

Information Disclosures under Basel II Capital Requirement As of 31 December 2013

Scope of Information Disclosure

TISCO Financial Group Public Company Limited (TISCO) discloses information under Basel II capital requirement based on the full consolidated position and in accordance with the Bank of Thailand's notification SorNorSor 6/2553 on consolidated supervision. The full-consolidation structure of TISCO Financial Group can be shown as follow.



However, based on minimum capital requirement under Basel II of the Bank of Thailand, company which less than 50 percent of total paid-up shares are held by TISCO Group will be eliminated from the capital. In addition, TISCO Group adopts a materiality concept which is in consistent with accounting concept.

Capital Structure

According to the Bank of Thailand's regulation, the regulatory capital for commercial banks registered in Thailand consists of Tier 1 and Tier 2 capital, whereby Tier 1 capital includes paid-up capital, proceeds from the issuance of non-cumulative preferred stocks and hybrid Tier 1, statutory reserve as well as cumulative profit after appropriation, while Tier 2 capital includes proceeds from issuance of cumulative preferred stocks and subordinated debentures as well as regulatory reserve following the Bank of Thailand's regulation.

For TISCO, Tier 1 capital primarily comprises of paid-up share capital and cumulative profit after appropriation, while Tier 2 capital mostly consists of long-term subordinated debentures issuance.

Table 1 TISCO Financial Group's Capital Structure

Unit : Million Baht

Items	31-Dec-13	31-Dec-12
1. Tier 1 Capital	18,667.57	14,526.12
1.1 Paid-up Share Capital	8,006.55	7,279.12
1.2 Premium on Share Capital	1,697.67	679.27
1.3 Statutory Reserve	405.20	297.90
1.4 Cumulative Profit after Appropriation	8,914.82	6,774.01
1.5 Minority Interest	53.57	51.66
1.6 Deductions	410.25	555.84
1.6.1 Deductions from Tier 1 Capital*	-	189.73
1.6.2 Deduction Item by 50% from Tier 1 and Tier 2 Capital	410.25	366.11
2. Tier 2 Capital	8,483.82	7,189.89
2.1 Tier 2 Capital before Deductions	8,894.07	7,556.00
2.2 Deduction Item by 50% from Tier 1 and Tier 2 Capital	410.25	366.11
3. Total Regulatory Capital		
3.1 Total Capital before Deductions	27,151.39	21,716.01
3.2 Deduction from Total Regulatory Capital	47.76	-
Total Regulatory Capital	27,103.63	21,716.01

*e.g. Net Losses, Goodwill, and Deferred Tax Asset

Capital Adequacy under Basel II Capital Accord

Based on minimum capital requirement under Basel II, TISCO has officially adopted Standardised Approach (SA-OR) for regulatory capital calculation of credit risk and operational risk respectively, since June 30, 2010. Since December 31, 2012, TISCO Group has adopted the Internal Rating Based Approach (IRB) for regulatory capital calculation of credit risk. The IRB approach is considered more sophisticated calculation given that it can truly reflect TISCO Group risk profiles as well as assets quality with more prudent than the calculation from the Standardised Approach (SA) which is less comprehensive risk weights subject to quality of assets. The risk parameters relied on determining the capital requirement consists of Probability of Default (PD), Loss Given Default (LGD), and Exposure at Default (EAD).

Capital adequacy of the TISCO is still in strong position and adequate to support business expansion into the future. At the end of December 2013, the regulatory capital adequacy ratio (BIS ratio) based on IRB approach, after the adjustment of capital floor, stood at 13.23%, remaining higher than 8.50% required

by the Bank of Thailand, while Tier-I capital adequacy ratio before the adjustment of capital floor stood at 9.11%, which remained higher than the minimum requirement at 4.25%.

Table 2 Minimum Capital Requirements for Credit Risk by Asset Classes under SA Approach

Unit : Million Baht

Credit Risk - SA	31-Dec-13	31-Dec-12
Performing	4,091.13	3,315.33
1. Claims on Financial Institutions and Public Sector Entities treated as Claims on Financial Institutions and Securities Company	172.96	94.83
2. Claims on Corporate and Public Sector Entities treated as Claims on Corporate	2,104.54	1,798.20
3. Claims on Retail	1,773.06	1,381.38
4. Claims on Residential Property	40.57	40.92
5. Other Assets	-	-
Non-performing	54.12	28.98
Total Minimum Capital Requirements for Credit Risk - SA	4,145.25	3,344.31

Table 3 Minimum Capital Requirements for Credit Risk by Asset Classes under IRB Approach

Unit : Million Baht

Credit Risk - IRB	31-Dec-13	31-Dec-12
Non-Default	10,750.38	9,637.35
1. Corporate Lending	3,006.96	2,802.32
2. Hire Purchase	7,175.77	6,204.09
3. Equity Exposure	177.51	228.66
4. Other Assets	390.14	402.29
Default	675.64	401.77
Total Minimum Capital Requirements for Credit Risk - IRB	11,426.02	10,039.12

Table 4 Minimum Capital Requirements for Equity Exposures under IRB Approach

Unit : Million Baht

Minimum Capital Requirements for Equity Exposures under IRB	31-Dec-13	31-Dec-12
Equity Exposure with an Exemption from IRB Calculation	177.51	228.66
Total Minimum Capital Requirements for Operational Risk	177.51	228.66

Table 5 Minimum Capital Requirements for Market Risk (Standardized Approach / Internal Model Approach)

Unit : Million Baht

Minimum Capital Requirements for Market Risk	31-Dec-13	31-Dec-12
Standardized Approach	43.64	55.95
Internal Model Approach	-	-
Total Minimum Capital Requirements for Market Risk	43.64	55.95

* Since the transaction amount in trading book of TISCO Group was lower than the minimum thresholds required by the Bank of Thailand, the market risk capital was maintained only for the element that cover price risk of commodities related products.

Table 6 Minimum Capital Requirements for Operational Risk

Unit : Million Baht

Minimum Capital Requirements for Operational Risk	31-Dec-13	31-Dec-12
Standardized Approach	1,803.75	1,544.08
Total Minimum Capital Requirements for Operational Risk	1,803.75	1,544.08

Table 7 TISCO Financial Group's Capital Adequacy Ratio

Unit : %

Ratio	31-Dec-13	31-Dec-12
1. Total Capital Adequacy Ratio	13.23%*	11.91%*
2. Tier 1 Capital Adequacy Ratio	9.11%	8.24%

* BIS ratio with Capital Floor

Overview of Risk Management

Risk management of TISCO Group is centralized by consolidating all risk exposure to TISCO Financial Group as a parent company. All risk exposures are controlled and managed under the consolidated supervision principle.

Following the risk management policy of TISCO Group, TISCO places great importance on effective risk management and controls. By establishing an overall risk management framework, including policy objectives for all risk-related transactions, TISCO is able to increase awareness, accountability and efficiency in enterprise-wide risk management as well as maintain best practice standards and high-quality corporate governance. In addition, TISCO aims to maximize sustainable risk-adjusted returns over the long run.

Risk Management Policy

The risk management policy of TISCO Group encompasses the following structures:

1. Consolidated and centralized risk management

Risk management infrastructure is centralized by consolidating risk exposure from all subsidiaries under TISCO Financial Group through careful risk assessment and the establishment of appropriate risk guidelines and procedures.

2. Business line accountability, independent risk oversight

Each business line is accountable for managing its own risks in the best interests of the Group while complying with risk management policies, guidelines, and procedures. Independent risk oversight and check-and-balance system have been established to ensure that risks are adequately monitored and controlled.

3. Comprehensive risk assessment

Risk assessment is performed comprehensively in all key activities. Risk assessment methodologies may range from basic approaches such as expert judgments to more advanced approaches such as quantitative and statistical analysis, depending on the size and complexity of the risks involved. These assessments are in turn supplemented by fundamental risk analysis and stress testing of extreme risk events.

4. Capital management based on standardized risk measure

Capital represents the ultimate interest of the shareholders. Regardless of the methodologies employed, all material risk exposures shall be quantified into a standardized risk measure called Risk Capital. Risk capital is determined according to the Value at Risk concept at potential maximum loss at 99% confidence level with associated holding period but not more than one year. Risk Capital can relate risks to the amount of capital required to protect against them. The process of risk assessment under Risk Capital is considered as part of Internal Capital Adequacy Assessment Process (ICAAP) of TISCO.

Risk Capital enables management and line managers to understand the level of risks being taken in uniform, meaningful, and consistent units comparable across different types of risks. Risks from different levels and sources shall be integrated to produce the overall risk picture of the firm and used for capital adequacy planning and strategic capital allocation.

5. Risk Tolerance Level and Capital Allocation

The Board of Directors mandate the risk tolerance of TISCO Group that the total risk capital shall not be in excess of available capital fund of the Group according to the above definition of Risk Capital in 3.4. The qualitative risk tolerance level shall be applied for non-capital based assessment. Risk Capital shall determine the economic capital adequacy of TISCO group on a consolidated basis. The available capital is also allocated to the business and operating units such that the capital adequacies to undertaken risk are ensured both at the corporate- and business-unit-level.

6. Adequate return for risk and risk-adjusted performance management

To promote shareholder value creation, risk components are incorporated into business performance measurements with the objective of maximizing risk-adjusted returns for shareholders. Product pricing takes into account varying risks to ensure overall profitability. Business expansion is advocated in the areas where marginal risk-adjusted returns are in excess of the marginal risks.

7. Portfolio management, diversification and hedging

Risk diversification is a key risk management principle in all business activities. Diversification is considered and adopted by management and business line managers both at the portfolio and transaction

levels as an effective approach to reducing the aggregate level of risks in accordance with certain guidelines and limits.

8. Strong Risk Awareness Culture

Awareness and understanding of risks and risk management are important for the accountability of risk management. Business heads are expected to have a high degree of awareness and understanding of the risks in their accountable areas and how they contribute to the overall risk of the corporate as a whole.

9. Regulatory best practice

The Group has adopted risk management policies and guidelines that comply with all regulations and best practice standards of the Bank of Thailand (BoT), the Securities and Exchange Commission (SEC) and other regulatory bodies.

10. New Business or Product

All new businesses or products shall be approved by the portfolio risk authority and relevant specific-area risk authority according to the procedure outlined in the risk management guideline. New business or product will be evaluated in terms of its risk-reward characteristics, the contributions to the overall corporate risk profile, and the consistency with corporate capital capacity.

11. Related Party Transaction

All business transactions among TISCO Group and related party shall be on a similar basis with same treatment of regular customer. Additionally, the related transaction shall be transparent and auditable. Meanwhile, the proportion of business transaction among TISCO Group shall be controlled under regulatory guideline. This includes exposure limits imposed through regulations such as BOT's Consolidated Supervision, Single Lending Limit and others. All related party transaction shall be monitored and reported in accordance with the Related Party Transaction Policy approved by the Board of Director.

12. Stress Testing

Stress Testing is a procedure to assess the impact on the company's financial status under extreme risk events. Stress testing process is designed to be a complementary tool for the analysis of credit risk, market risk and funding risk.

The Board of Directors through Executive Board and Risk Management Committee, oversee the framework for stress testing. This include setting up of stress testing guidelines and key required assumptions to perform stress testing which are in line with the sophistication of portfolio exposures. Meanwhile, Enterprise Risk Management Function is responsible to facilitate all related business units in order to perform periodically stress testing, and report the stress testing results as well as the recommendations on any important aspects to the Risk Management Committee and the Board of Director in a timely manner.

Stress testing shall take into account the potentially extreme events during the next twelve months, on all critical risk areas. Stress testing assessment and results shall be integrated into setting and evaluating the internal management strategy and capital planning which may involve reviewing the need for limit changes or developing contingency plans in the event that a stress scenario actually happens.

Risk Management Framework

In accordance with enterprise-wide risk management policies and objectives, risk management and internal control have been monitored and controlled by the Board of Directors of TISCO with the delegation to the Executive Board of Directors of TISCO. An effective management process has been established for assessing and managing all firm-wide risk exposures at both the portfolio and transactional levels to ensure the financial soundness and safety of TISCO. Senior Management and relevant business advisory committees oversee the entire risk management framework and strategy for all business areas supported by planning and budgeting function. Risk Management Committee, which supported by enterprise risk management, risk research and operational risk management function, is set up to oversee that enterprise-wide risk management of the group is undertaken according to the same standard. Specific-area risk authorities are then established to manage in-depth, transaction-level risks in each particular area, such as the Credit Committee and Problem Loan Committee. These mechanisms are in turn supported by the Office of the Credit Committee and functions governing compliance and internal control and legal office in the parent company. Business lines are fully accountable for managing their own risks within the policy guidelines established by the Risk Management Committee and specific-area risk authorities. All the business operations are under the risk limit approved by the Risk Management Committee including new business analysis in each business line. Additionally, risk limits triggered as well as new businesses shall be reported monthly to the Risk Management Committee for acknowledgement. However, to enhance the overall risk management system, the risk management system shall be audited and reported to the Audit Committee.

The roles and responsibilities of the relevant committees and risk management authorities are described as follows:

- Board of Directors

The Board of Directors has assigned Executive Board the task of overseeing and monitoring risk management activities by reviewing and approving relevant policies and guidelines on an annual basis. This is achieved by setting risk limits and risk appetites, and ensuring the establishment of effective risk management systems and procedures in accordance with the standard practices of risk identification, assessment, monitoring and control, all of which are in line with the Audit Committee standards.

- Risk Management Committee

The Risk Management Committee of TISCO has been delegated from the Board of Directors charge of the formulation and implementation of enterprise-wide risk strategies and action plans in connection with risk management policies and guidelines. The Risk Management Committee meeting is regularly held once a month. Enterprise risk management, risk research and operational risk management functions in the parent company support the Risk Management Committee in setting up and monitoring risk management policies and guidelines and performing enterprise-wide risk management activities through a risk research and reporting process. Moreover, Risk Management Committee of TISCO has also been established in effective management and control of risks in various business units.

- **Specific-Area Risk Authorities**

Specific-area risk authorities are set up to address in-depth risk management and controls at the transaction level. Key specific-area risk authorities include the Credit Committee and Problem Loan Committees, which are in turn supported by the Office of the Credit Committee in overseeing credit approval and risk management. In addition, Executive board of Directors of the bank and Board of Directors of other credit-granting subsidiaries shall control and follow up all specific risk areas which are directly reported to the Board of Directors of the bank as well as the Board of Directors of TISCO Financial Group on a monthly basis.

Roles and Responsibilities of Internal Audit

The Audit Committee of TISCO Financial Group independently reviews the assessment of the adequacy of the TISCO Group's internal control system, as annually prepared by the Executive Board, in relation to the group's risks, and also reviews the policy and guidelines for internal audit as well as for the Compliance Committee and the Audit Committee of other subsidiaries to ensure that financial statement reports are transparent and accurate. The committee also effectively assesses that all business operations have adequate internal controls and are in compliance with laws and regulations, and reports the key issues to the Board of Directors of TISCO Financial Group for consideration. For other subsidiaries under the supervision of regulators, the Audit Committee, internal control and internal audit reporting process have been established in each company. The committee also effectively assesses that all business operations have adequate internal controls and are in compliance with laws and regulations.

The Internal Audit function is responsible for regular auditing of business operations in compliance with policies and guidelines, and reporting to the Audit Committee. Internal Audit also coordinates with management and relevant business units to improve the effectiveness of internal control systems.

Credit Risk

Credit Risk is defined as the possibility of an obligor's failure to meet the terms of any contract with TISCO as agreed or by defaulting on a loan agreement. Credit risk, if it occurs without pledged assets, requires the Bank to maintain higher provisions for loan losses, which will then adversely affect net income and TISCO Group's capital.

- **Credit Risk Management Framework**

The Risk Management Committee is delegated to oversee credit risk management of the corporate portfolio. The committee is responsible for formulating credit risk strategies and establishing guidelines and limits, as well as advising other credit risk authorities and retaining accountability on related issues. It also monitors and reviews credit risks at the portfolio level and reports essential credit risk information to the Board.

For Specific-Area credit risk, credit approval authority lies ultimately with the Executive Board, who delegates its daily decision-making authorities to appropriate Credit Risk Authorities e.g. the Credit Committee and/or

Problem Loan Committee. The committees may further delegate parts of its decision-making authorities to suitable bodies or persons, provided that a well-defined credit approval guideline is established, reviewed and endorsed by the Executive Board.

Sound credit risk assessments are key risk practices at TISCO such as credit rating, delinquency analysis, concentration level and risk capital. All credit activities must operate under a sound credit granting process in which an effective credit grading system is employed. Estimated expected losses from credit exposures shall be fully covered with loan loss reserves while capital resource shall be sufficiently available to absorb unexpected credit losses. In consumer lending area, quantitative-oriented approaches to credit grading are advocated, considering its homogenous high-volume characteristics, with emphasis on the use of extensive data mining and analysis. In corporate lending area, qualitative-oriented credit grading approaches shall be employed, taken into account its highly varying risk profiles, with well-defined standard. The credit rating for capital calculation also based on the issuer ratings assigned by credit rating agencies, i.e., Standard & Poor's, Moody's Investors Service, Fitch Ratings, Fitch Ratings Thailand and TRIS Rating.

Concentration risks are also essential in credit portfolio risk management. Appropriate guidelines on concentration risks are set up considering appropriate business practice and company risk capital capacity.

TISCO uses credit risk management guidelines and limits that are comprehensively applied to all credit-related functions both at the portfolio and transaction levels. Credit risk factors are explained in detail as follows:

1. Default Risk

Definition of Default

Whenever one or both of the following events occur, a default is determined:

(1) TISCO deems that debtors are unable to repay fully according to the credit obligations, without consideration on payment that may receive from collateral. The following events constitute the debtor is unlikely to pay:

- (1.1) TISCO stop accrue interests of debtor
- (1.2) TISCO write-off or sets additional provisions as it deems that debtor is unable to repay or credit quality of debtor significantly deteriorates
- (1.3) TISCO have sold the credit obligation at a material credit-related economic loss.
- (1.4) TISCO consent to a debt restructuring by material forgiveness or postponing principal, interest or fees as it deems that financial condition of debtor deteriorates
- (1.5) TISCO have filed litigation against debtor
- (1.6) Debtor has filed for protection under Bankruptcy law or other creditors have file bankruptcy against debtor, therefore delaying debt repayment to TISCO or

(2) Debtor has more than 90 day past due (principal or interest), or debtor is classified as substandard or lower according to the Notification of the Bank of Thailand Re: Criteria for Assets Classification and Provision of Commercial Bank.

TISCO has prudently managed non-performing loans (NPLs) with effective risk management tools and stringent practice of loan collection, debt restructuring and write-off process. TISCO has applied Collective Approach for loan loss provisioning to the car hire-purchase portfolio. The loan loss reserve was derived from the best estimate of expected credit losses from the portfolio over the next 12 months, based historical loss data incorporating with adjustment for the forecasted economic condition. Loan loss reserve of TISCO consists of specific reserve for classified loan and general reserve reflecting the prudent provisioning policy to mitigate potential risk.

2. Concentration Risk

Most of TISCO portfolio consists of hire purchase portfolio, of which concentration is very low. For the commercial loan portfolio, it was diversified into three different sectors: manufacturing and commerce, real estate and construction, and public utilities and services. There is slight concentration in real estate sector which has been managed under risk management procedure. However, commercial loan portfolios are almost fully collateralized. In loan approval process, appropriate proportion of collateral value and financing amount is maintained to ensure that risks were kept within a manageable level. Additionally, collateral values will be regularly appraised and effective loan drawdown procedure has been implemented. Portfolio credit quality was closely monitored.

3. Collateral Risk

Most of the total lending portfolio in TISCO was asset backed or with collateral. For the hire purchase portfolio, the underlying asset under the loan agreement itself is still owned by TISCO. In case the borrowers of hire purchase loans cannot meet the terms and conditions, TISCO can follow up and seize the underlying assets immediately. After repossession, the process of asset liquidation can be completed within one month.

A major risk factor in the hire purchase business depends on the market value of used cars. A substantial decrease in the market value of a used vehicle results in credit loss, which directly affects the net income and capital of TISCO. Market prices for used cars depend on such diverse factors as market demand, type, brand and tax regulations.

However, judging by past records, the recovery rate for asset liquidation in the secondary market was somewhat high at 70-90% of the remaining net financing amount, which helped in absorbing losses from defaulted loans. TISCO has attempted to minimize credit risk by regularly updating its information regarding

trends in the used car market, requiring high-value collateral, sufficient down payment, and favoring well-known brands in the secondary market.

For commercial and mortgage loans, most collateral extended as loan guarantees was in the form of real estate, of which the value could be deducted for the purposes of loan loss provisioning. Collateral values were appraised according to BoT rules and regulations.

Generally, the risk of real estate value changes depends on economic conditions. A recession in the Thai economy might result in lower values, which would require TISCO to reserve higher loan loss provisions. Moreover, the legal process of collateral acquisition through related laws and enforcement is both costly and time consuming. However, all pending cases are closely monitored on a regular basis.

4. Property Risk from Foreclosed Assets

Property risk from foreclosed assets is the impairment of assets transferred from loans, hire purchase receivable on which debtors had defaulted on their repayment obligations under the loan contracts or restructured receivables.

Definition of Assets Impairment

Impairment of Assets means an exceeding of the carrying amount of an asset over its recoverable amount. TISCO assesses at each reporting date whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, TISCO estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's fair value less costs to sell and its value in use. Where the carrying amount of an asset exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs to sell, an appropriate valuation model is used. These calculations are corroborated by a valuation model that based on information available, reflects the amount that TISCO could obtain from the disposal of the asset in an arm's length transaction between knowledgeable, willing parties, after deducting the costs of disposal.

Impairment losses are recognized in the income statement. For assets other than goodwill, an assessment is made at each reporting date as to whether there is any indication that previously recognized impairment losses may no longer exist or may have decreased. If such indication exists, TISCO estimates the asset's recoverable amount. An impairment loss recognized in prior periods for an asset other than goodwill shall be reversed.

Credit Risk Exposures under Standardised Approach

In order to maintain the minimum capital requirement under Standardised Approach, External Credit Assessment Institution Rating (ECAI) has been applied for the corporate portfolio in 2010 in order to better reflect risk of client comparing with the risk weight of 100% has been applied for all TISCO corporate loans.

Credit Risk Exposures under Internal Rating Based Approach

Internal Rating Based (IRB) Phase Rollout Plan

As Basel II capital requirement has been effective since the end of June 2010, TISCO Group has adopted standardized approach (SA) for credit risk capital calculation in the first year and has been permitted from Bank of Thailand to rollout internal rating based approach (IRB) for credit risk capital calculation from the period of December 31, 2012. The detail of phase rollout plan which is approved from Bank of Thailand is as follow.

Credit Portfolio	Implementation Period
1. Hire Purchase Portfolio	Period of 31 December 2012
2. Corporate Loan Portfolio	Period of 31 December 2012
3. Auto Cash Portfolio	Period of 31 December 2014
4. Commercial Loan Portfolio	Period of 31 December 2015

Scope of Internal Rating System Implementation

TISCO Group has adopted IRB approach for the calculation of credit risk-weighted assets for hire purchase portfolio which is the major portfolio of TISCO Group since the period of 31 December 2009. The credit scoring systems are developed from statistical modeling and validated performance by independent unit.

TISCO Group regularly performs the credit scoring model validation process on quarterly basis to ensure the performance and consistency of scoring system, regarding to the market environment and risk characteristics of current customers. The validation result is reported to Risk Management Committee.

The credit grades resulted from the credit scoring models shall be used in credit risk-weighted assets following IRB approach. Moreover, the credit grades shall also be used in credit approval process, portfolio performance monitoring, loan loss provisioning and business strategic planning.

Furthermore, TISCO Group has also adopted foundation IRB approach for the calculation of credit risk-weighted assets for corporate loan portfolio since the period of 31 December 2012. The credit rating systems are developed from the cooperation of Credit Analyst and Risk Management functions and validated performance by independent unit.

TISCO Group regularly performs the validation process of corporate credit rating model on annual basis to ensure the integrity and consistency of rating system, regarding to the economic situation and firm-specific risk of current customers. The validation result is reported to Risk Management Committee.

The credit ratings resulted from the credit rating models shall be used in credit risk-weighted assets, employed the IRB function under Basel II. Additionally, the credit ratings shall also be used as the supplementary tool for credit approval process, portfolio performance monitoring and business strategic planning.

Internal Rating Structure

Hire purchase portfolio is retail credit portfolio which is managed as a portfolio pool. The credit scoring system is developed as a tool for portfolio management. The internal credit scoring for hire purchase business comprises of two main scoring systems which are Application Credit Scoring to be used in loan origination process, and Behavior Credit Scoring to assess and monitor portfolio quality, maintain loan loss reserve, and calculate credit risk-weighted assets.

In loan origination process, the customer shall be generated the credit score and corresponding credit grade based on the customer's characteristics data, combined with requested loan facilities. Meanwhile, the customer's payment behavior shall be incorporated with customer characteristics and loan facilities to produce credit score and corresponding credit grade for portfolio monitoring and credit risk-weighted asset calculation. The behavior credit scoring system is classified into two major groups which are non-defaulted group and defaulted group. For non-defaulted group including Pass and Special Mention loan, credit grade can be divided into 12 grades from 1 to 12 where an obligor of loan has credit worthiness and payment behavior to meet its financial commitments respectively from exceptional credit to poor credit, while for defaulted group including Sub-standard Doubtful and Doubt to Loss loan, credit grade can be divided into N2 which represents defaulted accounts with 4-6 overdue installments and N3 which represents defaulted accounts with overdue installments greater than 6.

Corporate loan portfolio is managed under the individual basis and the credit rating is applied to large corporate client applying all loan which portfolio managed based on individual client treatment. The internal credit rating for corporate loan portfolio comprises of two main rating systems which are Corporate Credit Rating to be applied to all corporate clients, and Specialized Credit Rating to be applied to the entity associated with the financing of individual projects where the repayment is highly dependent on the performance of the underlying collateral. Both Corporate and Specialized Credit Ratings shall be used in loan origination process and to monitor portfolio quality, and calculate credit risk-weighted assets.

For corporate credit rating, for non-defaulted group, the credit rating can be divided into 7 ratings from A1 to A7 where an obligor of loan has credit worthiness and payment behavior to meet its financial commitments respectively from exceptional credit to poor credit. Meanwhile, the credit rating of non-

defaulted group under specialized credit rating can be divided into 4 ratings from S1 to S4 following the definition under the supervisory slotting criteria published by Bank of Thailand. For defaulted group of both corporate and specialized credit ratings, the credit rating can be divided into N2 and N3 under the same definition as described in the behavior credit scoring system of hire purchase portfolio.

Rating Assignment Process

For rating assignment of hire purchase customers in credit approval process, customers shall be generated the credit score and corresponding credit grade based on the application credit scoring model through the loan origination system. Loan approval procedure and credit result is primarily based on credit grade results by loan origination system. For rating assignment to use in portfolio monitoring, provisioning and the calculation of credit risk-weighted asset, customers shall be generated credit score and corresponding credit grade based on the payment behavior using behavior credit scoring model.

For portfolio monitoring and provisioning, all hire purchase customers shall be managed as a portfolio pool under the same management framework and credit scoring model. However, the hire purchase customers, which are applied IRB approach to calculate credit risk-weighted assets using behavior credit scoring model, must be complied with BOT's definition of retail exposures. For hire purchase customers who are not qualified to the definition of retail exposures under IRB approach shall be adopted standardized approach (SA) for the calculation of credit risk-weighted assets.

For rating assignment of corporate loan customers, the credit rating shall be generated to the customer as a part of credit analysis process as done by the credit analysts the corporate loan customers which are applied IRB approach to calculate credit risk-weighted assets must be assigned the credit rating. The customers who are not required to be assigned the credit rating as defined regarding to the internal guideline shall be adopted standardized approach (SA) for the calculation of risk-weighted assets.

PD and LGD Estimation and Validation

TISCO Group clearly defines the definition of defaulted account for hire purchase portfolio which is the account with overdue more than 3 installments or 90 days, repossessed account and legal account. Moreover, the definition of defaulted account also includes the account which classified in non-performing loan definition as sub-standard class, doubtful class or doubtful to loss class, according to the Bank of Thailand's notification.

For the estimation of Probability of Default (PDs) of hire purchase portfolio, PD estimates are the long-term average of the historical one-year default rates and adding by a volatility rate of historical default rates as a margin of conservatism. The data range of historical one-year default rates used for PD estimation must be covered at least 5 years.

For the estimation of Loss Given Default (LGDs) of hire purchase portfolio, LGD estimates must be the worst loss that can be happened under the worst but potential business environment under the sufficient conservative confidence level. The LGD estimates are derived based on the historical loss rates with the range of data to be at least 5 years.

PD and LGD estimates of hire purchase portfolio must be regularly validated on quarterly basis. The estimates are validated through backtesting by comparing the estimates of each reporting period with the actual default rate and loss rate occurred in that reporting period.

For the validation of PD estimates, TISCO considers if the actual default rates are greater than the PD estimates, exceeding the acceptable limit. Should the back testing result exceeded the defined limit, PD estimates shall be reviewed accordingly.

For the validation of LGD estimates, the actual loss rate shall not exceed the LGD estimates. Should the actual loss rate exceeded LGD estimates, the LGDs shall be reviewed immediately.

For corporate loan portfolio, the definition of defaulted account is defined as the client classified in non-performing loan, according to the Bank of Thailand notification. Furthermore, the definition of default client also includes the restructured client whose lending terms has been modified because of deterioration in the financial condition to reduce and renegotiate its delinquent debts in order to improve or restore liquidity and rehabilitate so that it can continue its operations.

Due to the low defaulted client data availability of corporate loan portfolio of TISCO Group, the statistical method for low default portfolio that can be used to estimate long run PDs with the conservative buffer under the limitation of the available default data has been adopted to estimate PDs with conservative cushion.

For the estimation of LGDs of corporate loan portfolio, TISCO Group has adopted the foundation IRB approach to calculate the risk-weighted assets. Thus, the LGDs used in the calculation must be the standard LGDs provided by the Bank of Thailand.

PD estimates of corporate loan portfolio must be regularly validated on annual basis. The estimates are validated through backtesting by comparing the average portfolio PD of each reporting period with the actual default for the portfolio occurred in that reporting period. The PD estimates, and credit rating systems if needed, shall be reviewed if the actual default rate of the portfolio is greater than the average portfolio PD, exceeding the acceptable limit.

Table 8 Assets Exposures and Off Balance Sheet Items before Credit Risk Mitigation

Unit : Million Baht

Items	31-Dec-13	31-Dec-12
1. Assets Exposures	344,194.42	275,036.15
1.1 Total Net Loan ^{1/}	332,633.38	270,310.31
1.2 Net Fixed Income Investment ^{2/}	10,470.30	4,263.63
1.3 Deposits (Including Accrued Interest)	1,090.74	462.21
2. Off Balance Sheet Items ^{3/}	9,931.96	10,853.13
2.1 Aval and Guarantee	793.28	874.23
2.2 OTC Derivative	5,589.74	6,095.16
2.3 Undrawn Committed Line	3,548.95	3,883.74

^{1/} Including Accrued Interest and after Netting Unearned Income and Provision and Including Interbank and Money Market

^{2/} Not Including Accrued Interest and after Netting of Impairment

^{3/} Before Credit Conversion Factor

Table 9 Assets Exposures and Off Balance Sheet Items before Credit Risk Mitigation Classified by Country or Region

31-Dec-13

Unit : Million Baht

Country or Region	Assets Exposures				Off Balance Sheet Items ^{3/}			
	Total	Total Net Loan ^{1/}	Net Fixed Income Investment ^{2/}	Deposits (Including Accrued Interest)	Total	Aval and Guarantee	OTC Derivative	Undrawn Committed Line
Thailand	340,866.09	329,961.10	9,865.47	1,039.52	9,931.96	793.28	5,589.74	3,548.95
Asia Pacific	3,327.85	2,672.28	604.84	50.73	-	-	-	-
America	0.11	-	-	0.11	-	-	-	-
Europe	0.38	-	-	0.38	-	-	-	-
TOTAL	344,194.42	332,633.38	10,470.30	1,090.74	9,931.96	793.28	5,589.74	3,548.95

31-Dec-12

Unit : Million Baht

Country or Region	Assets Exposures				Off Balance Sheet Items ^{3/}			
	Total	Total Net Loan ^{1/}	Net Fixed Income Investment ^{2/}	Deposits (Including Accrued Interest)	Total	Aval and Guarantee	OTC Derivative	Undrawn Committed Line
Thailand	273,586.85	268,917.16	4,263.63	406.06	21,367.88	874.23	6,095.16	14,398.49
Asia Pacific	1,449.00	1,393.15	-	55.85	1,924.09	-	-	1,924.09
America	0.10	-	-	0.10	-	-	-	-
Europe	0.20	-	-	0.20	-	-	-	-
TOTAL	275,036.15	270,310.31	4,263.63	462.21	23,291.97	874.23	6,095.16	16,322.58

^{1/} Including Accrued Interest and after Netting Unearned Income and Provision
and Including Interbank and Money Market

^{2/} Not Including Accrued Interest and after Netting of Impairment (but including unsettlement)

^{3/} Before Credit Conversion Factor

Table 10 Assets Exposures and Off Balance Sheet Items before Credit Risk Mitigation Classified by Remaining Maturity

Unit : Million Baht

Items	31-Dec-13			31-Dec-12		
	≤ 1 Year	> 1 Year	Total	≤ 1 Year	> 1 Year	Total
1. Assets Exposures			344,194.42			275,036.15
1.1 Total Net Loan ^{1/}	68,654.33	263,979.05	332,633.38	40,713.78	229,596.53	270,310.31
1.2 Net Fixed Income Investment ^{2/}	6,359.87	4,110.44	10,470.30	4,230.13	33.50	4,263.63
1.3 Deposits (Including Accrued Interest)	1,090.74	-	1,090.74	462.21	-	462.21
2. Off Balance Sheet Items ^{3/}			9,931.96			23,291.97
2.1 Aval and Guarantee	750.72	42.55	793.28	362.50	511.73	874.23
2.2 OTC Derivative	-	5,589.74	5,589.74	3,063.16	3,032.00	6,095.16
2.3 Undrawn Committed Line	2,762.30	786.64	3,548.95	12,438.84	3,883.74	16,322.58

^{1/} Including Accrued Interest and after Netting Unearned Income and Provision and Including Interbank and Money Market, General Provision is netted in the total

^{2/} Not Including Accrued Interest and after Netting of Impairment (but including unsettlement)

^{3/} Before Credit Conversion Factor

Table 11 Loan Exposures including Accrued Interest and Fixed Income Investment before Credit Risk Mitigation Classified by Country or Region following BoT Asset Classification

31-Dec-13

Unit : Million Baht

Country or Region	Loan Exposures including Accrued Interest ^{1/}						Fixed Income Investmnet
	Pass	Special-Mentioned	Sub-Standard	Doubtful	Doubtful of Loss	Total	Doubtful of Loss
Thailand	269,270.00	18,451.00	3,439.00	1,265.00	262.00	292,687.00	1.46

31-Dec-12

Unit : Million Baht

Country or Region	Loan Exposures including Accrued Interest ^{1/}						Fixed Income Investmnet
	Pass	Special-Mentioned	Sub-Standard	Doubtful	Doubtful of Loss	Total	Doubtful of Loss
Thailand	232,813.86	12,755.73	2,040.63	586.19	472.04	248,668.45	1.46

^{1/} Including Interbank and Money Market Exposures with Accrued Interest

Table 12 Provision (General Provision and Specific Provision) and Write-Off Amount during The Year for Loan including Accrued Interest and Fixed Income Investment Classified by Country or Region

31-Dec-13

Unit : Million Baht

Country or Region	Loan Exposures including Accrued Interest ^{1/}			Fixed Income Investmnet
	General Provision	Specific Provision	Write-Off Amount during The Year	Specific Provision
Thailand		4,009.00	3,776.00	1.46
Total	2,345.00	4,009.00	3,776.00	1.46

^{1/} Including Provision and Write-Off Account for Interbank and Money Market with Accrued Interest

31-Dec-12

Unit : Million Baht

Country or Region	Loan Exposures including Accrued Interest ^{1/}			Fixed Income Investmnet
	General Provision	Specific Provision	Write-Off Amount during The Year	Specific Provision
Thailand		3,077.00	2,061.00	1.46
Total	2,045.00	3,077.00	2,061.00	1.46

^{1/} Including Provision and Write-Off Account for Interbank and Money Market with Accrued Interest

**Table 13 Loan Exposures including Accrued Interest* before Credit Risk Mitigation
Classified by Type of Business and BoT Asset Classification**

31-Dec-13

Unit : Million Baht

Type of Business	Pass	Special-Mentioned	Sub-Standard	Doubtful	Doubtful of Loss	Total
- Agricultural and Mining	1,445.00	72.00	23.00	3.00	-	1,543.00
- Manufacturing and Commerce	38,557.00	547.00	140.00	40.00	16.00	39,300.00
- Real Estate and Construction	11,754.00	155.00	26.00	11.00	12.00	11,958.00
- Public Utilities and Services	31,263.00	637.00	98.00	78.00	2.00	32,078.00
- Housing Loan	1,308.00	57.00	2.00	9.00	57.00	1,433.00
- Hire Purchase	169,449.00	15,813.00	2,917.00	1,089.00	151.00	189,419.00
- Others	15,494.00	1,170.00	233.00	36.00	23.00	16,956.00
Total	269,270.00	18,451.00	3,439.00	1,266.00	261.00	292,687.00

31-Dec-12

Unit : Million Baht

Type of Business	Pass	Special-Mentioned	Sub-Standard	Doubtful	Doubtful of Loss	Total
- Agricultural and Mining	1,578.36	44.61	5.27	0.68	-	1,628.92
- Manufacturing and Commerce	33,426.87	377.92	52.95	12.40	29.39	33,899.53
- Real Estate and Construction	10,108.19	116.85	23.25	10.74	249.00	10,508.03
- Public Utilities and Services	21,274.55	427.58	35.03	14.63	3.97	21,755.76
- Housing Loan	1,333.44	20.60	18.98	3.81	82.86	1,459.69
- Hire Purchase	150,829.37	11,122.17	1,811.85	525.28	74.64	164,363.31
- Others	14,264.52	646.00	93.29	18.65	30.76	15,053.22
Total	232,815.30	12,755.73	2,040.62	586.19	470.62	248,668.46

* Including Interbank and Money Market with Accrued Interest

Table 14 Provision (General Provision and Specific Provision) and Write-Off Amount during The Year for Loan including Accrued Interest* Classified by Type of Business

Unit : Million Baht

Type of Business	31-Dec-13			31-Dec-12		
	General provision	Specific provision	Write-Off Amount during The Year	General provision	Specific provision	Write-Off Amount during The Year
- Agricultural and Mining		26.00			15.00	
- Manufacturing and Commerce		365.00			284.00	
- Real Estate and Construction		61.00			174.00	
- Public Utilities and Services		275.00			172.00	
- Housing Loan		26.00			34.00	
- Hire Purchase		2,814.00			2,097.00	
- Others		442.00			301.00	
Total	2,345.00	4,009.00	3,776.00	3.44	3,077.00	2,060.60

* Including Interbank and Money Market with Accrued Interest

Table 15 Reconciliation of Change in Provision for Asset Classification

Unit : Million Baht

Items	31-Dec-13			31-Dec-12		
	General provision	Specific provision	Total	General provision	Specific provision	Total
Balance - Beginning of Year	2,045.00	3,077.00	5,122.00	2,080.00	2,340.00	4,420.00
Bad Debt Written-Off	-	3,776.00	- 3,776.00	-	2,061.00	- 2,061.00
Increase (Decrease) in Provision during The Year	300.00	4,708.00	5,008.00	- 35.00	2,798.00	2,763.00
Balance - End of Year	2,345.00	4,009.00	6,354.00	2,045.00	3,077.00	5,122.00

Table 16 Assets Exposures and Credit Equivalent Amount of Off Balance Sheet Items* Classified by Asset Classes under SA Approach

Unit : Million Baht

Assets Type	31-Dec-13			31-Dec-12		
	On Balance Sheet	Off Balance Sheet**	Total	On Balance Sheet	Off Balance Sheet**	Total
1. Performing						
1.1 Claims on Sovereign and Central Bank and Multilateral Development Bank and Public Sector Entities treated as Claims on Sovereign	10,657.82	-	10,657.82	6,952.92	-	6,952.92
1.2 Claims on Financial Institutions and Public Sector Entities treated as Claims on Financial Institutions and Securities Company	52,694.32	278.46	52,972.78	28,370.27	304.76	28,675.03
1.3 Claims on Corporate and Public Sector Entities treated as Claims on Corporate	28,558.47	165.25	28,723.72	22,993.54	1,492.99	24,486.53
1.4 Claims on Retail	27,944.80	0.82	27,945.62	22,116.91	44.93	22,161.84
1.5 Claims on Residential Property	1,318.12	-	1,318.12	1,313.13	-	1,313.13
1.6 Other Assets	-	-	-	-	-	-
2. Non-performing	591.94	-	591.94	326.08	-	326.08
Total	121,765.46	444.54	122,210.00	82,072.86	1,842.68	83,915.54

* After Credit Conversion Factor and Specific Provision

** Including Repo-Style Transaction and Reverse repo

**Table 17 Assets Exposures and Credit Equivalent Amount of Off Balance Sheet Items*
Classified by Asset Classes under IRB Approach**

Unit : Million Baht

Assets Type	31-Dec-13			31-Dec-12		
	On Balance Sheet	Off Balance Sheet**	Total	On Balance Sheet	Off Balance Sheet**	Total
1. Non-Default	233,824.81	2,827.64	236,652.45	204,629.82	7,101.23	211,731.06
1.1 Corporate Lending	39,553.66	2,827.64	42,381.30	33,824.27	7,101.23	40,925.51
1.2 Hire Purchase	185,803.63	-	185,803.63	161,786.22	-	161,786.22
1.3 Equity Exposures	2,088.33	-	2,088.33	2,690.09	-	2,690.09
1.4 Other Assets	6,379.18	-	6,379.18	6,329.24	-	6,329.24
2. Default	3,659.83	-	3,659.83	2,409.51	-	2,409.51
Total	237,484.64	2,827.64	240,312.27	207,039.33	7,101.23	214,140.57

* After Credit Conversion Factor and Specific Provision

** Including Repo-Style Transaction and Reverse repo

Table 18 Assets Exposures and Off Balance Sheet Items* after Credit Risk Mitigation in each Assets Type Classified by Risk Weight under Standardised Approach

Unit : Million Baht

Assets Type	31-Dec-13													
	Exposures with Rating					Exposures without Rating								
Risk Weight (%)	0	20	50	100	150	0	20	50	35	75	100	625	937.5	100/8.5%
Performing														
Claims on Sovereign and Central Bank and 1 Multilateral Development Bank and Public Sector Entities treated as Claims on Sovereign	13,253.99										604.84			
Claims on Financial Institutions and Public Sector 2 Entities treated as Claims on Financial Institutions and Securities Company		1,457.73	2,276.84											
3 Claims on Corporate and Public Sector Entities treated as Claims on Corporate	1021.21		6.83								24,755.93			
4 Claims on Retail						525.40				25,461.66	1,763.31			
5 Claims on Residential Property									1,293.62		24.50			
6 Other Assets														
Risk Weight (%)	0	20	50	100	150					75				
Non-performing ^{1/}			14.41	473.53	103.99									
Exposures to be Deducted from Capital	-													

Unit : Million Baht

Assets Type	31-Dec-12													
	Exposures with Rating					Exposures without Rating								
Risk Weight (%)	0	20	50	100	150	0	20	50	35	75	100	625	937.5	100/8.5%
Performing														
Claims on Sovereign and Central Bank and 1 Multilateral Development Bank and Public Sector Entities treated as Claims on Sovereign	6,952.92													
Claims on Financial Institutions and Public Sector 2 Entities treated as Claims on Financial Institutions and Securities Company		454.11	350.39											
3 Claims on Corporate and Public Sector Entities treated as Claims on Corporate	615.60		5.30								21,152.63			
4 Claims on Retail						606.36				21,214.62	340.61			
5 Claims on Residential Property									1,258.58	54.56				
6 Other Assets														
Risk Weight (%)	0	20	50	100	150					75				
Non-performing ^{1/}			23.46	249.34	53.27									
Exposures to be Deducted from Capital	-													

* After Credit Conversion Factor

^{1/} For Non Credit Risk Mitigation, Risk Weight is based on the Provision Set up

Table 19 Credit Risk Assessment Information under IRB Approach for Corporate Exposures

		31-Dec-13			Unit : Million Baht		
Type of Retail Exposures	Non-Defaulted Group			Default Group			
	EAD ^{1/} (MM)	Ø PD ^{2/} (%)	Ø RW ^{3/} (%)	EAD ^{1/} (MM)	Ø PD ^{2/} (%)	Ø RW ^{3/} (%)	
Corporate Lending	23,593.71	3.64%	82.64%	-	100.00%	0.00%	
Specialized Lending	18,787.59	N.A.	84.52%	-	N.A.	0.00%	
Total	42,381.30		83.47%	-			

		31-Dec-12			Unit : Million Baht		
Type of Retail Exposures	Non-Defaulted Group			Default Group			
	EAD ^{1/} (MM)	Ø PD ^{2/} (%)	Ø RW ^{3/} (%)	EAD ^{1/} (MM)	Ø PD ^{2/} (%)	Ø RW ^{3/} (%)	
Corporate Lending	19,760.48	2.95%	74.94%	250.19	100.00%	0.00%	
Specialized Lending	19,077.36	N.A.	86.99%	-	N.A.	0.00%	
Total	38,837.85		80.86%	250.19		0.00%	

^{1/} The net amount after CRM of total outstanding amount of on-balance sheet items and credit converted amount of off-balance sheet items

^{2/} Ø PD is EAD-weighted average of PD, Downturn PD based on IRB capital calculation

^{3/} Ø RW is EAD-weighted average of risk weighted asset

Table 20 Credit Risk Assessment Information under IRB Approach for Hire Purchase (Pooled basis)

		31-Dec-13				Unit : Million Baht			
Type of Retail Exposures	Non-Defaulted Group				Defaulted Group				
	EAD ^{1/} (MM)	Ø PD ^{2/} (%)	Ø RW ^{3/} (%)	Ø LGD ^{4/} (%)	EAD ^{1/} (MM)	Ø PD ^{2/} (%)	Ø RW ^{3/} (%)	Ø LGD ^{4/} (%)	
Hire Purchase	185,803.63	4.86%	45.44%	37.51%	3,659.83	100.00%	217.19%	40.60%	
Total	185,803.63	4.86%	45.44%	37.51%	3,659.83	100.00%	217.19%	40.60%	

		31-Dec-12				Unit : Million Baht			
Type of Retail Exposures	Non-Defaulted Group				Defaulted Group				
	EAD ^{1/} (MM)	Ø PD ^{2/} (%)	Ø RW ^{3/} (%)	Ø LGD ^{4/} (%)	EAD ^{1/} (MM)	Ø PD ^{2/} (%)	Ø RW ^{3/} (%)	Ø LGD ^{4/} (%)	
Hire Purchase	161,786.22	4.94%	45.11%	37.14%	2,159.32	100.00%	218.90%	40.94%	
Total	161,786.22	4.94%	45.11%	37.14%	2,159.32	100.00%	218.90%	40.94%	

^{1/} The net amount after CRM of total outstanding amount of on-balance sheet items and credit converted amount of off-balance sheet items

^{2/} Ø PD is EAD-weighted average of PD, Downturn PD based on IRB capital calculation which is conservatively bias
, PD under capital calculation is much higher than the long-term average PD or actual PD

^{3/} Ø RW is EAD-weighted average of risk weighted asset

^{4/} Ø LGD is EAD-weighted average of LGD, Downturn LGD based on IRB capital calculation which is conservatively bias
and much higher than the actual LGD

Table 21 The Net Amount after CRM of Total Outstanding Amount and Off-balance Sheet Amount after CCF under IRB Approach Classified by Expected Loss Rating

Type of Retail Exposures	31-Dec-13				31-Dec-12			
	Non-Defaulted Group		Defaulted Group		Non-Defaulted Group		Defaulted Group	
	EAD	EL ^{1/} (%)	EAD	EL ^{1/} (%)	EAD	EL ^{1/} (%)	EAD	EL ^{1/} (%)
Hire Purchase	185,803.63	1.92%	3,659.83	23.23%	161,786.22	1.97%	2,159.32	23.43%
Total	185,803.63	1.92%	3,659.83	23.23%	161,786.22	1.97%	2,159.32	23.43%

^{1/} $\sum EL_i + \sum EAD_i$

EL is estimated based on capital calculation under IRB approach, Downturn EL, which is conservatively bias and higher than the estimated EL under normal situation

Table 22 The Net Amount after CRM of Total Outstanding Amount of Specialized Lending under IRB Approach adopting Supervisory Slotting Criteria Classified by %Risk Weight

Unit : Million Baht

Supervisory Grade	%Risk Weight	EAD ^{1/} (MM)	
		31-Dec-13	31-Dec-12
Excellent	70%	8,810.91	8,449.79
Excellent*	50%	-	-
Good	90%	5,803.76	7,344.95
Good*	75%	-	-
Satisfactory	115%	3,902.53	3,064.63
Weak	250%	-	218.00
Default	0%	-	-
Total		18,517.20	19,077.36

^{1/} The net amount after CRM of total outstanding amount of specialized lending

Table 23 Actual Loan Losses of IRB Bank Classified by Asset Type

Unit : Million Baht

Assets Type	Actual Loss		Historical Average*
	31-Dec-13	31-Dec-12	
Hire Purchase	2153.042357	920.13	938.26
Total	2,153.04	920.13	938.26

* Based on Historical 5 Year Long Term Average of Hire Purchase Portfolio

Table 24 Comparison of Expected Loss and Actual Loan Losses

Unit : Million Baht

Assets Type	Expected loss ^{1/}		Historical Average*
	31-Dec-13	31-Dec-12	
Hire Purchase	4,425.40	3,697.49	938.26
Total	4,425.40	3,697.49	608.68

* Based on Historical 5 Year Long Term Average of Hire Purchase Portfolio

^{1/} Expected loss is estimated based on Basel II - IRB approach, Downturn EL,
Which is conservatively bias and higher than the TISCO estimate expected loss

Credit Risk Mitigation

Based on the Basel II minimum capital requirement under Standardised Approach and Foundation Internal Rating Based Approach, Credit Risk Mitigation (CRM) has become effective in obtaining capital relief. Currently in TISCO, only financial collateral and guarantee are considered applied eligible collaterals following the Bank of Thailand's rules and regulation under CRM process. In addition, TISCO still has no policy to adopt netting agreements in both on and off balance sheet under CRM process.

Table 25 Assets Exposures Covered with Collateral under Standardised Approach Classified by Type of Collateral

Unit : Million Baht

Assets Type	31-Dec-13		31-Dec-12	
	Financial Collateral ^{1/}	Guarantee and Credit Derivative	Financial Collateral ^{1/}	Guarantee and Credit Derivative
Performing				
1 Claims on Financial Institutions and Public Sector Entities treated as Claims on Financial Institutions and Securities Company	51,026.22	-	27,870.53	-
2 Claims on Corporate and Public Sector Entities treated as Claims on Corporate	2,939.76	-	2,713.00	-
3 Claims on Retail	195.25	-	0.25	-
Total	54,161.22	-	30,583.78	-

^{1/} Eligible Financial Collateral after Haircut

Table 26 Assets Exposures Covered with Collateral under IRB Approach Classified by Type of Collateral

Assets Type	Unit : Million Baht			
	31-Dec-13		31-Dec-12	
	Financial Collateral ^{1/}	Guarantee and Credit Derivative	Financial Collateral ^{1/}	Guarantee and Credit Derivative
Performing				
1 Corporate Lending	2,085.45	-	2,087.66	-
2 Specialized Lending	-	-	-	-
Total	2,085.45	-	2,087.66	-

^{1/} Eligible Financial Collateral after Haircut

Most of TISCO's eligible collateral applied under CRM process consists of Government Bond, TISCO's Negotiable Certificate of Deposit (NCD) and Bill of Exchange (BE), and Listed Equity where the appraisal value has been performed regularly following the Bank of Thailand guideline. Moreover, positive correlation of the collateral shall be assessed and reviewed in order to ensure the effectiveness of credit risk mitigation.

Market Risk

An effective market risk management has been established by adopting the risk management policy approved by the Risk Management Committee, supported by enterprise risk management function in order to ensure appropriate application of the policy in all functions.

In accordance with the market risk capital requirement based on the Bank of Thailand's rules and regulations, since the trading book position of TISCO is still below the minimum thresholds, TISCO is required to maintain its capital to support the market risk only for the element that cover the price risk of commodities related product. However, internal market risk assessments including all positions related to price and interest rate change has been performed to ensure the effective market risk management still in place.

Table 27 Minimum Capital Requirement for Market Risk under Standardised Approach

Minimum Capital Requirement for Market Risk under SA	Unit : Million Baht	
	31-Dec-13	31-Dec-12
1. Interest Rate Risk	-	-
2. Equity Price Risk	-	-
3. Foreign Exchange Rate Risk	-	-
4. Commodity Price Risk	43.64	55.95
Total	43.64	55.95

Equity Exposures in Banking Book

Market risk of equity in banking book stems from adverse changes in securities prices, which directly affect net income, capital, asset value, and liabilities of TISCO.

- Market Risk Management in Equity Framework

Risk Management Committee is responsible to oversee the portfolio risk management and control of market risks. The business lines are accountable to manage market risks in their portfolios within the guidelines and limits set by the Risk Management Committee. Specific-Purpose Risk Authorities have been established in high-risk areas to oversee all aspects of transaction-level risks, such as setting investment guidelines, authorizing investment transactions and trade counterparties etc.

Market exposures shall be grouped appropriately according to the nature and characteristics of risks involved. Suitable risk treatment framework shall be implemented to effectively manage each class of market exposures. Portfolio market risks of all assets and liabilities shall be assessed and quantified using the Value-at-Risk (VaR) concept employing methodologies and techniques appropriate to the nature of risks involved. Back-testing has been prudently performed to validate internal value-at-risk model. In addition, Stress testing in place as a supplement to VaR is performed under various extreme scenarios. The risk assessment and corresponding risk treatment has taken into account the transaction intent as well as the market liquidity of the securities.

Sophisticated market risk positions, such as derivatives securities, shall be handled with special attention. Derivative risks must be decomposed into basic risks and analyzed such that the inherent risk profile is clearly understood. In addition, derivative risk management policy has been set up in order to effectively control and manage risks from derivative transactions with appropriation to complexity of the derivative. Important market risk factors are provided as follows:

(1) Listed Equity Risk

The vulnerability of market price will directly affect listed equity investment portfolio in available-for-sale book in which a change in its value would impact the equity through unrealized gains or losses and would impact the net profit once the equity sold.

TISCO calculates VaR for risk assessment purposes and files reports to management in charge as well as to the Risk Management Committee on a daily basis. VaR is a maximum potential loss at a predefined confidence level at 99% and time horizon. For effective risk management and control, trigger limits have been set up to monitor the overall market risk profile according to internal guidelines, such as concentration trigger limit, stop-loss trigger limit, etc.

(2) Non-Listed Equity Risk

Presently, our investment strategy is not to increase the size of the non-listed equity portfolio. TISCO is instead seeking opportunities to liquidate them, while at the same time closely monitoring portfolio quality on a regular basis.

Policy in Determining Fair Value of Financial Instruments

A fair value is the amount for which an asset can be exchanged or a liability settled between knowledgeable, willing parties in an arm's length transaction.

In determining the fair value of financial instruments that are not actively traded and for which quoted market prices are not readily available, the business units exercise judgment, using a variety of valuation techniques and models. The input to these models is taken from observable markets, and includes consideration of liquidity, correlation and long-term volatility of financial instruments.

In determining the fair value of financial instruments, the estimate fair value will be adjusted by reserve with respective risk. For financial instruments with duration of one year or less, the book value represents a reasonable estimate of fair value. For financial instruments with duration greater than one year, fair value was determined based on the quoted market prices, where available, or otherwise based on present values of contractual cash flows, discounted using rates at which financial instruments with similar features and maturities could be issued as of the balance sheet date.

The methods and assumptions used by TISCO in estimating the fair value of financial instruments are as follows:

- For financial assets and liabilities which have short-term maturities or carry interest at rates approximating the market rate, including cash, interbank and money market items (assets), securities and derivatives business receivables, receivable from clearing house, deposits, interbank and money market items (liabilities), liabilities payable on demand, payable to clearing house, and securities and derivative business payables, the carrying amounts in the balance sheet approximate their fair value.
- The fair value of debts and equity securities is generally derived from quoted market prices, or based on generally accepted pricing models when no market price is available.
- Loans and accrued interest, except for hire purchase receivables and other retail loans, are presented at fair value which is the book value less allowance for doubtful accounts, since most loans carry interest at floating rates. Hire purchase receivable and other retail loans are presented at fair value, which is the present value of future cash inflows, discounted by the current interest rate for new loans.
- The fair value of debentures and borrowings is estimated by discounting expected future cash flow by the current market interest rates of the borrowings with similar terms and conditions.
- The fair value of derivatives is based on the market price, or a formula which is generally accepted in cases where there is no market price.

The fair value of the other off balance sheet items cannot be reasonably determined and thus it has not been disclosed.

Table 28 Equity Exposures in Banking Book

Unit : Million Baht

Equity Exposures	31-Dec-13	31-Dec-12
1. Equity Exposures		
1.1 Listed Equity Exposures (Both Domestic and Foreign)		
- Cost Value	549.00	809.42
- Market Value	658.00	1,202.88
1.2 Other Equity Exposures (Both Domestic and Foreign)	1,240.00	473.28
2. Profit (Loss) from Sale of Equity during The Period	353.00	76.58
3. Revaluation Surplus (Deficit) from Available for Sale of Equity	- 48.00	275.02
4. Minimum Capital Requirement for Equity Exposures under IRB	177.51	228.66
5. Equity Exposure under IRB with Exemption to Calculate under Standardised Approach	2,088.33	2,690.09

Interest Rate Risk in Banking Book

Interest rate risk in banking book is considered an impact to the vulnerability of earnings and economic value including assets and liabilities profile whenever there is a change in interest rate both on and off balance sheet position.

- Interest Rate Risk in Banking Book Management Framework

Interest rate risk occurs whenever there is a mismatch in the re-pricing period of assets and liabilities. A movement in the level of interest rates may lead to higher borrowing costs when compared to earnings, resulting in lower interest rate income, which in turn influences TISCO's income and capital. The Risk Management Committee also acts as the Assets and Liabilities Management Committee (ALCO), which is responsible for managing and maintaining interest rate risk at an appropriate level.

Under the TISCO internal model in assessing interest rate risk in banking book, the risk has been measured on a monthly basis by applying the appropriate assumptions in order to estimate the interest rate movement and applying the concept of Value at Risk to calculate the possible impact to TISCO earnings at confident level of 99%.

Table 29 Impact from Change in Interest Rate* to Earnings

Unit : Million Baht

Currency	Impact to Earnings	
	31-Dec-13	31-Dec-12
Baht	(670.55)	(718.38)
USD	-	-
EURO	-	-
Others	-	-
Total Impact to Earnings	(670.55)	(718.38)

* Change in Interest Rate of 100 bps

Operational Risk

Operational Risk is defined as the vulnerability of earnings, capital, or business continuity due to an inadequate or failed internal processes, people, technology or external factors. The impact can be classified into financial loss and non-financial loss as reputation, compliance, and service level to customers. During the past year, TISCO continue to expand the business into various aspects in both extending the existing businesses as well as setting up the new businesses, therefore, operational risk increased accordingly following the business expansion. Nevertheless, the new business was analyzed for inherent risk in compliance with TISCO new business guideline to ensure risk-return approach. In addition, the operations were reviewed periodically to ensure that prudent control processes are in place and appropriate for the risk incurred.

- Operational Risk Management Framework

Since TISCO undertakes a wide variety of business and financial activities, operational risks are different for each area. Consequently, operational risks are managed and controlled through prudent control processes and a well-structured organization with an integrated check-and-balance system. Additionally, TISCO is committed to creating accountability and awareness to all staffs on operational risk management.

The operational risk management policy is set and coherent adoption across all companies in TISCO Group. Operational risk management is overseen by the Risk Management Committee, supported by operational risk management function which ensures appropriate application of the policy in all functions, analyzes risk and provides proper recommendation, as well as provides sufficient tools and information. The business units as risk owners are responsible to run the business and manage the operations in compliance with the policy and guidelines under risk-return perspectives. In addition, entire internal control system and risk management shall be investigated by Audit Committee which directly reports to Board of Directors following Basel II and requirements of Bank of Thailand.

In order to understand the operations and develop proper measures to manage operational risk, periodic and applicable operational risk identification and assessment is required. Operational Risk Management function is accountable to be the center and corporate with other functions for assessing the operational risk. From assessment result, each functions shall develop their own plan and define risk indicator in order to manage and keep the risk be within proper level. Key Risk Indicators shall be collected and analyzed into the risk profile in terms of likelihood and impact. The acceptable level of operational risk in key operations shall be defined and triggered for attention when over-limited. The operations and implementation of measures shall then be monitored and followed up in ensure alignment with the plan.

At transactional level, abnormal events (incidents) shall be reported into incident management system which shall be used as an input for the operational risk assessment afterward. The incident management system also help TISCO ensure that all incidents and shall be corrected and managed properly regarding staff authority on timely basis and loss shall be contained.

Moreover, TISCO had implemented business continuity management (BCM) in purpose of reducing the risk from business disruption and get ready for severe loss occurrence. This BCM plan works together with IT Disaster Recovery Plan to ensure that critical operation can provide their service.

With the varieties of business in TISCO which are under supervision of the Bank of Thailand. The changing of compliance regulatory is a significant factor impact to the group operation such as Capital reserve of Basel II requirement, Consolidated Supervision as well as Deposit Protection Act. These directly impact to the capital reservation, and financial statement. However, Legal office, Compliance, Enterprise Risk Management and Operational Risk Management function have evaluated the impact that caused from regulation alteration, and established for assessing and managing all firm-wide risk exposures by corporation of internal parties to ensure the financial soundness and safety of TISCO.

TISCO has maintained its minimum capital requirement under Standardised Approach. Business units of TISCO are divided into 8 business lines of which the different betas (β), based on the Bank of Thailand's rules and regulation, are assigned in order to reflect the different risk level. In addition, a three-year average of gross income in each business lines has been employed as a proxy in equivalence of Operational Risk Weighted Assets.