MUFG Risk Management

Mitsubishi UFJ Financial Group

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Quality for You

MUFG

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The financial information used in this document was prepared in accordance with accounting standards generally accepted in Japan, or Japanese GAAP.

< Definitions of abbreviation used in this document >

MUFG	: Mitsubishi UFJ Financial Group	BTMU	: Bank of Tokyo-Mitsubishi UFJ
MUTB	: Mitsubishi UFJ Trust and Banking	MUSHD	: Mitsubishi UFJ Securities Holdings
MUMSS	: Mitsubishi UFJ Morgan Stanley Securities	MSMS	: Morgan Stanley MUFG Securities
MUN	: Mitsubishi UFJ NICOS	MUL	: Mitsubishi UFJ Lease & Finance
MUSI	: Mitsubishi UFJ Securities International	UB	: Union Bank

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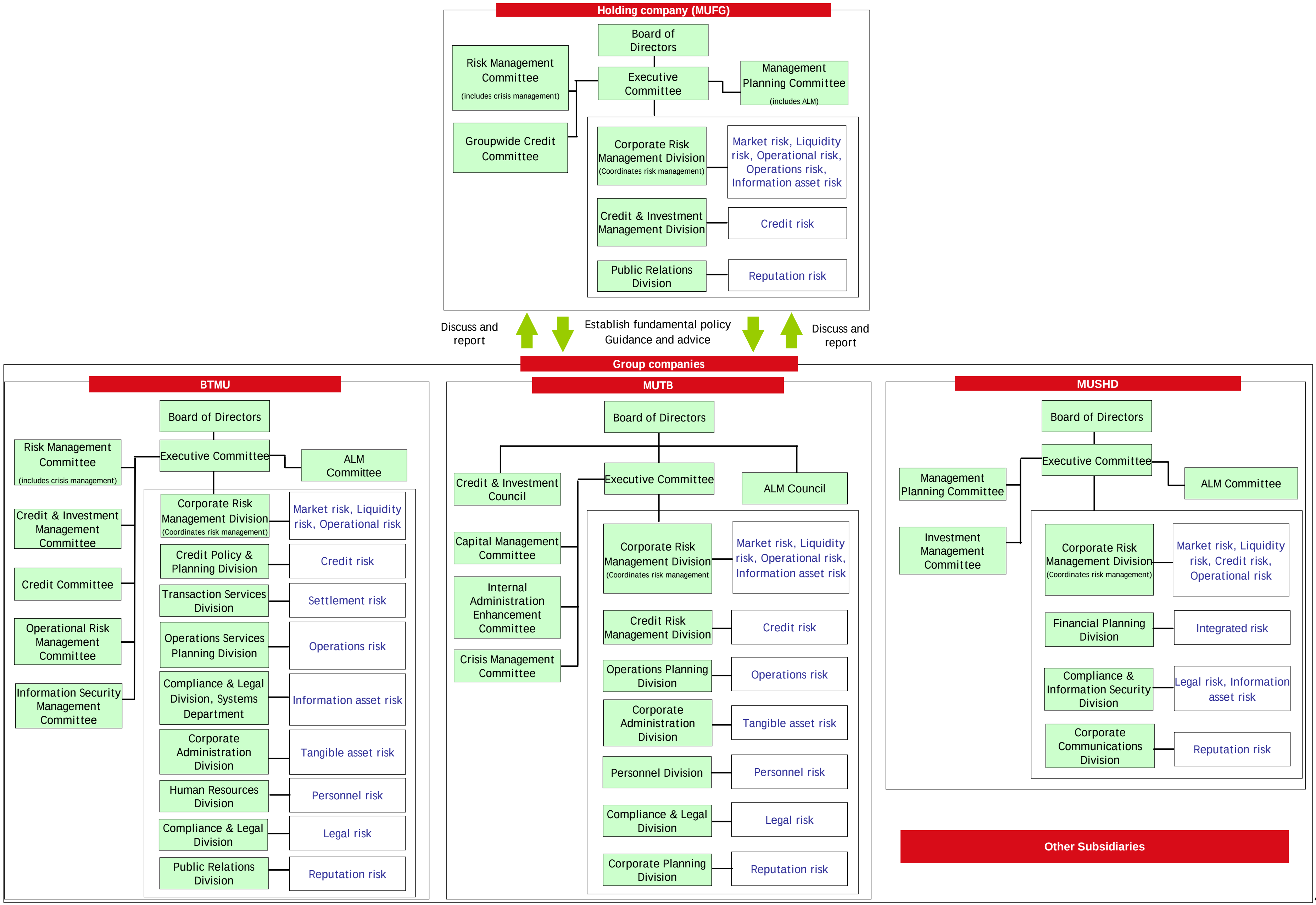
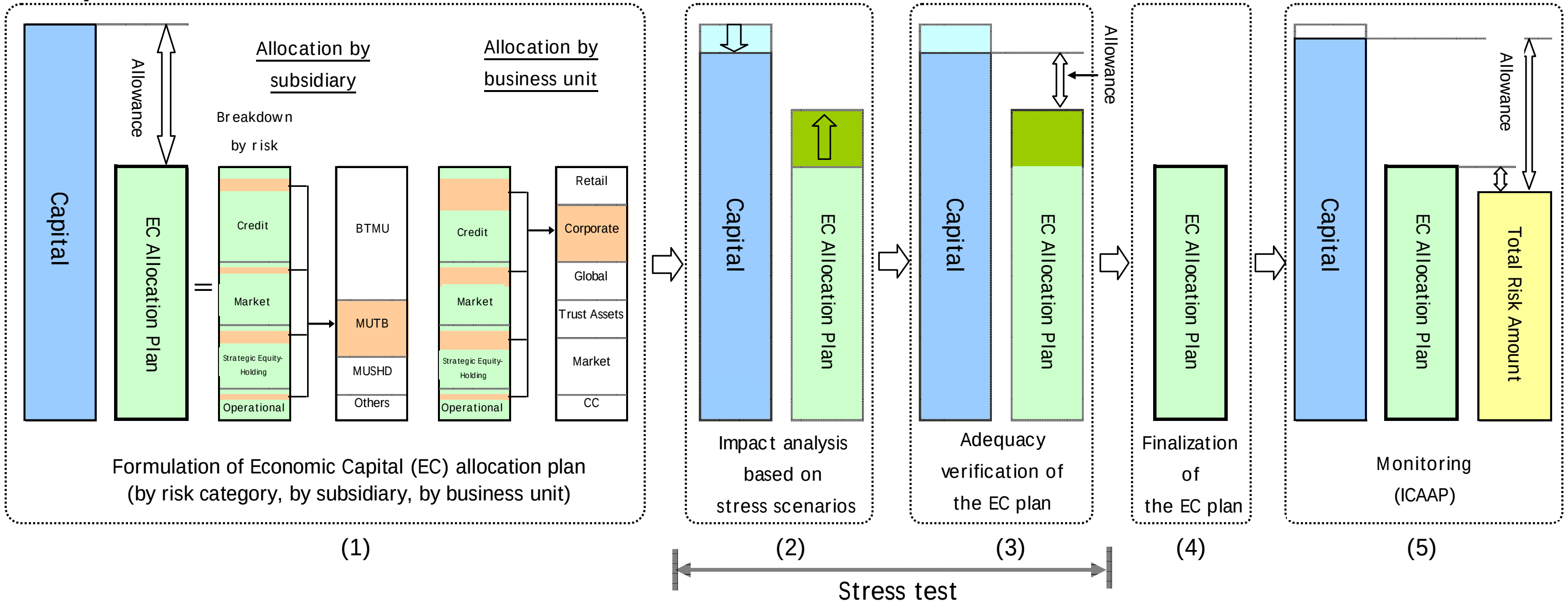


1.Outline of risk management framework Management process by risk

Risk	Definition	Assessment	Control	Monitoring
Credit Risk	✧ Risk of incurring loss due to declining or loss of asset value resulting from a deterioration in a counterparty's financial condition etc.	✧ Quantification of credit risk ✧ Internal credit rating system ✧ Asset evaluation and assessment ✧ System for provisions/write-offs ✧ Credit costs ✧ Stress tests ✧ Verification of parameters ✧ Individual screening	✧ Streamlining of organization, and control procedures ✧ Decision-making authority ✧ Credit concentration guideline ✧ Pricing policy ✧ RWA control	✧ Amount of credit risk ✧ Credit portfolio ✧ Compliance with guidelines ✧ Credit cost ✧ Reporting to management ✧ Management of action plan for troubled borrowers ✧ Proactive management (Early Warning system) ✧ Credit examination
Market Risk	✧ Risk of incurring loss due to price fluctuation in portfolio assets/liabilities by fluctuation in market risk factors including interest rates, currencies, stock prices, etc. (market risk). ✧ Risk of incurring loss due to trades not made in necessary volumes at appropriate levels resulting from market turmoil or insufficient trade base (market liquidity risk).	✧ Quantification of market risk ✧ Back-testing ✧ Verification of quantification model ✧ Calculation of fair value ✧ Stress tests	✧ Streamlining of organization, and control procedures ✧ Position limits ✧ Maximum loss ceiling, loss-cut rules ✧ Securities investment standards	✧ Amount of market risk (VaR, VaI and VaE) ✧ Compliance with limits ✧ Outlier ratio ✧ Net interest income (NII) ✧ Reporting to management ✧ Market share ratio / Bid-offer sentiment
Liquidi-ty Risk	✧ Risk of incurring loss due to higher funding costs resulting from market turbulence or deterioration of MUFG's financial condition etc.	✧ Liquidity funding amount ✧ Structure of liquidity funding ✧ Buffer of assets ✧ Stress tests	✧ Streamlining of organization, and control procedures ✧ Cash flow management index ✧ Management by 'stages" (contingency plan) ✧ Liquidity risk tolerance	✧ Conditions of liquidity funding ✧ Compliance with cash flow management index ✧ Reporting to management
Opera-tional Risk	✧ Risk of incurring loss due to inadequate or malfunction of internal processes/personnel/ systems, or external events.	✧ Quantification of operational risk ✧ Qualitative analysis (Control Self Assessment - CSA)	✧ Streamlining of organization, and control procedures ✧ CSA, voluntary inspection ✧ Preventive measures for recurrence of accidents ✧ Business continuity plan (BCP)	✧ Amount of operational risk ✧ Occurrence of individual cases ✧ Key risk indicators (KRI) ✧ Reporting to management
Inte-grated Risk	✧ Various risks that may impair capital when measured under an integrated criteria.	✧ Internal capital adequacy assessment process (ICAAP) ✧ Stress tests	✧ Streamlining of organization, and control procedures ✧ Capital allocation plan ✧ Risk appetite	✧ Amount of integrated risk ✧ Amount of risk by business units

1.Outline of risk management framework

■ Economic capital framework and internal capital adequacy assessment process (ICAAP)



(1) Formulate the EC (Economic Capital) allocation plan by risk category, by subsidiary, and by business unit which is consistent with management strategy (profit plan, RWA plan)
(2) Analyze the impact of the stress scenarios relative to capital amount and the EC allocation plan
(3) Verify the adequacy of the EC allocation plan based on the stress scenarios [the amount of EC allocation plan < Capital amount]
(4) Finalize the EC allocation plan and allocate the economic capital (=maximum risk amount that can be taken) by risk category, by subsidiary, and by business unit
(5) Monitor the actual risk amount in comparison to the amount of EC allocation plan and capital amount (ICAAP*)
→ Secure soundness of capital

*In order to make the image simple, the above charts are shown excluding the diversification effect. The actual ICAAP is conducted by comparing total risk amount(= risk amount minus the diversification effect) and capital amount

■ Top risk management approach

Management approach that identifies risk incidents that will have large impacts on MUFG business if actualized, and then by sharing the results with top management and within the MUFG Group, consider countermeasures for the respective risk incidents

1.Outline of risk management framework

Framework of integrated risk management(2)

■ Stress Tests

Conduct stress tests to confirm that the robustness of our capital will be secured even in severer economic and financial market conditions, compared to our forecasts (main scenario) which our Economic capital allocation plan is based on. Outline of the process of stress tests is as follows:

Market Risk/Strategic Equity-Holding Risk

Macro-economic scenario*1

⇨

Scenario selection by asset class
- Yield curves
- Credit spreads
- Ratings migrations of default rate (PD)
- Risk sensitivity
- Beta of listed stocks

⇨

Simulation
- RWA
- Unrealized gains/losses
- Realized gains/losses
- Impairment loss
- Net interest income, etc.

Credit cost/RWA

Macro-economic scenario*1

⇨

Scenario selection by sector
(Selecting indices*2)
- Selecting economic indices by sector

⇨

Simulation
(Regression analysis)
- Credit costs
- Expected loss (EL)
- RWA

*1 Stress scenarios: Multiple risk scenarios (probability of realizing once every 10 years, once every 25 years, etc.), taking into consideration our risk profiles, economic circumstances, etc

*2 Selecting indices: GDP is applied as a base economic variable. Besides GDP, risk factors are selected for each industry sector that affects the company’s performance (e.g. automobile sales, retail sales volume).

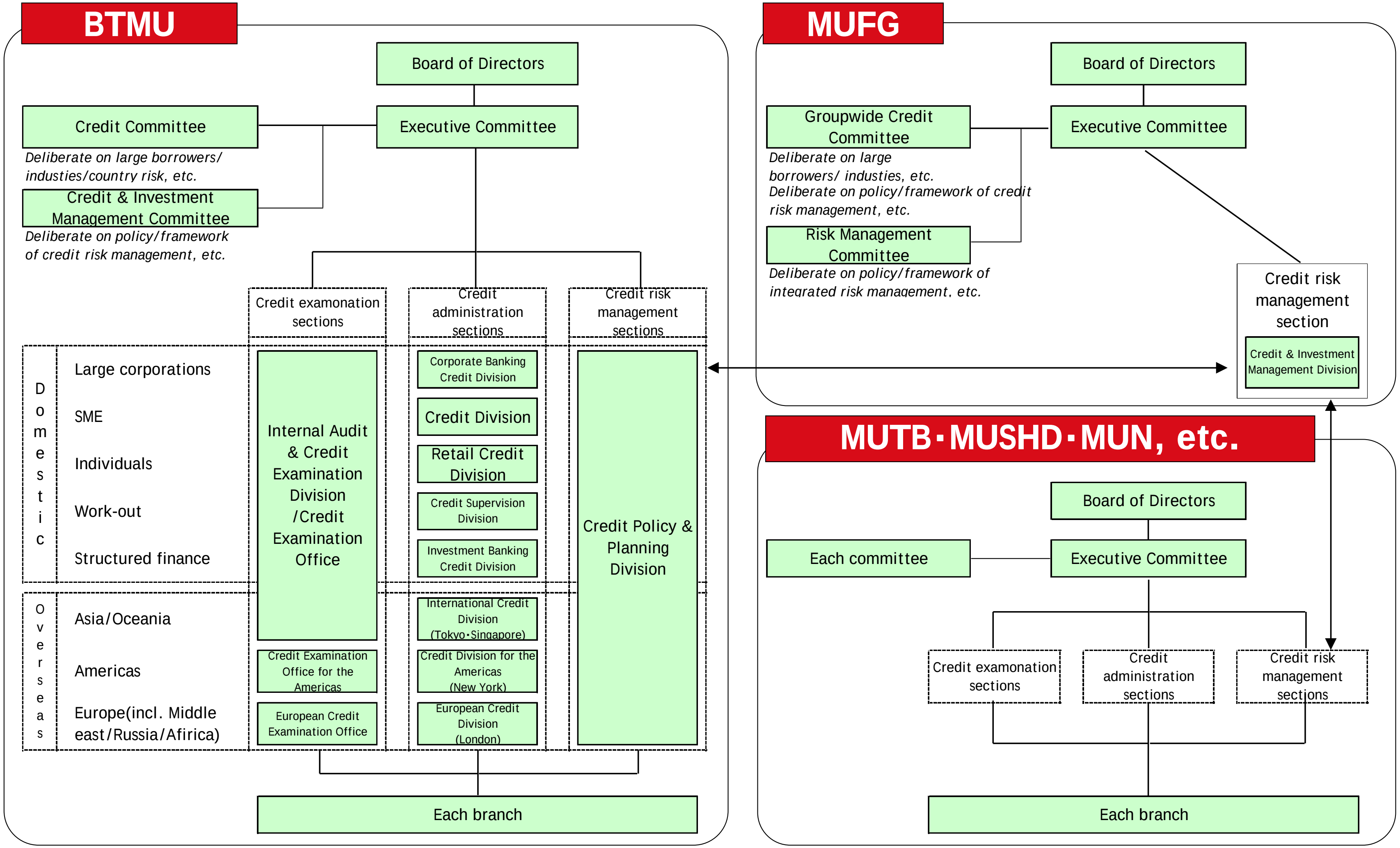
2.Credit risk management

■ Credit risk management system

<Credit risk management> : Credit system planning、Credit policy, Internal credit rating system, Asset evaluation and assessment/Provisions and write-offs, Quantitative analysis of credit risk, Portfolio monitoring, Concentration risk management, etc

<Credit administration> : Assigning credit ratings, Deal screening, Credit exposure management policy

<Credit examination> : Verification of risk management system of HQ, credit ratings/asset evaluation and assessment, credit management at branches



Quantitative recognition of credit risk

2 criteria – "Risk Weighted Asset" under Basel Standard, and "Economic Capital" under MUFG Standard

	Item	Calculation method	Used for
(1)	Risk Weighted Asset (RWA) ⇒ Basel Standard	- Calculated with the PG/LGD method using the Advanced Internal Rating-Based approach - Use the internally estimated PD (Probability of Default) and LGD (Loss Given Default)	- Calculating capital adequacy ratio
(2)	Economic Capital (EC) ⇒MUFG Standard (for internal control)	-Calculated using the Monte-Carlo Simulation Method based on the credit risk measurement model (same PD/LGD as (1)) - Consider concentration risks, including concentration to large borrowers or certain industries, which are not considered in (1)	- Management of allocated EC - Internal Capital Adequacy Assessment Process (ICAAP)

Concentration risk management

Each subsidiary manages concentration risk adequately. Holding company (MUFG) conducts regular monitoring of MUFG-wide concentration risk, and deliberate at the Groupwide Credit Committee as necessary

	Item	Credit risk management method
(1)	Large borrower concentration (concentration to individual company)	- Set a credit guideline amounts for large borrower groups based on the borrower ratings - Monthly Monitoring of compliance with the guideline. The Groupwide Credit Committee deliberates on credit exposure management policies for borrowers exceeding the guideline
(2)	Industry concentration	- Monitor the credit balance and measure the credit risk per industry on a monthly basis - The Groupwide Credit Committee deliberates on the credit policy for certain primary industries
(3)	Country risk (see page11 for details)	- Set country limits based on credit ratings per country, etc - Quarterly monitoring of credit balances by country/compliance of country limit, etc - Each subsidiary`s credit committee deliberates on country limits/credit policy

Stress Tests

Conduct semi-annual stress tests based on multiple scenarios and report results to the Risk Management Committee

Monitoring subsidiaries MUSHD(MUMSS/MUSI/MSMS)/MUN/ACOM/MUL/UB/Morgan Stanley

Credit risk management section of MUFG monitors the credit risk of major subsidiaries and affiliates (credit portfolio, credit cost, concentration risk, country risk, etc.) on a monthly basis

■ Type and outline of credit ratings system

	Type	Outline
(1)	Borrower ratings	- Evaluated and classified in 15 grades based on the borrower's estimated debt repayment ability over the next three to five years
(2)	Facility risk ratings	- Evaluated and classified based on the estimated loss of a credit facility in the event of a default, taking into consideration individual terms of credit facilities, such as guarantees and collateral
(3)	Structured finance ratings Asset securitization ratings	- Evaluated and classified based on the reliability of a facility in repaying principal and interest, taking into consideration individual terms of credit facilities, including guarantees, collateral, applicable credit period and credit structure

■ Borrower ratings – Definitions and flow of assigning ratings

Borrower rating	Borrower category	NPL Classifications under FRL
1	Normal	Normal claims
2		
3		
4		
5		
6		
7		
8		
9		
10	Close watch	
11		
12		Claims under close observation
13	Likely to become bankrupt	Doubtful claims
14	Virtually bankrupt	Claims over bankrupt or virtually bankrupt borrowers
15	Bankrupt	

Flow of assigning borrower ratings	Outline
Quantitative evaluation of financial data ↓ Primary Evaluation	- Make a primary evaluation based on the client's financial statements using quantitative financial models that correspond to corporate size, industry, etc
Adjustment of various risk factors (including verification of B/S on a financial substance basis) ↓ Secondary Evaluation	- Adjust primary evaluation as necessary (downward adjustments in general), taking into consideration industry risks, management risks, legal risks, etc
Group Company analysis ↓ Third Evaluation	- Adjust secondary evaluation as necessary, taking into consideration the closeness with parent company, its strategic position, etc
Verification by external ratings/information ↓ Final Evaluation(Borrower rating)	- In cases where there are significant discrepancies between the third evaluation and external indicators (external credit rating), adjustments are made as necessary if reasonable, to determine final borrower rating.

2.Credit risk management

■ Application/Monitoring of individual companies/deals

While deals are becoming more diversified with overseas lending increasing, certain standards at the respective levels of (1) Admission, (2) Monitoring during credit term, and (3) Exit are established to manage credit risks more carefully

(1)	**Admission Standard**	-Set standards for applicable deals (Underwriting Guideline)
		-Pricing Management
		-Adherence to the compliance policy
(2)	**Monitoring during credit term**	-Introduction of Early Warning system
		-Deliberation on large borrowers/industries/country risk at the Groupwide Credit Committee
		-Creating "Action Plans" for borrowers ratings that are below "close watch"
(3)	**Exit**	-Revitalization Support
		-CDS Hedging
		-Loan collection/credit sale

■ Country risk management system

(1)	**Risk Assessment**	-Assign credit rating by country
(2)	**Policy formulation**	-Set country limit
		-Formulate credit transaction policy by country
(3)	**Monitoring**	-Regular monitoring of country exposure
		-Early warning monitoring
		-Monitoring of specific countries/regions
(4)	**Contingency response**	-Early warning/response at times of sudden deterioration of conditions in the country

Market risk limit

- Market risk amount = VaR (general market risk) + VaI (indiviudal risk)
- The Executive Committee shall vest authorization of the Market Risk Limit, calculated from the allocated economic capital and profit plan, to the Global Market Unit
- Within the Global Market Unit, the limit amount is allocated to the respective business lines (banking, trading), branches, and divisions, etc
- Calculate the VaR/VaI using risk measurement models, and report to management daily

Loss limit

Set the loss limit for each business line, and allocate to the Global Market Unit together with the market risk limit

- Banking ⇒ Set loss limit based on stress test results

  Triggers for consultation, alarm points, soft limits
- Trading ⇒ Set loss limit based on the profit plan

  Triggers for liquidation, alarm points

Risk measurement model

- Historical simulation methodology

  Linear risk: sensitivity method, nonlinear risk: matrix method, full valuation method

  Current market volatility weighted incorporated

  Length of holding : 2 weeks Confidence level: 99% Observation period: 3 years(701 business days)
- Periodically verify the comprehensiveness of risk factors, and adequacy of assumptions

Stress loss limit at MUSHD

- Given the loss incident at MUMSS, we have enhanced the management of those risks that change intricately due to multiple factors, such as risks in exotic-options in trading operations
- Calculate the stress in times of stress (stress loss), which cannot be captured by VaR, to set the ceilings for management purposes

Product with high market liquidity

Calculate the stress loss under more challenging assumptions than VaR
Observation period: 10 years
Confidence interval 99.9%
Length of holding
Linear risk: 20 business days
Non-linear risk, individual risk: 250 business days

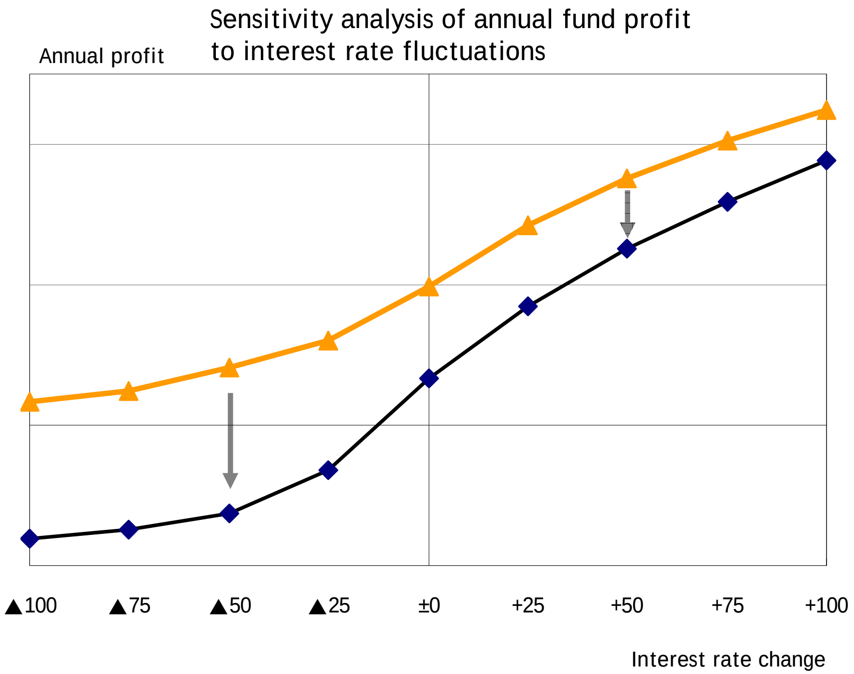
Product with low market liquidity

For each product, select the stress scenario that would result in the largest risk, and apply it to the holding positions to calculate the stress loss amount

- Set ceiling for the calculated stress loss
- Take into account business plans and its necessary regulatory capital, and capital buffer

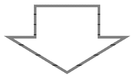
■ Analysis using NII (Net Interest Income) by scenarios

- Periodically calculate NII, and monitor changes in expected profit/loss due to interest rate fluctuations for the observation period
- Analyze factors that affect for the NII curve and consider ALM countermeasures, aiming to make the balance sheet profitable and resistant to interest rate fluctuations



NII decrease factors

- Decline in NII levels
  - Smaller loan spread due to tough competition in domestic loan market
  - Decline in yields for bonds, etc. due to lower and flattening of yield curve
- Change of NII curve (Left chart, in case of steepening)
  - Decrease in long-term assets to match long-term liabilities such as Core deposits (Shorten loan period, etc.)



Measures to increase NII (example)

- Improve the yield of assets
  - Widen spreads in loans/ Increase high risk assets
- Reduce funding cost
  - Reduce market funding cost / Review interest rates for deposits
- Manage assets for longer periods to match Core deposits
  - Increase loans, lengthen loan periods/ Lengthen duration of government bonds

Risk analysis of JGB holdings by stress tests and early warnings

- Formulate scenarios, in which sovereign risk of Japan materializes, and conduct profit/loss simulations based on the expected balance sheet
- It is effective to detect the signs of a crisis and to take proactive measures at early stages
- Monitor JGB risk for early warnings, and anticipate pre-crisis contingency responses

- Risk management and transaction divisions will respectively monitor risk of JGB holdings and manage early warnings of any crisis situations
- Share monitoring results, aiming to be flexible in its pre-crisis contingency responses

＜Risk management divisions＞

Monitor selected quantitative monitoring item from risk management indicators measured for internal management purposes, which includes balance sheet structure, net unrealized gains/losses, and buffer-asset holding

＜Transaction divisions＞

Select monitoring indicators from macro economic indicators, public finance statistics etc., and set criteria for “safe”, “close-watch” and “crisis” to each indicator. Determine the JGB risk level by aggregating assessments of the respective indicators.

Consider implementation of pre-crisis contingency measures

Refrain in long-/ultra long- term bond investments

Shorten duration, etc

4. Liquidity risk management

■ Management of liquidity stages

– MUFG and the respective subsidiaries assigns liquidity risk management stages in accordance to their respective cash flow situations

– “Normal”, “Concern” and “Crisis” being the three standard stages, and if and when necessary, subdivide the “Normal” stage into the “ordinary stage”, “precautionary stage”, and “caution stage”

– Each subsidiary formulates contingency plans for the respective stages

– MUFG and subsidiaries coordinate when changing the stage to “Crisis”, and consult throughout the group in “Concern” stage as necessary

Stage	Situtation	Contingency plans
Normal	Situation not corresponding to period of Concern or Crisis	Expand funding from market Review assets under management Secure customer deposits Dispose of assets which can be liquidated Utilize Central Bank facility etc.
Concern	Situation in which the funding cost of subsidiaries, etc., has risen significantly and is having a major impact on operations with clients Situation in which the funding has deteriorated significantly, and there are concerns for subsidiaries, etc. to secure necessary funding systematically	
Crisis	Situation in which the funding situation has deteriorated severely, and subsidiaries, etc., cannot secure or see no prospect of securing necessary funding	

■ Liquidity risk limits

– Ceiling for necessary funding within a certain period (O/N, 1 week, etc.), payment reserve asset balance

– Total commitment line, unused balance, and asset/liability gap

■ Liquidity Stress Tests

- Assume situation where a liquidity concern has occurred, and verify the viability of the contingency plans
- If not viable, review balance sheet plan

Stress scenarios

Scenario	Situation	Expected Stage
1. MUFG specific stress	Significant downgrade of MUFG subsidiaries	Concern
2. Overall market stress	Market turmoil such as credit crisis	Concern
3. Combined scenario of 1 and 2	Combined scenario of Scenario 1 and 2	Concern~Crsis