.

**Table 21: Part of Outstanding that is Secured by Collateral\*\* under the AIRB Approach Classified by Type of Asset and Collateral**

Unit: Million Baht

**31-Dec-10**

Type of asset	Eligible financial collateral <sup>1/</sup>	Other collateral <sup>2/</sup>	Guarantee and credit derivatives
<b>1. Non-defaulted assets</b>			
1.1 Claims on sovereigns, banks, and corporate	19,043	2,039	484
1.2 Claims on retail portfolios			
1.2.1 Residential mortgage exposures	-	-	-
1.2.2 Qualifying revolving retail exposures	-	-	-
1.2.3 Other claims on retail portfolios	-	-	-
1.3 Equity exposures	-	-	-
1.4 Other assets	-	-	-
<b>2. Defaulted assets</b>	<b>73</b>	-	-

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<b>Total</b>	<b>19,116</b>	<b>2,039</b>	<b>484</b>
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-- Values after netting of on-balance sheets and off-balance sheets and after haircut

<sup>1</sup> Eligible financial collateral that the Bank of Thailand allows to use for risk mitigation

<sup>2</sup> Other collaterals that the Bank of Thailand allows to use for risk mitigation

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**Table 22: Outstanding of On-Balance Sheet Assets and Off-Balance Sheet Items\* after Credit Risk Mitigation for each Type of Assets Classified by Risk Weight under the SA Approach**

Unit: Million Baht

**31-Dec-10**

Type of Asset	Rated outstanding						Unrated outstanding								
Risk Weight (%)	0	20	50	100	150	0	20	35	50	75	100	150	625	937.5	100/8.5%
Non-Default exposures															
1. Claims on sovereigns and central bank <sup>1/</sup>	411														
2. Claims on financial institutions and securities companies <sup>2/</sup>					4,911										
3. Claims on corporate <sup>3/</sup>			698	7,519	545					9,854					
4. Claims on retail portfolios															
5. Claims on residential mortgage								22,987		1,007	173				
6. Other assets															
Risk Weight (%)															
			50	100	150					75					
Default exposures <sup>4/</sup>															
			100	86	130					10					
Deducted Items															

\* After applying credit conversion factor

<sup>1/</sup> Including Claims on Multilateral development banks (MDBs), Provincial administrations, government entities and state enterprises (PSEs) using the same risk weight as Claims on Sovereigns and Central Bank

<sup>2/</sup> Including Claims on Provincial administrations, government entities and state enterprises (PSEs) using the same risk weight as Claims on Financial Institutions

<sup>3/</sup> Including Claims on Provincial administrations, government entities and state enterprises (PSEs) using the same risk weight as Claims on Corporate

<sup>4/</sup> RW(%) of part of Outstanding that is not secured by CRM

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**Table 23: Part of Outstanding that is Secured by Collateral\* under the SA Approach Classified by Type of Asset and Collateral**

Unit: Million Baht

**31-Dec-10**

Type of asset	Eligible financial collateral <sup>1/</sup>	Guarantee and credit derivatives
<b>1. Non-defaulted assets</b>		
1.1 Claims on sovereigns and central banks <sup>2/</sup>	-	-
1.2 Claims on banks and securities companies <sup>3/</sup>	-	-
1.3 Claims on corporate <sup>4/</sup>	1,709	698
1.4 Claims on retail portfolios	800	-
1.5 Residential mortgage exposures	-	-
1.6 Other assets	-	-
<b>2. Defaulted assets <sup>4/</sup></b>	-	-
<b>Total</b>	<b>2,509</b>	<b>698</b>

\* Values after netting of on-balance sheets and off-balance sheets and after haircut

<sup>1/</sup> Eligible financial collateral that the Bank of Thailand allows to use for risk mitigation

<sup>2/</sup> Including Claims on Multilateral development banks (MBDs), Provincial administrations, government entities and state enterprises (PSEs) using the same risk weight as Claims on Sovereigns and Central Bank

<sup>3/</sup> Including Claims on Provincial administrations, government entities and state enterprises (PSEs) using the same risk weight as Claims on Financial Institutions

<sup>4/</sup> Including Claims on Provincial administrations, government entities and state enterprises (PSEs) using the same risk weight as Claims on Corporate

**Regulatory Expected Loss versus Individual Impairment Charges**

The table 24 and 25 below show actual loss and regulatory expected loss as at 31 December 2010 for the AIRB exposure classes, respectively. Regulatory expected loss is based on a through-the-cycle methodology using risk parameters and observations over a period of time. It is a conservative and appropriately prudent calculation underpinning regulatory capital requirements, and:

- does not take account of any benefit from management actions to reduce exposures to riskier customers, clients or segments as conditions deteriorate;



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- does not take account of any diversification benefit; and
- is calculated in accordance with rules which enforce a certain level of conservatism.

The net individual impairment charge is a point in time actual charge raised in accordance with accounting standards that require the Bank to either provide for or write-off debts

**Table 24: Actual Losses of FIs that Use the AIRB Approach Classified by Type of Assets**

Unit: Million Baht

Type of asset	Actual losses		Change*	Note**
	31-Dec-10	30-Jun-10***		
Claim on sovereign, banks and corporate	744	-	-	-
Equity exposures	-	-	-	-
Retail exposures	668	-	-	-
<b>Total</b>	<b>1,412</b>	<b>-</b>	<b>-</b>	<b>-</b>

\* If there is significant difference from past experience, FIs shall disclose such differences.

\*\* Explanation of the factors that impact on actual losses in case where actual losses differ significantly from past experience.

\*\*\* Since December 31, 2010 is the first time of Credit Risk disclosure, the historical actual loss is not provided.

**Table 25: Estimates of Losses Comparing to Actual Losses\***

Unit: Million Baht

**31-Dec-10**

Type of asset	Expected loss	Actual loss
Claim on sovereign, banks and corporate <sup>1/</sup>	1,421	744
Equity exposures	-	-
Retail exposures <sup>1/</sup>	1,630	668
<b>Total</b>	<b>3,051</b>	<b>1,412</b>

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\*The estimated PD, LGD and EAD shall be shown for comparison with the actual PD, LGD and EAD, if there is significant difference in these values. Please also give reasons for the difference.

<sup>1/</sup>Purchased receivable included

#### **5.7 Problem Credit Management and Provisioning**

##### ***Consumer Banking***

In Consumer Banking, where there are large numbers of small value loans, a primary indicator of potential impairment is delinquency. A loan is considered delinquent (past due) when the counterparty has failed to make a principal or interest payment when contractually due. However, not all delinquent loans (particularly those in the early stage of delinquency) will be impaired. For delinquency reporting purposes we follow industry standards, measuring delinquency as of 1, 30, 60, 90, 120 and 150 days past due. Accounts that are overdue by more than 30 days are more closely monitored and subject to specific collections processes.

Non-performing loans are loans past due more than 90 days or have a principal impairment provision raised against them because full payment of either interest or principal has become questionable.

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

For the main unsecured products and loans secured by automobiles, the entire outstanding amount is generally written off at 150 days past due. For secured loans (other than those secured by automobiles) individual impairment provisions (IIPs) are generally raised at either 150 days (mortgages) or 90 days (wealth management) past due.

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

The PIP methodology provides for accounts for which an individual impairment provision has not been raised, either individually or collectively. PIP is raised on a portfolio basis for all products, and is set using expected loss rates, based on past experiences supplemented by an assessment of specific factors affecting the relevant portfolio. These include an assessment of the impact of economic conditions, regulatory changes and portfolio characteristics such as delinquency trends and early alert trends. The methodology applies a larger provision against accounts that are delinquent but not yet considered impaired.

The procedures for managing problem credits for the medium sized enterprises in the SME segment of Consumer Banking are similar to those adopted in Wholesale Banking (described below).

***Wholesale Banking***

Loans are classified as impaired and considered non-performing where analysis and review indicates that full payment of either interest or principal is questionable, or as soon as payment of interest or principal is 90 days overdue. Impaired accounts are managed by a specialist recovery unit, GSAM, which is separate from the Bank's main businesses. Where any amount is considered irrecoverable, an individual impairment provision is raised. This provision is the difference between the loan carrying amount and the present value of estimated future cash flows.

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The individual circumstances of each customer are taken into account when GSAM estimates future cash flow. All available sources, such as cash flow arising from operations, selling assets or subsidiaries, realising collateral or payments under guarantees, are considered. In any decision relating to the raising of provisions, we attempt to balance economic conditions, local knowledge and experience, and the results of independent asset reviews.

Where it is considered that there is no realistic prospect of recovering a portion of an exposure against which an impairment provision has been raised, that amount will be written off.

Similar to Consumer Banking, general provision is also set up for WB accounts for which an individual impairment provision has not been raised. This is in accordance with regulatory requirements

**5.8 Counterparty Credit Risk in the Trading Book**

Counterparty credit risk (CCR) is the risk that the Bank's counterparty in a foreign exchange, interest rate, commodity, equity or credit derivative contract defaults prior to maturity date of the contract and that the Bank at the time has a claim on the counterparty. CCR arises predominantly in the trading book, but also arises in the non-trading book due to hedging of external funding.

The credit risk arising from all financial derivatives is managed as part of the overall lending limits to banks and customers.

The Bank will seek to negotiate Credit Support Annexes ("CSA") with counterparties on a case by case basis, where collateral is deemed a necessary or desirable mitigant to the exposure. The credit terms of the CSA are specific to each legal document and determined by the credit risk approval unit responsible for the counterparty. The nature of the collateral will be specified in the legal document and will typically be cash or highly liquid securities.

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The Bank further reduces its credit exposures to counterparties by entering into contractual netting agreements which result in a single amount owed by or to the counterparty through netting the sum of the positive (amounts owed by the counterparty) and negative (amounts owed by the Bank ) mark-to-market (MTM) values of these transactions.

A daily operational process takes place to calculate the MTM on all trades captured under the CSA. Additional collateral will be called from the counterparty if total uncollateralised MTM exposure exceeds the threshold and minimum transfer amount specified in the CSA. Additional collateral may be required from the counterparty to provide an extra buffer to the daily variation margin process.

#### **Credit reserves**

Using risk factors such as PD and LGD a Regulatory Expected Loss is calculated for each counterparty across the CCR portfolio, and based on this calculation credit reserves are set aside for traded products. The reserve is a dynamic calculation based on the EAD risk profile for each counterparty, alongside PD and LGD factors.

In line with market convention, the Bank negotiates CSA terms for certain counterparties where the thresholds related to each party are dependent on their External Credit Assessment Institutions (ECAI) long term rating and/or the Bank internal rating model as appropriate. Such clauses are typically mutual in nature. It is therefore recognised that a downgrade in the Bank's rating could result in counterparties seeking additional collateral calls to cover negative MTM portfolios where thresholds are lowered.

#### **Wrong way risk**

Wrong way risk occurs when an EAD increase is coupled with a decrease in the credit quality of the obligor. For example, as the MTM on a derivative contract increases in favour of the Bank, the counterparty may increasingly be unable to meet its payment, margin call or collateral posting requirements. The Bank employs various policies and procedures to ensure that wrong way risk exposures are recognised upfront and closely monitored.

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**Exposure value calculation**

Exposure values for regulatory capital purposes on over the counter traded products are calculated according to the CCR mark to market method. This is calculated as the sum of the current replacement cost and the potential future credit exposure.

The current replacement cost is the USD equivalent amount owed by the counterparty to the Bank for various financial derivative transactions. The potential future credit exposure is an add-on based on a percentage of the notional principal of each transaction, tenor and underlying assets class.

## **6. Market Risk**

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The Bank recognises market risk as the risk of loss resulting from changes in market prices and rates. The Bank is exposed to market risk arising principally from customer driven transactions. The objective of the Bank's market risk policies and processes is to obtain the best balance of risk and return while meeting customers' requirements.

The Bank transacts in the money market, foreign exchange markets and capital markets giving rise to market risk exposures. Financial instruments transacted include debt and other securities and certain financial derivative instruments. Derivative instruments are contracts whose characteristics and value are derived from underlying financial instruments, interest rates, exchange rates, or indices. They include futures, forwards, swaps, and options transactions in the foreign exchange and interest rate markets. Derivative contracts entered into by the Bank are primarily over-the-counter derivatives.

The Bank has established market risk management policies and framework, including limit setting, monitoring and reporting and control procedures, which are reviewed regularly by the relevant committees – ALCO, and the Board; and are overseen by RC. Market risk limits are proposed by the business within the terms of agreed policy. Risk officers and relevant committees review and approve the limits within delegated

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authorities, and monitor exposures against these limits. Risks are monitored against limits on a daily basis.

The primary categories of market risk for the Bank are:

- Interest rate risk: arising from changes in yield curves, credit spreads and implied volatilities on interest rate options;
- Equity price risk: arising from changes in the prices of equities, equity indices, equity baskets and implied volatilities on related options. For this category of market risk, the Bank does not take equity price risk.
- Currency exchange rate risk: arising from changes in exchange rates and implied volatilities on foreign exchange options; and
- Commodity price risk: arising from changes in commodity prices and commodity option implied volatilities; covering energy, precious metals, base metals and agricultural. For this category of market risk, the Bank is fully hedged through a back-to-back position.

The BOT specifies minimum capital requirements against market risk in the trading book. Interest rate risk in the non-trading book (banking book) is covered separately under the Pillar 2 framework. The minimum regulatory market risk capital requirements for the trading book are presented below.

**TABLE 26: Minimum Capital Requirement for each Type of Market Risk under the SA Approach**

Unit: Million Baht

Type of Risk	31-Dec-10	30-Jun-10
Interest Rate Risk	2,206	2,169
Equity Position Risk	-	-
Foreign Exchange Rate Risk	465	81
Commodity Risk	-	-
<b>Total Minimum Capital Requirements</b>	<b>2,671</b>	<b>2,250</b>

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The Bank is required to have THB 2,671 million total capital against Market Risk. Comparing with June 2010, the increment of THB 421 million is mainly driven by FX Risk.

## **7. Operational Risk**

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Operational Risk is the risk of direct or indirect loss due to an event or action resulting from either inadequate or failed internal processes, people or systems, or from external events.

### **Objective**

The Bank's exposure to operational risk arises as a consequence of the Bank's business activities. It is the Bank's objective to minimise exposure to operational risk. To facilitate proactive risk identification and assessment, the Bank further sub-divides operational risk into specific risk sub-types, where each risk sub-type represents a grouping of material potential operational risk losses that need to be managed. Designated operational risk control owners ensure that the risk sub-types are managed within appetite across their respective risk control areas by seeking to ensure that key operational risks are managed in a timely and effective manner through a framework of policies, procedures and tools to identify, assess, monitor, control and report such risks.

### **Governance Structure**

Governance over operational risk management is achieved through a defined structure of Country Operational Risk Control Committees ("CORC"), which are responsible for overseeing all material risks, responses to risk issues and the adequacy and effectiveness of controls within a given Operational Risk Control Area. The CORC is responsible for overseeing the adequacy of risk governance and control by the Operational Risk Control Committees. Operational risk governance is also ensured at business and country levels via a defined structure of risk committees that integrate into the Bank's overall risk committee structure at each



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level. All operational risk committees operate on the basis of a defined structure of delegated authorities and terms of reference, derived from the RC.

#### **Roles and Responsibilities**

Responsibility for the management of operational risk rests with business and function management as an integral component of their first line risk management responsibilities. They are assisted in their responsibilities by embedded unit operational risk managers. An independent Operational Risk Assurance and Audit function performs the second line of defence and ensures that the Bank's exposure to operational risk is controlled within acceptable residual risk levels through a framework of effective controls.

#### **Operational Risk Processes**

The following key operational risk processes facilitates the effectiveness of risk identification, assessment, monitoring, control and reporting;

- Control self assessments – first line business units perform regular self assessments to ensure key controls are being complied with and are effective;
- Event/issue reporting and management – operational risk related events and issues are reported to the appropriate level of management to ensure that they are understood, receive necessary attention and are appropriately managed;
- New product approval – operational risk exposures related to the introduction of new products and services are thoroughly assessed, addressed during the product approval process and monitored during the product lifecycle;
- Key risk indicators – specific measures are developed and monitored against set thresholds for possible risk trends.

Identified operational risk exposures are classified as 'Low', 'Medium', 'High' or 'Extreme', based on their risk assessment and accepted accordingly by designated operational risk committees.

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A framework of policies, procedures and controls drives proactive management of the gross risk exposures down to acceptable residual levels. The Operational Risk Policy and Procedures are aligned to the Risk Management Framework and establish clear rules and standards for the effective management of operational risk. Operational risk policies for Risk Control Areas, business units and countries ensure consistency with the Operational Risk Policy and Procedures. Operational risk policies and procedures are challenged and revised regularly to ensure their ongoing effectiveness and alignment to the Bank's operational risk profile and appetite.

#### **Management Information**

The Board and senior management proactively manage and control the Bank's operational risk profile through anticipatory and forward-looking management information reporting and intelligence on the material risk exposures, operational loss experience and the results of key assurance outcomes. Timely operational risk reporting and escalation underpins risk decision-making across the key operating levels within the Bank.

#### **Measurement**

The Bank uses the Standardised Approach to assess its regulatory and internal capital requirements for operational risk. Under the Standardised Approach, a pre-determined beta is applied to the average income for the previous three years across each of the eight prescribed business lines, to determine the operational risk capital requirement. The table below details the operational risk capital requirement for the Bank.

## **8. Equity Exposure in the Non-Trading Book (Banking Book)**

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The holdings of non-trading book (banking book) equities are considered immaterial. At 31 December 2010, the banks' equity exposure in the non-trading book (banking book) is shown in below table.

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**Table 27: Equity Exposure in Non-trading Book (Banking Book)**

Unit: Million Baht

**31-Dec-10**

<b>Equity exposure</b>	
1. Outstanding of shares	
1.1 Outstanding of listed shares (onshore and offshore stock exchange)	
- Cost (Net Book Value)	10
- Market price	17
1.2. Outstanding of other shares (onshore and offshore)	115
2. Gains (losses) of sale of equities in the reporting period	-
3. Net revaluation surplus from valuation AFS equity	7
4. Minimum capital requirements for equity exposures classified by the calculation methods	
- SA	10
- IRB	-
5. Equity values for commercial bank using the IRB approach which the BOT allow to use the SA approach	114

## **9. Interest Rate Risk in the Non-trading Book (Banking Book)**

Interest rate risk from the non-trading book (banking book) portfolios is transferred to Financial Markets where it is managed by Asset and Liability Management (ALM) desks under the supervision of Asset and Liability Committees (ALCO). The ALM deals in the market in approved financial instruments in order to manage the net interest rate risk, subject to approved VaR and risk limits. VaR and stress tests are therefore applied to non-trading book (banking book) exposures in the same way as for the trading book including listed 'available-for-sale' securities.

From Fund Transfer Pricing ("FTP") process, there is the assumption for loan repayments incorporated. Businesses will not bear any interest rate risk since all interest

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rate risks will be centralised at ALM and ALM has to turn this risk to be revenue opportunity via active ALM strategies. ALM has to manage and monitor interest risk on daily basis.

Basis risk, or the risk arising from hedging exposure to one interest rate with exposure to a rate which re-prices under slightly different conditions, is also analysed.

Interest rate risk arises due to the investment into rate-sensitive assets, as well as some tenor mismatches between debt issuance and placements. This risk is measured as the impact on net interest income (NII) of an unexpected and instantaneous adverse parallel shift in rates and is monitored over a rolling one year time horizon.

The impact of Interest Rate Change on Net Interest Income as at 31 December 2010 is shown in below table.

**Table 28: Impact of Interest Rate Change on Net Interest Income**

Unit: Million Baht

Currency	Impact of a 1% interest rate change on Net Interest Income	
	31-Dec-10	30-Jun-10
THB	332	468
USD	(66)	(100)
EURO	-	-
OTHER	(9)	2
<b>Total Impact on Net Interest Income</b>	<b>257</b>	<b>370</b>

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## **10. Acronyms**

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AIRB	Advanced Internal Ratings Based
ALCO	Asset and Liabilities Management Committee
ALM	Asset and Liabilities Management
AFS	Available for Sale
BCBS	Basel Committee on Banking Supervision
BORC	Business Operational Risk Committee
BOT	The Bank of Thailand
CB	Consumer Banking
CBCC	Consumer Banking Credit Committee
CCF	Credit Conversion Factor
CCR	Counterparty Credit Risk
CCRO	Country Chief Risk Officer
CEO	Chief Executive Officer
CG	Credit Risk Grade
CORC	Country Operational Risk Committee
CRM	Credit Risk Mitigation
CRO	Chief Risk Officer
CSA	Credit Support Annex
EAD	Exposure at Default
ECAI	External Credit Assessment Institutions
EL	Expected Loss
EXCO	Executive Committee
FORC	Function Operational Risk Committee
FSV	Forced Sale Value
FTP	Fund Transfer Pricing
GSAM	Group Special Asset Management
IAS	International Accounting Standard
ICAAP	Internal Capital Adequacy Assessment Process
IIP	Individual Impairment Provision
IRB	Internal Ratings Based
LGD	Loss Given Default
MAC	Model Assessment Committee
MANCO	Management Committee

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MDBs	Multilateral Development Banks
MTM	Mark to Market
NII	Net Interest Income
ORC	Operational Risk Committee
PD	Probability of Default
PIP	Portfolio Impairment Provision
PSEs	Non-central government Public Sector Entities
RC	Risk Management Committee
RMF	Risk Management Framework
RW	Risk Weight
RWA	Risk Weighted Assets
SA	Standardised Approach
SA-OR	Standardised Approach – Operational Risk
SCBT	Standard Chartered Bank (Thai) PCL
SME	Small and Medium Enterprise
SREP	Supervisory Review and Evaluation Process
WB	Wholesales Banking
WBCC	Wholesales Banking Credit Committee