# Risk Management

## Basic Approach

As risks in the financial services increase in diversity and complexity, risk management—identifying, measuring, and controlling risks—has never been more important in the management of a financial holding company.

We have established group-wide basic policies for risk management to put forth concrete directives for appropriately managing risks on a group-wide basis. Adhering to these policies, we identify the location and the types of risk to be managed in accordance with strategic goals and business structures and strive to manage each risk appropriately based on its characteristics.

### 1. Comprehensive Risk Management

We take a comprehensive and systematic approach to risk management, with risk analysis by stress testing and risk capital management following the ascertainment of environment and risk views, including Top Risks (see pages 69, 70).

#### Top Risks

The major Top Risks, risks that threaten to significantly impact management, recognized by us and examples of the scenarios that could potentially result from these risks are listed in the table below (see page 69 for information on methods of utilizing Top Risks).

### 2. Risk Management System

At SMBC Group, we have appointed the Group CRO, who is tasked with promoting appropriate risk management by developing an understanding of and managing risks in an integrated manner on a group-wide basis. In addition, top management plays an active role in the risk management process out of recognition for the importance of risk management. The group-wide basic policies for risk management are determined by the Management Committee before being authorized by the Board of Directors. Over the course of a given fiscal year, the Risk Management Committee will act under the guidance of the Group CRO by discussing all of the risks to which we are exposed, including those pertaining to environment and risk view, with business units, evaluating Top Risks and risk appetite, and reporting the results of these evaluations to the Management Committee. Through this process, we practice effective risk management.

Group companies have established risk management systems based on their business characteristics (see page 70).

## Implementation of the Basel Capital Accord

The Basel III regulatory framework was established on March 31, 2013, based on the lessons learned from the global financial crisis that spanned from 2008 to 2009. This framework consists of capital, leverage, and liquidity ratios designed to maintain sound operating standards for internationally active banks. We calculate its ratios in accordance with the standards for Japanese banks.

The Financial Stability Board (FSB) designates Global Systematically Important Banks (G-SIBs) and arranges them into one of five bucket categories. Banks designated as G-SIBs are obligated to maintain even higher capital ratios based on their bucket (1.0% to 3.5% higher than the standard obligation). As of March 31, 2018, we were designated as a bucket 1 G-SIB and was obligated to achieve a phased increase in its capital ratio to raise it above the standard obligation by the lowest amount required of G-SIBs (1.0%).

In addition, in December 2017, the Basel Committee on Banking Supervision reached an agreement regarding the revision of risk weighted asset calculation methods as well as the revision of minimum capital levels (so-called “capital floors”) and other capital ratio regulations. Furthermore, unique financial regulations are being introduced and revised in major countries and regions. In light of these developments, we will monitor trends in regulations, measure the potential impact on our operations, and respond accordingly.

| Top Risks | Example Risk Scenarios |
|---|---|
| Global political and economic trends | Slowdown in the global economy resulting from increased opaqueness in the U.S. or European political climates, stagnancy in the economies of China or emerging countries, sharp resource price movements, etc. |
| Geopolitical risks faced around the world (including terrorism) | Slowdown in the economies of specific countries resulting from the increased geopolitical risks associated with issues in the Korean peninsula, domestic or overseas acts of terrorism, etc. |
| Monetary policy and economic trends in Japan | Deterioration of financial institutions’ earnings resulting from quantitative easing measures by the Bank of Japan; economic slowdown or increased financial instability in Japan resulting from yen appreciation, sluggish foreign demand, poor market conditions, etc. |
| Trends in international financial regulations | Implementation and enforcement of unique or stricter regulations in principal countries |
| Lack of reliability in relation to foreign currency procurement | Lack of reliability or efficiency with regard to foreign currency procurement due to rising foreign currency procurement costs or cash outflows at major institutions holding foreign currency deposits |
| Legal or compliance-related incidents | Damage to reputation due to incurring government penalties, fines, other sanctions as a result of incidents stemming from misconduct, insufficient measures for Anti-Money Laundering/Combating the Financing of Terrorism, etc. |
| Deterioration of conditions at major borrowers | Weakening of our financial base as a result of deterioration of conditions at major borrowers |
| Lack of human resources necessary for enacting strategies (lack of personnel numbers, individuals with specialized skills, etc.) | Difficulty in securing human resources to work in strategic or specialized fields or in maintaining a sufficient base of diverse employees |
| Ceased operation of information systems due to cyber attacks | Difficulty in maintaining business continuity due to ceased operation or destruction of information systems following cyber attacks, etc. |
| Changes in competitive climate due to emergence of FinTech or other new technologies | Decreased profitability due to significant erosion of our market share or necessity of incurring costs that place downward pressure on performance as a result of intensified competition following entry into the financial industry by companies from other industries |
| Earthquakes and other natural disasters | Halting of operations of business partners as a result of supply chain disruptions, system failures, etc.<br>Adverse impacts on our profits from store closures, system failures, etc. |

Note: The above is only a portion of the risks recognized by us. It is possible that the materialization of risks other than those listed above could have a significant impact on our management.

Appropriate revisions to regulations for financial institutions can contribute to stability in the financial system, but excessive regulation can result in constraints on the intermediary function of the institutions, which in turn can adversely impact the real economy. SMBC Group is therefore pursuing a cooperative approach with the relevant authorities and other financial institutions, making its views known to contribute to the development of appropriate regulatory frameworks.

## Stress Testing

SMBC Group conducts stress testing for each category of risks as well as stress testing used to verify the overall soundness of comprehensive risk management practices. The level of soundness used for verifications is determined based on risk appetite combined with consideration for the severity of the scenario anticipated.

When evaluating group-wide soundness, evaluations are made using the consolidated balance sheets and consolidated statements of income, which include data from affiliates, with the goal of identifying major risks to our business and asset portfolio. Specifically, scenarios are selected based on the aforementioned severity level as well as background conditions that cover all areas in which we may face risks (e.g. an outlook encompassing the entire world). We also employ methodology for ensuring scenarios can be accurately reflected and for incorporating business and portfolio characteristics.

Commonly used statistical methods are utilized in developing such methodologies. However, as it is necessary to estimate outliers, we may choose the methodology that best recreates outliers rather than the methodology that offers the highest statistical accuracy. When projecting scenarios for which there are no prior examples, human judgment may be given greater weight than the results of estimates.

In this manner, stress testing processes often require a variety of expertise. When selecting the background conditions for scenarios, expertise regarding macroeconomic conditions and geopolitical risks is required. When selecting methodologies, insight into the statistical and other mathematical analysis techniques is crucial. When calculating impacts on SMBC Group as a whole, insight into us and the businesses of its customers must be used. Stress testing processes will thus be based on discussions among and opinions of directors, members of upper management, specialists, and representatives from relevant organizations and records will be created of these discussion and opinions in order to ensure objectivity, transparency, and reproducibility. In this way, measures for practicing proper governance of stress testing will be applied.

**■Stress Testing Process**

| | |
|---|---|
| **(1) Scenario Design** | Scenarios are designed by the Corporate Risk Management Department after compiling information on SMBC Group's Top Risks and the views of related departments on such factors as future global trends. |
| **(2) Scenario Finalization** | Scenarios are revised as necessary based on the outcome of discussions between specialists and related departments. |
| **(3) Calculation of Impact** | The scenario's impact on each financial item is estimated for analysis of the impact on such indicators as the CET1. |
| **(4) Confirmation by the Management Committee** | At the Management Committee, business strategies are examined based on analyses of risk impact amounts and then verified from the perspective of capital adequacy. |

## Risk-Weighted Assets

Risk-weighted assets subject to the Basel Capital Accord totaled ¥63,540.3 billion as of March 31, 2018, down ¥7,143.3 billion from March 31, 2017. The main factors behind the decrease in risk-weighted assets were the conversion of Kansai Urban Banking Corporation and THE MINATO BANK, LTD. to equity-method investees and the improvement of our portfolio of corporate exposure.

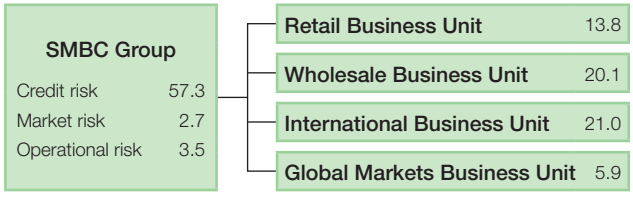
### ■Risk-Weighted Assets as of March 31, 2018

(Trillions of yen)

| | March 31, 2017 | March 31, 2018 | Increase (decrease) |
|---|---|---|---|
| Credit risk | 64.4 | 57.3 | (7.1) |
| Market risk | 2.8 | 2.7 | (0.1) |
| Operational risk | 3.5 | 3.5 | +0.0 |
| Total | 70.7 | 63.5 | (7.2) |

### ■Risk Assets of Individual Business Unit

(Trillions of yen)




# Credit Risk

## 1. Basic Approach to Credit Risk Management

### (1) Characteristics of Credit Risk

Credit risk is characterized by the possibility of a loss arising from a credit event, such as deterioration in the financial condition of a borrower, that causes an asset (including off-balance sheet transactions) to lose value or become worthless.

### (2) Fundamental Principles for Credit Risk Management

All Group companies follow the fundamental principles established by SMBC Group to assess and manage credit risk on a group-wide basis and further raise the level of accuracy and comprehensiveness of group-wide credit risk management. Each Group company must comprehensively manage credit risk according to the nature of its business, and assess and manage credit risk of individual loans and credit portfolios quantitatively and using consistent standards.

Credit risk is the most significant risk to which SMBC Group is exposed. Without effective credit risk management, the impact of the corresponding losses on operations can be overwhelming.

The purposes of credit risk management is to keep credit risk exposure to a permissible level relative to capital, to maintain the soundness of group-wide assets, and to ensure returns commensurate with risk. Doing so leads to a loan portfolio that achieves high returns on capital and assets.

### (3) Credit Policy

SMBC Group's credit policy comprises clearly stated universal and basic operating concepts, policies, and standards for credit operations, in accordance with our business mission and rules of conduct. SMBC Group is promoting the understanding of and strict adherence to its Group credit policy among all its managers and employees. By fostering a culture of appropriate levels of risk-taking and providing high-value-added financial services, SMBC Group aims to enhance shareholder value and play a key contributory role in the community.

## 2. Credit Risk Management System

At SMBC Group, the Group CRO formulates credit risk management policies each year based on the group-wide basic policies for risk management. Meanwhile, the Credit & Investment Planning Department is responsible for the comprehensive management of credit risk. This department drafts and administers credit risk regulations, including the Group credit policies, manages non-performing loans (NPLs), and performs other aspects of credit portfolio management. We have also established the Credit Risk Committee to serve as a body for deliberating on matters related to group-wide credit portfolios.

At SMBC, the core bank of SMBC Group, the Credit & Investment Planning Department within the Risk Management Unit furnishes the credit risk management system and is thus responsible for the comprehensive management of credit risk. This department drafts and administers credit policies, the internal rating system, credit authority guidelines, and credit application guidelines, and also manages NPLs and performs other aspects of credit portfolio management.

The department also cooperates with the Corporate Risk Management Department in quantifying credit risk (risk capital and risk-weighted assets) and controls the bank's entire credit risk. Further, the Credit Portfolio Management Department within the Credit & Investment Planning Department has been strengthening its active portfolio management function for stable credit portfolios mainly through credit derivatives and the sales of loans.

The credit departments within each business unit conduct credit risk management, along with the branches, for loans handled by their units and manage their units' portfolios. The credit approval authority is determined based on the credit amount and internal grades, while credit departments focus on the analysis and management of customers and transactions with relatively high credit risk. The Credit Administration Department is responsible for handling NPLs of borrowers classified as potentially bankrupt or lower, and draws up plans for their workouts, including write-offs. It works to efficiently reduce the amount of NPLs through Group company SMBC Servicer Co., Ltd., which engages in related services, and by such means as the sell-off of claims. Through industrial and sector-specific surveys and studies of individual companies, the Corporate Research Department works to form an accurate idea of the circumstances of borrower companies and quickly identify those with potentially troubled credit positions as well as promising growth companies.

The Compliance Unit has in place a system of coordinating to establish systems for providing explanations to customers and develop information management practices for the purpose of customer protection and to prevent transactions with antisocial forces, among other tasks.

The Internal Audit Unit, operating independently of the business units, audits asset quality, the accuracy of gradings and self-assessment, and the state of credit risk management, and reports the results directly to the Board of Directors and the Management Committee.

SMBC has established the Credit Risk Committee as a consultative body to round out its oversight system for undertaking flexible and efficient control of credit risks, and ensuring the overall soundness of the bank's loan operations.

## 3. Credit Risk Management Methods

### (1) Credit Risk Assessment and Quantification

At SMBC Group, to effectively manage the risk involved in individual loans as well as the credit portfolio as a whole, we first acknowledge that every loan entails credit risks, assess the credit risk posed by each borrower and loan using an internal rating system, and quantify that risk for control purposes.

(a) Internal Rating System

There is an internal rating system for each asset control category established according to portfolio characteristics. For example, credits to corporates are assigned an "obligor grade," which indicates the borrower's creditworthiness, and/or "facility grade," which indicates the collectibility of assets taking into account transaction conditions, such as guarantee/collateral, credit period, and tenor. An obligor grade is determined by first assigning a financial grade using a financial strength grading model and data obtained from the obligor's financial statements. The financial grade is then adjusted taking into account the actual state of the obligor's balance sheet and qualitative factors to derive the obligor grade. In the event that the

**■SMBC's Obligor Grading System**

| Obligor Grade | | Definition | Borrower Category | Financial Reconstruction Act Based Disclosure Category |
|---|---|---|---|---|
| Domestic (C&I), etc. | Overseas (C&I), etc. | | | |
| J1 | G1 | Very high certainty of debt repayment | Normal Borrowers | Normal Assets |
| J2 | G2 | High certainty of debt repayment | | |
| J3 | G3 | Satisfactory certainty of debt repayment | | |
| J4 | G4 | Debt repayment is likely but this could change in cases of significant changes in economic trends or business environment | | |
| J5 | G5 | No problem with debt repayment over the short term, but not satisfactory over the mid to long term and the situation could change in cases of significant changes in economic trends or business environment | | |
| J6 | G6 | Currently no problem with debt repayment, but there are unstable business and financial factors that could lead to debt repayment problems | | |
| J7 | G7 | Close monitoring is required due to problems in meeting loan terms and conditions, sluggish/unstable business, or financial problems | Borrowers Requiring Caution | |
| J7R | G7R | (Borrowers Requiring Caution identified as Substandard Borrowers) | Substandard Borrowers | Substandard Loans |
| J8 | G8 | Currently not bankrupt, but experiencing business difficulties, making insufficient progress in restructuring, and highly likely to go bankrupt | Potentially Bankrupt Borrowers | Doubtful Assets |
| J9 | G9 | Though not yet legally or formally bankrupt, has serious business difficulties and rehabilitation is unlikely; thus, effectively bankrupt | Virtually Bankrupt Borrowers | Bankrupt and Quasi-Bankrupt Assets |
| J10 | G10 | Legally or formally bankrupt | Bankrupt Borrowers | |

borrower is domiciled overseas, internal ratings for credit are made after taking into consideration country rank, which represents an assessment of the credit quality of each country, based on its political and economic situation as well as its current account balance and external debt. The borrower categories used in self-assessment are consistent with the obligor grade categories.

Obligor grades and facility grades are reviewed once a year, and whenever necessary, such as when there are changes in the credit situation. There are also grading systems for loans to individuals and project finance and other structured finance tailored according to the risk characteristics of these types of assets.

The Credit & Investment Planning Department centrally manages the internal rating systems and properly designs, operates, supervises, and validates the grading models. It validates the grading models and systems of main assets following the procedures manual (including those for statistical validation) once a year to ensure their effectiveness and suitability and submits reports with this regard. SMBC, the core bank of SMBC Group, employs a total of 22 grading models for corporate, specialized lending, and retail applications. For details on internal rating methods, please refer to Appendix II.

(b) Quantification of Credit Risk

Credit risk quantification refers to the process of estimating the degree of credit risk of a portfolio or individual loan taking into account not just the obligor's Probability of Default (PD) but also the concentration of risk in a specific customer or industry and the loss impact of fluctuations in the value of collateral, such as real estate and securities.

Specifically, first, the PD by grade, Loss Given Default (LGD), credit quality correlation among obligors, and other parameter values are estimated using historical data of obligors and facilities stored in a database to calculate the credit risk. Then, based on these parameters, we run a simulation of simultaneous default using the Monte Carlo method to calculate our maximum loss exposure to the estimated amount of the maximum losses that may be incurred. Based on these quantitative results, we allocate risk capital.

Risk quantification is also executed for purposes such as to determine the portfolio's risk concentration, or to simulate economic movements (stress tests), and the results are used for making optimal decisions across the whole range of business operations, including formulating business plans and providing a standard against which individual credit applications are assessed. For details on internal rating methods, please refer to Appendix II.

### (2) Framework for Managing Individual Loans

SMBC Group strives to maintain a sound portfolio through appropriate credit assessments and monitoring conducted over credit periods. The following framework is used for managing individual loans at SMBC, the core bank of SMBC Group.

(a) Credit Assessment

At SMBC, credit assessment of corporate loans involves a variety of financial analyses, including cash flow, to predict an enterprise's capability of loan repayment and its growth prospects. These quantitative measures, when combined with qualitative analyses of industrial trends, the enterprise's R&D capabilities, the competitiveness of its products or services, and its management caliber, result in a comprehensive credit assessment. The loan application is analyzed in terms of the intended utilization of the funds and the repayment schedule. Thus, SMBC is able to arrive at an accurate and fair credit decision based on an objective examination of all relevant factors.

Increasing the understandability to customers of loan conditions and approval standards for specific borrowing purposes and loan categories is a part of SMBC's ongoing review of lending practices, which includes the revision of loan contract forms with the chief aim of clarifying lending conditions utilizing financial covenants.

To respond proactively and promptly to customers' funding needs—particularly those of SMEs—we employ a standardized credit risk assessment process for SMEs that uses a credit-scoring model. With this process, we are building a regime for efficiently marketing our Business Select Loan and other SME loans.

In the field of housing loans for individuals, we employ a credit assessment model based on credit data amassed and analyzed by SMBC over many years. This model enables our loan officers to efficiently make rational decisions on housing loan applications and to reply to the customers without delay. It also facilitates the effective management of credit risk as well as the flexible setting of interest rates.

We also provide loans to individuals who rent out properties such as apartments. The loan applications are subjected to a precise credit risk assessment process utilizing a risk assessment model that factors in the projected revenue from the rental business. We also provide advice to such customers on how to revise their business plans.

(b) Credit Monitoring System

At SMBC, in addition to analyzing loans at the application stage, the Credit Monitoring System is utilized to maintain an understanding of the circumstances surrounding the obligor in order to reassess obligor grades and review self-assessment and credit policies so that problems can be detected at an early stage and quick and effective action can be taken. The system includes periodic monitoring carried out each time an obligor enterprise discloses financial results as well as continuous monitoring performed each time credit conditions change, as indicated in the diagram below.

## (3) Framework for Credit Portfolio Management

In addition to managing individual loans, SMBC Group applies the following basic policies to the management of the entire credit portfolio to maintain and improve its soundness and profitability over the medium to long term. Information on the status of credit portfolio management is reported to the Management Committee and the Board of Directors and regular monitoring is performed through the Risk Appetite Framework (RAF).

(a) Appropriate Risk Control within Capital

To take risks within acceptable level of capital, we set an upper limit for internal credit risk capital based on risk appetite and portfolio plan of each business unit.

(b) Controlling Concentration Risk

As the equity capital of SMBC Group may be materially impaired in the event that the credit concentration risk becomes apparent, we implement measures to manage credit toward industrial sectors with excessive risk concentration and introduce large exposure limit lines and conduct intensive loan review for obligors with large exposure.

To manage country risk, we also have credit limit guidelines based on each country's creditworthiness.

(c) Researching Borrowers More Rigorously and Balancing Risk and Returns

Against a backdrop of drastic change in the business environment, we rigorously research borrower companies' actual conditions. It runs credit operations on the basic principle of earning returns that are commensurate with the credit risk involved, and makes every effort to reduce credit and capital costs as well as general and administrative expenses.

(d) Preventing and Reducing Non-Performing Loans

On NPLs and potential NPLs, we carry out regular loan reviews to clarify handling policies and action plans, enabling it to swiftly implement measures to prevent deterioration of borrowers' business situations, support business recoveries, collect on loans, and enhance loan security.

(e) Actively Managing Portfolios

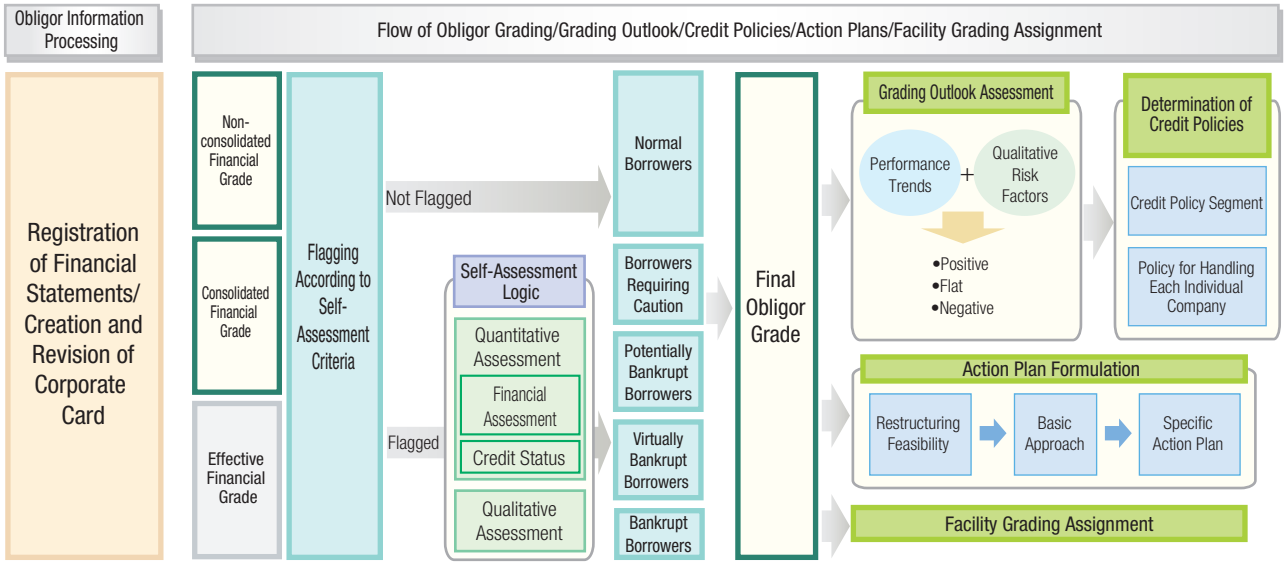
We make active use of credit derivatives, loan asset sales, and other instruments to proactively and flexibly manage its portfolios to stabilize credit risk.

## (4) Self-Assessment, Write-Offs and Provisions, Non-Performing Loans Disclosure

(a) Self-Assessment

Self-assessment is a preparatory task for ensuring SMBC Group's asset quality and calculating the appropriate level of write-offs and provisions. Each asset is assessed individually for its security and collectibility. Depending on the borrower's current situation, the borrower is assigned to one of five categories: Normal Borrowers, Borrowers Requiring Caution, Potentially Bankrupt Borrowers, Virtually Bankrupt Borrowers, and Bankrupt Borrowers. Based on the borrower's category, claims on the borrower are classified into Classification I, II, III, and IV assets according to their default

### ■SMBC's Credit Monitoring System



and impairment risk levels, taking into account such factors as collateral and guarantees.

SMBC, the core bank of SMBC Group, conducts rigorous self-assessments of asset quality using criteria based on the Financial Inspection Manual of the Financial Services Agency and the Practical Guideline published by the Japanese Institute of Certified Public Accountants. Self-assessment is the latter stage of the obligor grading process for determining the borrower's ability to fulfill debt obligations, and the obligor grade criteria are consistent with the categories used in self-assessment. As part of our efforts to bolster risk management throughout SMBC Group, consolidated subsidiaries carry out self-assessment in substantially the same manner.

**Borrower Categories, Defined**

| | |
|---|---|
| Normal Borrowers | Borrowers with good earnings performances and no significant financial problems |
| Borrowers Requiring Caution | Borrowers identified for close monitoring |
| Potentially Bankrupt Borrowers | Borrowers perceived to have a high risk of falling into bankruptcy |
| Virtually Bankrupt Borrowers | Borrowers that may not have legally or formally declared bankruptcy but are essentially bankrupt |
| Bankrupt Borrowers | Borrowers that have been legally or formally declared bankrupt |

**Asset Classifications, Defined**

| | |
|---|---|
| Classification I | Assets not classified under Classifications II, III, or IV |
| Classification II | Assets perceived to have an above-average risk of uncollectibility |
| Classification III | Assets for which final collection or asset value is very doubtful and which pose a high risk of incurring a loss |
| Classification IV | Assets assessed as uncollectible or worthless |

(b) Write-Offs and Provisions

In cases in which claims have been determined to be uncollectible or deemed to be uncollectible, write-offs signify the recognition of losses on the account books with respect to such claims. Write-offs can be made either in the form of loss recognition by offsetting uncollectible amounts against corresponding balance sheet items, referred to as a direct write-off, or else by recognition of a loan loss provision on a contra-asset account in the amount deemed uncollectible, referred to as an indirect write-off. Recognition of indirect write-offs is generally known as provision for the reserve for possible loan losses.

The write-off and provision standards and procedures for each self-assessment borrower category at SMBC, the core bank of SMBC Group, are shown below. As part of our overall measures to strengthen credit risk management throughout SMBC Group, all consolidated subsidiaries use substantially the same standards as SMBC for write-offs and provisions.

**SMBC's Standards for Write-Offs and Provisions**

| Self-Assessment Borrower Categories | | Standards for Write-Offs and Provisions |
|---|---|---|
| Normal Borrowers | | The expected loss amount for the next 12 months is calculated for each grade based on the grade's historical bankruptcy rate, and the total amount is recorded as "provision for the general reserve for possible loan losses." |
| Borrowers Requiring Caution | | These assets are divided into groups according to the level of default risk. Amounts are recorded as provisions for the general reserve in proportion to the expected losses based on the historical bankruptcy rate of each group. The groups are "claims on Substandard Borrowers" and "claims on other Borrowers Requiring Caution." The latter group is further subdivided according to the borrower's financial position, credit situation, and other factors. Further, when cash flows can be estimated reasonably accurately, the discounted cash flow (DCF) method is applied mainly to large claims for calculating the provision amount. |
| Potentially Bankrupt Borrowers | | A provision for the specific reserve for possible loan losses is made for the portion of Classification III assets (calculated for each borrower) not secured by collateral, guarantee, or other means. Further, when cash flows can be estimated reasonably accurately, the DCF method is applied mainly to large claims for calculating the provision amount. |
| Virtually Bankrupt / Bankrupt Borrowers | | Classification III asset and Classification IV asset amounts for each borrower are calculated, and the full amount of Classification IV assets (deemed to be uncollectible or of no value) is written off in principle and provision for the specific reserve is made for the full amount of Classification III assets. |
| Notes | General reserve | Provisions made in accordance with general inherent default risk of loans, unrelated to specific individual loans or other claims |
| | Specific reserve | Provisions made for claims that have been found uncollectible in part or in total (individually evaluated claims) |

**Discounted Cash Flow Method**

SMBC uses the discounted cash flow (DCF) method to calculate the provision amounts for large claims on Substandard Borrowers and Potentially Bankrupt Borrowers when the cash flow from repayment of principal and interest received can be estimated reasonably accurately. SMBC then makes provisions equivalent to the excess of the book value of the claims over the said cash inflow discounted by the initial contractual interest rate or the effective interest rate at the time of origination. One of the major advantages of the DCF method over conventional methods of calculating the provision amount is that it enables effective evaluation of each individual borrower. However, as the provision amount depends on the future cash flow estimated on the basis of the borrower's business reconstruction plan and the DCF formula input values, such as the discount rate and the probability of the borrower going into bankruptcy, SMBC makes every effort to utilize up-to-date and correct data to realize the most accurate estimates possible.

(c) Non-Performing Loans Disclosure

Non-Performing Loans are loans and other claims of which recovery of either principal or interest appears doubtful and are disclosed in accordance with the Banking Act (in which they are referred to as "risk-monitored loans") and the Financial Reconstruction Act (in which they are referred to as "Non-Performing Loans"). Non-Performing Loans are classified based on the borrower categories assigned during self-assessment. For detailed information on results of self-assessments, asset write-offs and provisions, and disclosure of Non-Performing Loans at March 31, 2018, please refer to page 310.

### 4. Risk Management of Marketable Credit Transactions

Financial products, such as investments in funds, securitized products, and credit derivatives, that bear indirect risk arising from underlying assets such as bonds and loan obligations are considered to be exposed to both credit risk from the underlying assets as well as "market risk" and "liquidity risk" that arise from their trading as financial products. This is referred to as marketable credit risk.

For these types of products, we manage credit risk by analyzing and assessing the characteristics of the underlying assets, but, for the sake of complete risk management, we also apply the methods for management of market and liquidity risks.

In addition, we have established guidelines based on the characteristics of these types of risks and appropriately manage the risk of losses.

## Market and Liquidity Risks

### 1. Basic Approach to Market and Liquidity Risk Management

#### (1) Definitions of Market and Liquidity Risks

Market risk is the possibility that fluctuations in interest rates, foreign exchange rates, stock prices, or other market prices will change the market value of financial products, leading to a loss.

Liquidity risk is defined as the uncertainty around the ability of the firm to meet debt obligations without incurring unacceptably large losses. Examples of such risk include the possible inability to meet current and future cash flow/collateral needs, both expected and unexpected. In such cases, the firm may be required to raise funds at less than favorable rates or be unable to raise sufficient funds for settlement.

#### (2) Fundamental Principles for Market and Liquidity Risk Management

SMBC Group is working to further enhance the effectiveness of its quantitative management of market and liquidity risks across the entire Group by setting allowable risk limits; ensuring the transparency of the risk management process; and clearly separating front-office, middle-office, and back-office operations to establish a highly efficient system of mutual checks and balances.

### 2. Market and Liquidity Risk Management System

In accordance with the group-wide basic policies for risk management decided upon by the Management Committee, SMBC Group determines important matters relating to the management of market and liquidity risks, such as basic policies and risk limits, in order to manage these risks. The ALM Committee meets four times a year, in principle, to report on the state of market and liquidity risk management and to discuss ALM operation policies. The Corporate Risk Management Department, which is independent from the business units that directly handle market transactions, manages market and liquidity risks in an integrated manner. This department not only monitors the current risk situations but also reports regularly to the Management Committee and the Board of Directors. Furthermore, ALM Committee at SMBC, the core bank of SMBC Group, meets on a monthly basis to examine reports on the state of observance of limits on market and liquidity risks and to discuss ALM operation policies.

Verification of the effectiveness of this risk management system is conducted through regular internal audits implemented by the independent Audit Department.

### 3. Market and Liquidity Risk Management Methods

#### (1) Market Risk Management

The Company manages market risk by setting maximum limits for value at risk (VaR) and maximum loss based on business policies pertaining to market transactions. These limits are set within the risk capital limit, which is determined taking into account the Group's shareholders' equity and other principal indicators of the Group's financial position and management resources.

Market risk can be divided into various factors: foreign exchange rates, interest rates, equity prices, and option risks. The Company manages each of these risk categories by employing the VaR method as well as supplemental indicators suitable for managing the risk of each risk factor, such as the BPV.

Trading activities are market operations that gain profits by taking advantage of fluctuations of market prices in the short term or price differences among markets. We assess and manage the market risk of trading activities on a daily basis by utilizing VaR and other tools. Banking activities are market operations which gain profits by controlling interest rates and term period for assets (loans, bonds, etc.) and liabilities (deposits, etc.). In the same way as in the case of trading activities, we assess and manage the market risk of banking activities on a daily basis, utilizing VaR and other tools.

Please note that, the risk of interest rate fluctuation differs substantially by how to recognize the dates for the maturity of demand deposits (current accounts and ordinary deposit accounts that can be withdrawn at any time) and how to estimate the time of cancellation prior to maturity of time deposits and consumer loans. At SMBC, the maturity of demand deposits that are expected to be left with the bank for a prolonged period is regarded to be up to five years (2.5 years on average). The cancellation prior to the maturity of time deposits and consumer loans is estimated based on historical data.

(a) Market Risks

a. Trading activities

Trading activities are market operations that gain profits by taking advantage of fluctuations of market prices in the short term or price differences among markets. At SMBC Group, we assess and manage the market risk of trading activities on a daily basis by utilizing VaR and other tools.

The following table shows the VaR results of the Group's trading activities during fiscal 2017. VaR fluctuated greatly during this fiscal year due to changes in the nature and investment positions of our trading operations.

b. Banking activities

Banking activities are market operations which gain profits by controlling interest rates and term period for assets (loans, bonds, etc.) and liabilities (deposits, etc.). At SMBC Group, in the same way as in the case of trading activities, we assess and manage the market risk of banking activities on a daily basis, utilizing VaR and other tools.

The following table shows the VaR results of the Group's banking activities during fiscal 2017.

## ■VaR for Trading Activities

(Billions of yen)

| | Fiscal 2017 | | | | | March 31, 2017 |
|---|---|---|---|---|---|---|
| | March 31, 2018 | September 30, 2017 | Maximum | Minimum | Average | |
| Sumitomo Mitsui Financial Group (consolidated) | 21.5 | 20.6 | 39.5 | 14.5 | 22.1 | 23.6 |
| Interest rates | 11.3 | 11.4 | 30.9 | 6.7 | 12.3 | 16.7 |
| Foreign exchange | 4.3 | 2.6 | 5.0 | 1.5 | 3.0 | 1.6 |
| Equities, commodities, etc. | 7.5 | 8.1 | 15.0 | 5.7 | 8.6 | 5.9 |
| SMBC (consolidated) | 8.1 | 6.5 | 11.2 | 3.5 | 7.2 | 3.9 |
| SMBC (non-consolidated) | 4.9 | 4.3 | 7.7 | 2.0 | 4.8 | 2.1 |

Note: VaR for a one-day holding period with a one-sided confidence interval of 99.0% [computed daily using the historical simulation method (based on four years of historical observations)].

## ■VaR for Banking Activities

(Billions of yen)

| | Fiscal 2017 | | | | | March 31, 2017 |
|---|---|---|---|---|---|---|
| | March 31, 2018 | September 30, 2017 | Maximum | Minimum | Average | |
| Sumitomo Mitsui Financial Group (consolidated) | 48.2 | 44.9 | 57.0 | 40.8 | 47.2 | 47.4 |
| Interest rates | 33.7 | 29.2 | 34.0 | 27.8 | 30.2 | 30.6 |
| Equities, etc. | 28.1 | 26.9 | 39.9 | 21.6 | 30.5 | 34.3 |
| SMBC (consolidated) | 45.7 | 42.1 | 54.5 | 38.0 | 44.4 | 44.1 |
| SMBC (non-consolidated) | 41.3 | 35.1 | 47.4 | 30.3 | 37.5 | 36.4 |

Notes: 1. VaR for a one-day holding period with a one-sided confidence interval of 99.0% [computed daily using the historical simulation method (based on four years of historical observations)].
2. The above category of "Equities" does not include stocks held for strategic purposes.

(b) Market Risk Volume Calculation Model

SMBC Group uses internal models to measure VaR and stressed VaR. For information on the consolidated subsidiaries that employ these internal models, please refer to the section on market risk.

a. Presuppositions and limits of model

In the Group's internal VaR and stressed VaR models, various market fluctuation scenarios are drawn up on the basis of past data, and the historical simulation method is used to run profit-and-loss movement simulations that enable us to forecast probable maximum losses. The appropriateness of the internal model is later verified through back-testing.

However, as back-testing cannot take into account major market fluctuations that have not actually occurred historically, we supplement this method with the use of stress testing.

This internal model employed by SMBC Group undergoes regular auditing by an independent auditing firm to ensure that it operates appropriately.

b. Validity verification process

i Outline of validity verification

SMBC Group uses back-testing as a method for verification of the validity of the internal model. VaR figures calculated by the internal model are compared with actual portfolio profit-and-loss figures on a given day to compute an appropriate VaR level and confirm the adequacy of risk capital management.

ii Back-testing results

Information on back-testing of trading in fiscal 2017 can be found on page 263.

c. Indicators substitute for the back-testing method

SMBC Group employs, as a method substitute for the back-testing method, the VaR wherein presumptions for the model, such as observation periods, change.

d. Changes in model from fiscal 2016

There have been no changes in the model from fiscal 2016.

(c) Stress Testing

The market occasionally undergoes extreme fluctuations that exceed projections. To manage market risk, therefore, it is important to run simulations of unforeseen situations that may occur in financial markets (stress testing). SMBC Group conducts stress tests regularly, assuming various scenarios, and has measures in place for irregular events.

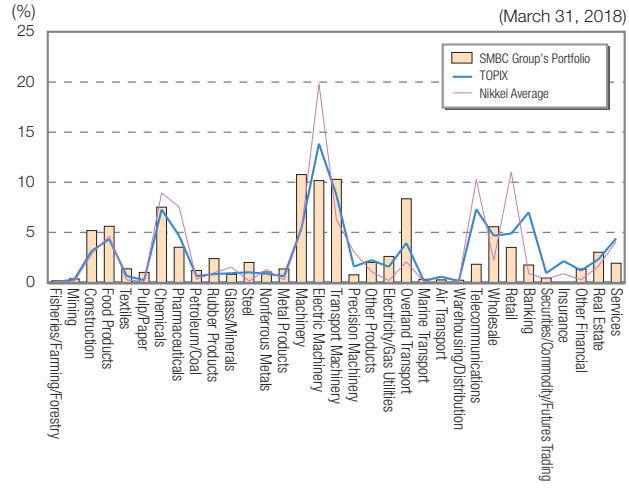
(d) Management of Stocks Held for Strategic Purposes

SMBC Group establishes risk allowance limits on stocks held for strategic purposes and monitors the observance of these limits in order to control stock price fluctuation risk appropriately. More specifically, VaR (1 year holding period) computed from profit-and-loss simulations based on historical market fluctuation data and aggregated fluctuation in market price from the beginning of the fiscal year are subject to the risk capital limit management and monitored on a daily basis.

To diminish the impact of stock price declines on capital, we have drawn up plans for reducing equity holdings from the perspective of securing the financial base necessary to sufficiently exercise intermediary functions, even under high-stress environments that create substantial decline in stock prices. In accordance with these plans, we are seeking to reduce its holdings*1 to a common equity Tier1 (CET1)*2 ratio of 14% over approximately five years from September 2015, when the level was 28%.

*1: Refers to Group holdings of stocks listed in Japan
*2: Based on full implementation under the Basel III framework

### ■Composition, by Industry, of Listed Equity Portfolio




## (2) Liquidity Risk Management

At SMBC Group, liquidity risk is regarded as one of the major risks. The Group's liquidity risk management is based on a framework consisting of setting Risk Appetite Measures and establishing contingency plans.

The Risk Appetite Measures are measures for selecting the types and levels of risk that we are willing to take on or tolerate. As the level of liquidity risk is evaluated based on cash flow and balance sheet conditions, Risk Appetite Measures have been set for both of these areas. These measures include Liquidity Coverage Ratio, a liquidity regulation, as well as periods set for which it will be possible to maintain funding levels even under stress due to deposit outflows or other factors.

The tolerated levels of risk are set based on account funding status, cash management planning, economic environments, and other factors, and measures are monitored on a daily or monthly basis in order to limit reliance on short-term funding and appropriately manage liquidity.

As a framework to complement the Risk Appetite Measures, upper limits are set in place on both a Group company basis and an individual branch bases with regard to funding gaps, which is defined as a maturity mismatch between the source of funds and use of funds.

Furthermore, contingency plans are established in preparation for emergency situations. These plans contain information on chains of command and lines of reporting as well as detailed action plans depending on the existing situation (i.e., normal, concerned, or critical). Meanwhile, SMBC carries out quantitative management of alert indications based on early warning indicators established to assist the bank in promptly and systematically detecting liquidity risks.

# Operational Risk

## 1. Basic Approach to Operational Risk Management

### (1) Definition of Operational Risk

Operational risk is the risk of loss arising from inadequate or failed internal processes, people, and systems or from external events. Specifically, the risk—which, in addition to processing risk and system risk, covers legal risk, human resources risk, reputational risk, and tangible asset risk—consists of the following seven event types that may lead to the risk of loss defined in the Basel Capital Accord: (1) internal fraud, (2) external fraud, (3) employment practices and workplace safety, (4) clients, products, and business practices, (5) damage to physical assets, (6) business disruption and system failures, and (7) execution, delivery, and process management.

### (2) Fundamental Principles for Operational Risk Management

We have set forth the policies on Operational Risk Management to define the basic rules to be observed in the conduct of operational risk management across the entire Group. Under these policies, we have been working to enhance the operational risk management framework across the whole Group by establishing an effective system for identifying, assessing, controlling, and monitoring material operational risks as well as a system for addressing risks that have materialized and implementing emergency response measures. Based on the framework of the Basel Capital Accord, we have been continuously pursuing sophisticated quantification of operational risks and advanced group-wide management.

## 2. Operational Risk Management System

Based on the group-wide basic policies for risk management established by Sumitomo Mitsui Financial Group, Group companies construct operational risk management system.

At Sumitomo Mitsui Financial Group, the Management Committee makes decisions on important matters such as basic policies for operational risk management, and these decisions are authorized by the Board of Directors. In addition, the Corporate Risk Management Department oversees the overall management of operational risks and works together with departments responsible for the subcategories such as processing risks and system risks to establish a system for comprehensively managing operational risks.

As a brief overview, this system operates by collecting and analyzing internal loss data and Key Risk Indicators (KRI) from Group companies. In addition, the system entails comprehensively specifying scenarios involving operational risks based on the operational procedures of companies that have adopted the Advanced Measurement Approach (AMA) on a regular basis and estimating the loss amount and frequency of the occurrence of such losses based on each scenario. Risk severities are quantified for each scenario. For those scenarios having high severities, risk mitigation plans will be developed and the implementation status

| Risk Category | Definition | Department in charge |
|---|---|---|
| Operational risk | The risk of loss arising from inadequate or failed internal processes, people, and systems or from external events. | Corporate Risk Management Department |
| Processing risk | The risk of losses arising from negligent processing by directors and employees, and from accidents or misconducts. | Operations Planning Department |
| System risk | The risk arising from nonconformity to the business strategies, inappropriate technologies applied, changes to the development plan and delay in development when building an information system, and the risk of loss incurred due to the breakdown including those caused by cyber attack, malfunction, deficiency, or unauthorized use (unauthorized alteration, destruction, duplication, and leakage of the information). | IT Planning Department |
| Legal risk | Risks of compensation of damages arising from insufficient legal consideration or breach of contract, or a surcharge, a forfeit or an administrative fine for infringing the laws and regulations. | General Affairs Department |
| Human resources risk | The risk of loss arising from inappropriate labor practices, poor working environments, discriminatory conduct, an outflow or loss of human resources, or deterioration in employee morale. | Human Resources Department |
| Reputational risk | The risk of loss arising from deterioration in reputation as a consequence of the spread of rumors or media reports of the actual risk events. | General Affairs Department, Public Relations Department |
| Tangible asset risk | The risk of loss arising from damage to tangible assets or deterioration in the operational environment caused by disasters or inadequate asset maintenance. | Administrative Services Department |

of such risk mitigation plans will be monitored by the Corporate Risk Management Department. Furthermore, operational risks are quantified and quantitatively managed by utilizing the collected internal loss data and scenarios.

Regular reports are issued to the Group CRO on internal loss data, KRI, scenario risk severity information, and the status of risk mitigation. In addition, the Risk Management Committee, a cross-organizational committee established within Sumitomo Mitsui Financial Group, discusses measures for mitigating risks. Through these and other efforts, we are striving to ensure effective risk management. Moreover, our independent Internal Audit Department conducts periodic internal audits to verify that the Group's operational risk management system is functioning properly.

## 3. Operational Risk Management Methodology

As previously defined, operational risks cover a wide range of cases, including the risks of losses due to errors in operation, system failures, and natural disasters. Also, operational risk events can occur virtually anywhere and everywhere. Thus, it is essential to check whether material operational risks have been overlooked, monitor the overall status of risks, and manage and control them. To this end, it is necessary to be able to quantify risks using a measurement methodology that can be applied to all types of operational risks and to comprehensively and comparatively capture the status of and changes in potential operational risks in business processes. Also, from the viewpoint of internal control, the measurement methodology used to create risk mitigation measures must be such that the implementation of the measures quantitatively reduces operational risks.

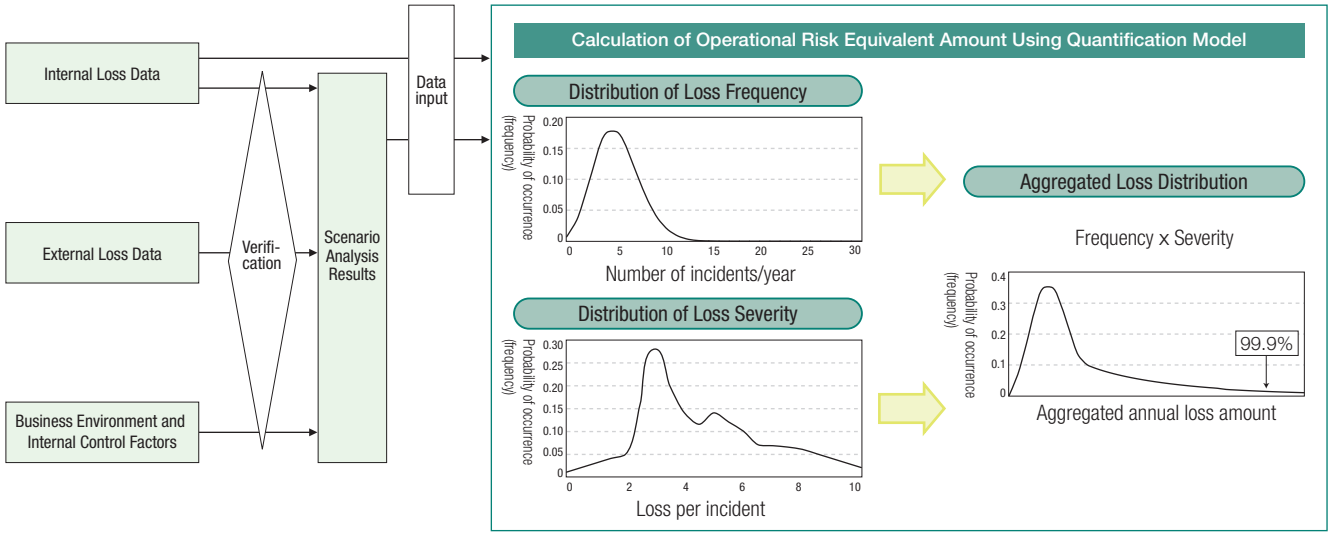
At the end of March 2008, SMBC Group adopted the AMA set forth by the Basel Capital Accord for calculating the operational risk equivalent amount. The approach has been utilized for the management of operational risks since then.

Specifically, a model to which internal loss data and scenario analysis results are input has been introduced to calculate the operational risk equivalent amount and risk asset amounts. In addition, steps are taken to ensure the objectivity, accuracy, and comprehensiveness of scenario evaluations by utilizing external loss data and Business Environment and Internal Control Factors in verification processes.

The quantification model produces the distribution of loss frequency and loss severity based on the internal loss data and scenario analysis results, and it also produces the loss distribution based on the said distribution of loss frequency (distribution of losses in a year) and the distribution of loss severity (distribution of loss amount per case) by making various combinations of frequencies and amounts of losses according to the Monte Carlo simulation method. In addition, the model calculates the maximum amount of loss expected, due to operational risks, based on the assumption of one-sided confidence interval of 99.9% and the holding period of one year. Regarding losses on repayment of excess interest of certain subsidiaries engaged in consumer finance operations, expected losses are deducted from the maximum amount of operational risk loss when calculating the operational risk equivalent amount.

Operational risk equivalent amount in respect of the tangible asset damages arising from earthquakes is measured using the probability data of earthquake occurrence in each part of Japan and the distribution of loss amount from those earthquake occurrences.

### ■Basic Framework of Operational Risk Measurement



The measurement units are Sumitomo Mitsui Financial Group consolidated basis, SMBC consolidated basis, and SMBC non-consolidated basis. The operational risk equivalent amount based on the AMA is calculated as the simple aggregate of the amount of the seven event types set forth by the Basel Capital Accord and of tangible asset damages arising from earthquakes. However, in the case of Sumitomo Mitsui Financial Group consolidated basis, the risk of losses on repayment of excess interest is added on. The measurement accuracy is ensured through a framework of regularly conducted verifications of the quantification models pre- and post-measurement.

Meanwhile, the operational risk equivalent amounts of other Group companies that do not apply the AMA are calculated according to the Basic Indicator Approach (BIA), and the operational risk equivalent amount for Sumitomo Mitsui Financial Group consolidated basis and SMBC consolidated basis are calculated by consolidating such amounts calculated based on the BIA with the operational risk equivalent amount calculated based on the AMA.

## 4. Processing Risk Management

Processing risk is the risk of losses arising from negligent processing by directors and employees, and from accidents or misconducts.

SMBC Group has clarified the divisions responsible for the oversight functions for processing risk management, and we are working to raise the level of sophistication of our management of processing risk across the whole Group by establishing systems for managing the processing risks faced by Group companies, ensuring in-office inspection, minimizing losses in the event of processing risk materialization by drafting exhaustive contingency plans, and carrying out thorough quantification of the risk under management as basic principles.

Basic policies for processing risk management and other important matters are decided by the Management Committee and then approved by the Board of Directors. The status of processing risk management is reported to the Management Committee and the Board of Directors regularly and when necessary. These and other steps are taken to ensure that we can provide customers with high-quality services.

Based on the group-wide basic policies for risk management, Group companies promote appropriate operating practices by establishing operating rules and regulations, systematizing transaction processing, receiving guidance from business divisions, and inspecting conditions related to transaction processing.

## 5. System Risk Management

System risk is the risk arising from nonconformity to the business strategies, inappropriate technologies applied, changes to the development plan and delay in development when building an information system, and the risk of loss incurred due to the breakdown including those caused by cyber attack, malfunction, deficiency or unauthorized use (unauthorized alteration, destruction, duplication and leakage of the information).

SMBC Group has set the following as basic principles: recognizing information systems as an essential part of management strategy taking into account advances in IT, minimizing system risk by drafting regulations and specific management standards, (including a security policy) and establishing contingency plans to minimize losses if a system risk materializes. A risk management system has thus been put in place to ensure adequate risk management.

Taking into account the growing sophistication and diversification of cyber attacks seen on a global scale, the increasing social impact from the damage inflicted by such attacks, and the risk to our reputation and external ratings, we continue to strengthen cyber security management through deployment of governance measures; technological measures for the identification, prevention, and detection of attacks; and cyber attack response measures.

In addition, we actively and openly incorporate various technological progress to improve convenience for customers, create new businesses, boost productivity and efficiency, improve upon management infrastructure, and otherwise promote digitalization in a wide range of fields. Systems are in place for managing the risks projected to arise from such activities.

SMBC operates its risk management system by conducting risk assessments based on the Financial Services Agency's Financial Inspection Manual and the Security Guidelines published by the Center for Financial Industry Information Systems (FISC) and by enhancing safety measures based on the results of these assessments. Systems troubles at banks have the potential to heavily impact society. In addition, system risks are diversifying due to advances in IT and the expansion of business fields. Recognizing these facts, we have numerous measures in place for system trouble prevention, including constant maintenance to ensure stable and uninterrupted operation, duplication of various systems and infrastructure, and a disaster-prevention system placed in computer centers in eastern and western Japan. To maintain the confidentiality of customer data and prevent leaks of information, sensitive information is encrypted, unauthorized external access is blocked, and all other possible measures are taken to secure data. We also have contingency plans for unforeseen circumstances and hold training sessions as necessary to ensure full preparedness in the event of an emergency.

# Glossary

**ALM**
Abbreviation for Asset Liability Management
Method for comprehensive management of assets and liabilities, with appropriate controls on market risk (interest rates, exchange rates, etc.).

**Advanced Measurement Approach (AMA)**
Based on the operational risk measurement methods used in the internal management of financial institutions, this is a method for obtaining the operational risk equivalent amount by calculating the maximum amount of operational risk loss expected over a period of one year, with a one-sided confidence interval of 99.9%.

**Back-testing**
A formal statistical framework that consists of verifying that actual losses are in line with projected losses. This involves systematically comparing the history of VaR forecasts with their associated portfolio returns.

**Basic Indicator Approach (BIA)**
A calculation approach in which an average value for the most recent three years derived by multiplying gross profit for the financial institution as a whole by certain level (15%) is deemed to be the operational risk equivalent amount.

**BPV**
Abbreviation for Basis Point Value
Potential change in present value of financial product corresponding to 0.01-percentage-point increase in interest rates.

**Credit cost**
Average losses expected to occur during the coming year.

**Historical simulation method**
Method of simulating future fluctuations without the use of random numbers, by using historical data for risk factors

**LGD**
Abbreviation for Loss Given Default
Percentage of loss assumed in the event of default by obligor; ratio of uncollectible amount of the exposure owned in the event of default.

**Monte Carlo simulation method**
General term used for a simulation method which uses random numbers.

**Operational risk equivalent amount**
Operational risk capital requirements under the Basel Capital Accord.

**PD**
Abbreviation for Probability of Default
Probability of becoming default by obligor during one year.

**Present value**
A future amount of money that has been discounted to reflect its current value taking into account the interest rate and the extent of credit risk.

**Risk appetite**
The types and levels of risk that we are willing to take on or tolerate to drive earnings growth.

**Risk capital**
The amount of capital required to cover the theoretical maximum potential loss arising from risks of business operations. It differs from the minimum regulatory capital requirements, and it is being used in the risk management framework voluntarily developed by financial institutions for the purpose of internal management.

**Risk factor**
Anything which may become a factor for risk. In the case of market risk, it would be the share price or interest rate; in the case of credit risk, it would be the default rate or economic environment.

**Risk-weighted assets**
The denominator used in the calculation of the capital ratio designed to maintain prudential standards for banks.

**VaR**
Abbreviation for Value at Risk
The maximum loss that can be expected to occur with a certain degree of probability when holding a financial asset portfolio for a given amount of time.