Annex 13

Risk Assessment Criteria for Commercial Banks

1. Assessment of Comprehensive Risk Management Framework

1.1 A commercial bank shall have in place a well-established comprehensive risk management framework that is linked with and supportive of its internal capital adequacy assessment process, so as to ensure the bank’s robust operations and sustainable growth. The framework shall consist of:

1.1.1 Effective Board and senior management oversight;

1.1.2 Appropriate policies, procedures and limits;

1.1.3 Comprehensive and timely identification, measurement, monitoring, mitigation, and control of risks;

1.1.4 Sound management information system (MIS) at the business and firm-wide level; and

1.1.5 Comprehensive internal controls.

1.2 The Board of Directors and senior management of a commercial bank shall take primary responsibilities for the effectiveness of the bank’s comprehensive risk management framework; they shall determine the risk appetite based on the bank’s business strategies and risk tolerance, and make sure the risk limits are consistent with the risk appetite.
1.3 The Board of Directors and senior management of a commercial bank shall possess sufficient knowledge and managerial experience required for comprehensive risk management, be familiar with the operations and material risks of the bank’s main lines of business, particularly new business areas, and ensure effective implementation of risk policies and controls.

The Board of Directors and senior management of a commercial bank shall fully understand the key assumptions and limitations for risk measurement and risk aggregation, in order to make sure management decisions are made on the basis of sufficient and reliable information.

1.4 The Board of Directors and senior management of a commercial bank shall continuously keep watch on the bank’s risk profile and ask risk management department to timely report such events as concentration of risks, risk limits being exceeded, etc.

1.5 The Board of Directors and senior management of a commercial bank shall clearly define the reporting lines as well as the roles and responsibilities for business departments and risk management department, and ensure the independence of the latter.

1.6 A commercial bank shall improve and align its comprehensive risk management policies and processes with its own business strategies, stated goals and objectives and financial strength, define the risk limits for material risks, and make sure such limits match the bank’s capital level, assets, earnings and overall risk level. The risk policies, procedures and limits shall be put into place so as to achieve the following goals:

1.6.1 Provide for adequate and timely identification, measurement, monitoring, mitigation, and control of risks posted by its lending, investment, trading, securitization, off-balance-sheet, fiduciary and other significant activities at the business line and bank-wide level;
1.6.2. To ensure that economic substance of bank’s risk exposures, including reputational risk and valuation uncertainties, are fully captured and incorporated into the bank’s risk management processes;

1.6.3. Management at various levels shall be timely informed of whenever internal risk position limits is breached, so that actions can be taken according to pre-defined procedures;

1.6.4. Provide for the review of new business and products by bring together the departments responsible for risk management, internal controls and business lines to ensure that the bank is able to manage and control the activity prior to it being initiated;

1.6.5. Regular assessment and updating mechanism shall be established to make sure risk policies, procedures and limits are appropriate.

1.7 A commercial bank shall have in place a MIS that is commensurate with their comprehensive risk management. The MIS shall perform the following functions:

1.7.1 Supporting risk measurement for various lines of business and bank-wide risk aggregation;

1.7.2 Identifying bank-wide concentration risk, and risks arising from interactions among credit risk, market risk, liquidity risk and reputational risk, etc.;

1.7.3 Analyzing the roles and effects of various risk mitigation tools under different market environments;

1.7.4 Supporting bank-wide stress tests and assessing the impact of various stress scenarios on individual lines of business and the bank as a whole;
1.7.5 Being flexible and capable of timely reflecting the impact of changes in risk assumptions on risk assessment and capital assessment.

1.8 A commercial bank shall have in place internal control mechanisms for comprehensive risk management so as to ensure accurate information for decision making and effective implementation of bank-wide risk management policies.

2. Assessment of Credit Risk, Market Risk and Operational Risk

2.1 A commercial bank shall have in place well-established systems for the management of credit risk, market risk and operational risk. The elements of such systems shall include but not limit to the following:

2.1.1 Oversight and control by the Board of Directors;

2.1.2 Roles and responsibilities of senior management;

2.1.3 Appropriate organizational structure and staffing; and

2.1.4 Management policies, methodology, procedures and limits concerning various risks.

2.2 A commercial bank shall assess the criteria, procedures and scope for the classification of credit risk exposures on banking book, determine the rationality and compliance of classification criteria and consistency of implementation, and make sure all credit risk exposures are covered and regulatory capital requirements cover all credit risk exposures;

2.3 A commercial bank using Regulatory Weighting Approach for credit risks shall assess fit-ness between assigned risk weights and potential risks of credit risk exposures with and without external ratings respectively. Where risks entailed in risk exposures, especially unrated risk exposures,
are found to be significantly higher than their risk weights assigned, the bank shall take higher credit risk into account when assessing overall capital adequacy.

2.4 A commercial bank shall clearly define the scope of credit risk exposures to be covered by the IRB approach and ensure consistent implementation thereof to prevent regulatory capital arbitrage.

2.5 A commercial bank shall assess the rationality of definitions of default, loss and economic recessions used in the IRB framework, learn about the differences between the definitions used internally and the relevant provisions of The Rules, and understand the deviations of regulatory capital measurements thereby caused.

2.6 A commercial bank shall assess the robustness of stress testing on credit risk parameters, including the rationality and relevance of stress scenarios, and rigorosity of the logical relation between stress scenarios and credit risk parameters.

2.7 A commercial bank shall assess whether the validation of IRB framework meets appropriate requirements specified by The Rules on the validation of advanced measurement approaches, and ensure the accuracy and robustness of risk parameters used for calculating regulatory capital for credit risks.

A commercial bank shall assess the scope of use test of IRB and make sure credit risk parameters used for regulatory capital purpose contribute significantly to credit risk management.

2.8 A commercial bank shall assess residual credit risks resulting from adopting credit risk mitigation techniques. Such risks include but are not limited to:

2.8.1 Failure to take hold of collaterals due to counterparty default;
2.8.2 Difficulty in resolution of collaterals due to illiquidity;

2.8.3 Delivery refused or delayed by the guarantor; and

2.8.4 Invalidation of relevant documents.

2.9 A commercial bank shall assess whether the policies and procedures of credit risk mitigation management, valuation and information system meet appropriate requirements specified herein on measuring regulatory capital for credit risks of commercial banks.

2.10 The measurement of a commercial bank’s market risk capital shall cover the following risks:

2.10.1 Interest rate risk and equity risk on the trading book;

2.10.2 Exchange rate risk and commodity risk on the trading book and banking book; and

2.10.3 Risk arising from option activities.

2.11 A commercial bank shall clearly define the scope of regulatory capital requirements for market risk respectively under internal models’ approach and standardized approach and ensure consistent implementation thereof to prevent regulatory capital arbitrage.

2.12 A commercial bank adopting standardized approach to measure regulatory capital for market risk shall have in place criteria and procedures for splitting the financial instruments, so as to achieve rational determination of maturity and prudent selection of risk parameters, and ensure prudent measurement of regulatory capital requirements.

2.13 A commercial bank adopting internal models’ approach to measure regulatory capital for market risk shall meet appropriate requirements specified herein on the internal market risk models’ approach; as for the
validation of market risk measurement model, the bank shall meet appropriate requirements specified herein on the validation of advanced capital measurement approach, and ensure the risk parameters used in the calculation of regulatory capital for market risk are accurate and prudent.

2.14 A commercial bank shall measure the operational risk capital pursuant to appropriate requirements specified herein on the measurement of regulatory operational risk capital.

For the commercial bank adopting basic indicator’s approach or standardized approach to measure regulatory capital for operational risk, if the consolidated revenue indicator is negative or significantly lower than that of banks with similar size and businesses, the operational risk capital requirements may be underestimated and the bank shall appropriately increase its operational risk capital charge.

2.15 For the commercial bank adopting advanced measurement approach (AMA) to measure operational risk capital requirements, the measurement model shall constantly meet appropriate requirements specified herein on the validation of advanced capital measurement approach.

3. Assessment of Other Risks and Items

3.1 Concentration Risk

3.1.1 Concentration risk refers to any single risk exposure or a group of exposures with the potential to cause material losses to a bank or cause material changes in the bank’s risk profile.

A commercial bank shall clearly recognize and assess the impact of a single risk factor or a group of correlated risk factors on the bank and fully consider the correlation of various types of risks.
3.1.2 Concentration risks include:

3.1.2.1 Counterparty/borrower concentration risk, referring to large exposures of a commercial bank to a single counterparty or borrower or to a group of highly correlated counterparties or borrowers, e.g. providing loans to local government funding platforms.

3.1.2.2 Geographic concentration risk, referring to large exposures of a commercial bank to counterparties or borrowers from the same geographic location.

3.1.2.3 Industry concentration risk, referring to large exposures of a commercial bank to a single economic or financial sector, e.g. providing loans to real estate industry, or to railway, highway and infrastructure projects.

3.1.2.4 Concentration risk arising from credit risk mitigation instruments, referring to risks arising from loans secured against a single type of collaterals and or guarantee provided by a single guarantor.

3.1.2.5 Asset concentration risk, referring to the risk of holding a high proportion of specific assets, including loans, bonds, derivatives, structured products and so on.

3.1.2.6 Concentration of off-balance-sheet items, referring to the risk of concentration as a result of providing guarantees and commitment.

3.1.2.7 Other concentration risks, referring to a single risk exposure or a group of exposures identified by a commercial bank that may bring in losses to the bank, e.g. excessive concentration of loans with long maturity.
3.1.3 A commercial bank shall effectively identify various concentration risks, and clearly understand overall concentration risk caused by similar exposures of different lines of business. They shall also take into full account the concentration risks arising from correlation of various risks.

A commercial bank shall also clearly assess the concentration risks that may arise under stressed market conditions, such as economic downturns and illiquidity.

3.1.4 A commercial bank shall fully identify, measure and manage major concentration risks it is facing by using multiple techniques from multiple perspectives.

3.1.5 A commercial bank shall have in place a comprehensive concentration risk management framework and such framework shall at least consist of:

3.1.5.1 Written risk management policies. These policies shall provide clear definitions of concentration risks facing the bank and specify appropriate management measures;

3.1.5.2 Methods for effectively identifying, measuring, monitoring and controlling concentration risks;

3.1.5.3 Concentration risk limits management system. A commercial bank shall, in light of its size and business complexity, define appropriate limits for concentration risks, and take effective measures to ensure such limits are followed in the course of operation and management;

3.1.5.4 Regular concentration risk reporting and reviewing system. The Board of Directors and senior management shall regularly review
the profiles of concentration risks so as to ensure relevant risks are effectively managed and controlled.

3.1.5.5 Stress testing system. A commercial bank shall regularly conduct stress tests on major concentration risks to identify potential factors that may cause adverse effects on the bank’s operation, and respond properly according to the stress test results. The bank shall take into full account concentration risks that may be caused under stress conditions.

3.1.6 A commercial bank shall, in light of the results of concentration risk assessment, allocate relevant capital to effectively fend off losses that may be caused by concentration risks.

Given the differences among various types of concentration risks, a commercial bank can adopt different capital measurement approaches against different risks. For example, capital charges for lending to local government funding platforms can be made according to cash flow coverage capital charges for mid-to-long-term lending can be set aside in line with maturity features of loans; and capital charges for real estate loans can be made by prudently estimating the average default trend of the overall industry.

3.2 Interest Rate Risk in the Banking Book

3.2.1 A commercial bank shall have in place interest rate risk in the banking book (IRRBB) management and assessment systems that are commensurate with the size, nature and complexity of the bank’s businesses, and define the capital requirements for IRRBB and make capital allocation accordingly. The bank shall incorporate the management of IRRBB into the comprehensive risk management system.
3.2.2 A commercial bank shall establish and improve the governance structure and MIS for IRRBB, define the roles and responsibilities for the Board of Directors, the special committee(s) authorized by the Board, senior management and the department in charge and allocate necessary human resources and funding to the management of IRRBB. The bank shall develop appropriate management policies and procedures and clearly define the principles and requirements on internal control, limits, reporting, and audit concerning IRRBB.

3.2.3 The department (employees) responsible for management of IRRBB shall be independent from the risk-taking departments (employees) in charge of transactions and other business activities and its (their) reporting line shall also be independent.

3.2.4 The MIS system established by a commercial bank shall provide effective support to accurately, timely, continuously and sufficiently identifying, measuring, monitoring, controlling and reporting of IRRBB. The system shall at least be capable of:

3.2.4.1 Calculating re-pricing gap according to maturities to reflect maturity mismatches;

3.2.4.2 Calculating and analyzing the IRRBB of major currency transactions;

3.2.4.3 Conducting quantitative assessment on IRRBB impact on the bank’s net interest income and economic value;

3.2.4.4 Providing support for verifying the implementation of limits policy;

3.2.4.5 Providing effective support for stress testing; and

3.2.4.6 Providing effective support for model validation.
3.2.5 Prior to introducing new products or launching new businesses, a commercial bank shall fully identify and assess potential IRRBB, establish necessary procedures for internal approval, business operation and risk management, and have the procedures approved by the Board of Directors or the special committee authorized by the Board.

3.2.6 In measuring IRRBB, a commercial bank shall take into account the impact of material risks, including repricing risk, basis risk, yield curve risk and option risk, as well as interest rate risk associated with major currency transactions. The measurement and assessment shall cover all items of on-balance-sheet and off-balance-sheet assets that are sensitive to interest rates.

3.2.6.1 As for repricing risk, a commercial bank shall, at least on a quarterly basis, monitor the simulation results under the scenarios of repricing gaps and parallel shift in interest rates, and assess potential impact of repricing risk on the bank’s overall revenues and economic value.

3.2.6.2 As for basis risk, a commercial bank shall regularly monitor the correlations between benchmark interest rates and assess the impact of pricing benchmark inconsistency on the bank’s overall revenues and economic value.

3.2.6.3 As for yield curve risk, a commercial bank shall measure and monitor IRRBB in light of the rotations and twists of yield curves; as for major currencies, a commercial bank shall respectively consider the risks resulting from adverse changes in yield curves.

3.2.6.4 As for option risk, a commercial bank shall take into full account that option risks of banking book business are independent and imbedded; the CBRC encourages commercial banks to analyze
client behaviors in light of relevant historical business data, and
regularly check and adjust the results of client behavior analysis so as
to accurately reflect the changes in the characteristics of client
behaviors.

3.2.7 A commercial bank shall, pursuant to appropriate requirements
on stress testing set forth by supervisory authorities, conduct stress
tests in light of existing or expected banking book business profiles,
business strategies aggregated assets/liabilities and their structural
changes, as well as features of IRRBB, and then develop risk
mitigation measures accordingly. Stress testing shall cover all
substantial sources of risks. Senior management shall take the results
of stress testing into consideration when developing IRRBB risk
management policies, procedures and limits,

3.2.8 IRRBB shall be measured in such a way in close conjunction
with a commercial bank’s risk management process, and the results
thereof shall be fully used for decision making.

3.2.9 A commercial bank shall reasonably adjust the term structure for
repricing of banking book interest rates, and if necessary, adjust the
approach and level of pricing, so as to guide business operation and
effectively control IRRBB.

3.2.10 A commercial bank shall, in light of actual risk level, use
effective financial instruments to mitigate revealed IRRBB, and
regularly check the effectiveness of risk mitigation measures.

3.2.11 A commercial bank shall have in place sufficient and effective
procedures for validating internal measurement models, regularly
track the performance of models, continuously validate the models
and assumptions, and improve the models according to validation
results so as to ensure sound measurement.
3.2.12 The documentation system of a commercial bank shall be capable of providing sufficient information to support independent reviews and validation of measurement of IRRBB.

3.3 Liquidity Risk

3.3.1 A commercial bank shall have in place a liquidity risk management system that is commensurate with the size, nature and complexity of its businesses, and fully identify, accurately measure, continuously monitor and appropriately control liquidity risk at product level, business lines level and bank-wide level, as well as the interactions and conversions between liquidity risk and other risks.

3.3.2 The liquidity risk management system of a commercial bank shall at least consist of the following elements:

3.3.2.1 Effective oversight by the Board of Directors and senior management;

3.3.2.2 Well-established liquidity risk management strategies, policies and processes;

3.3.2.3 Well-established liquidity risk identification, measurement, monitoring and control procedures;

3.3.2.4 Well-established internal controls and effective supervision mechanism;

3.3.2.5 Effective and sound management information system;

3.3.2.6 Effective crisis response mechanism.

3.3.3 A commercial bank shall determines its liquidity risk tolerance based on its operational strategy, business features and risk appetite; and develop liquidity risk management strategies, policies and
procedures accordingly. Risk tolerance shall include the level of unmitigated liquidity risk the bank is prepared to accept under both normal conditions and stressed scenarios.

3.3.4 Liquidity risk management strategies, policies and procedures shall cover various on-balance-sheet and off-balance-sheet transactions and all business functions, branches and subsidiaries that may have significant impact on the bank’s liquidity risk, and they shall also cover liquidity risk management under both normal conditions and stressed scenarios.

3.3.5 Liquidity risk management strategies shall define the overall framework of liquidity risk management and specify concrete policies concerning specific aspects of risk management, which include but not limit to the following:

3.3.5.1 Overall liquidity management policy;

3.3.5.2 Liquidity risk identification, measurement, monitoring and reporting systems;

3.3.5.3 Liquidity risk management procedures;

3.3.5.4 Asset and liability portfolios;

3.3.5.5 Liquidity risk limits and procedures for handling limit-breaching events;

3.3.5.6 Cash flow analysis;

3.3.5.7 Methods for liquidity management concerning different currencies and countries and cross-border liquidity, cross-institution liquidity and cross-business-line liquidity;
3.3.5.8 Factors with the potential to increase liquidity risk and corresponding monitoring process;

3.3.5.9 Stress testing and scenario analysis;

3.3.5.10 Contingency plan and liquidity risk mitigation instruments.

3.3.6 A commercial bank shall set liquidity risk limits pursuant to regulatory requirements and internal liquidity risk management policies, and define corresponding monitoring frequency according to the nature of limits. In principle, liquidity risk shall be managed by currency type. Where certain currencies can be freely converted, the volume of transactions is small and the impact on the bank’s liquidity risk level and the entire market is small, the bank can manage the liquidity risk of such currencies on a combined basis following the materiality principle. A commercial bank shall at least identify, measure and monitor liquidity risk associated with local currency and foreign currencies respectively. The bank managing liquidity risks associated with foreign currencies on a consolidated basis shall file a report to supervisory authorities.

3.3.7 When introducing new products and new techniques, or prior to establishing new operational entities and new business departments, a commercial bank shall fully assess their impact on liquidity risk, develop corresponding risk management measures and improve internal controls and MIS. After such new products, techniques, operational entities or business departments have been put into operation, the bank shall strengthen routine monitoring, regularly assess the effectiveness of corresponding measures, and make timely adjustments where appropriate.
3.3.8 A commercial bank shall regularly conduct internal audit on liquidity risk management, and regularly review and evaluate the sufficiency and effectiveness of liquidity risk management system.

A commercial bank having overseas branches or subsidiaries shall audit its overall liquidity risk management and the management of liquidity risk by country/region respectively in accordance with its management structure.

3.3.9 A commercial bank shall have in place a well-established MIS so as to accurately, timely and continuously measure, monitor, control and report the profiles of liquidity risk. The system shall include but not limit to the following tasks:

3.3.9.1 To calculate the bank’s cash flows and maturity mismatches on a daily basis. The calculation and analysis can be performed respectively by currency, branch/subsidiary (or the bank as a whole) and business line;

3.3.9.2 To calculate ratios and other indicators in relation to liquidity risk according to applicable regulations and internal requirements on management, and perform monitoring and control where necessary;

3.3.9.3 To timely and effectively monitor and control significant flows of funds in a real-time manner;

3.3.9.4 To report the structure and market value of liquid assets held by the bank where appropriate;

3.3.9.5 To regularly verify compliance with liquidity risk management policies and limits;
3.3.9.6 To timely reflect the bank’s liquidity risk trend with a forward-looking view so that the Board of Directors and senior management can accurately assess the bank’s liquidity risk level; and

3.3.9.7 To collect and compile relevant data based on different assumptions, scenarios, and constraints and conduct scenario analysis and stress tests in a timely manner in light of rapidly changing external environment.

3.3.10 In the event of liquidity crisis, a commercial bank shall, where appropriate, disclose relevant information to improve the confidence of counterparties, clients, general public and other stakeholders, thus minimizing adverse impact of information asymmetry on the bank.

3.3.11 A commercial bank shall, following the principle of prudence, regularly conduct liquidity stress tests, take into full account correlations between various risks and liquidity risk, and analyze in depth the impact of scenarios on other liquidity factors and the counter-effect thereof. The bank shall assess the asset/liability structure and adequacy of liquidity buffer according to the results of stress tests, and develop necessary risk mitigation strategies and liquidity contingency plan accordingly.

3.3.12 A commercial bank shall assess its capital adequacy ratios according to the status of its liquid assets and market liquidity, and the assessment shall cover both normal conditions and stressed scenarios.

A commercial bank shall allocate capital properly to fend off liquidity risk in light of its liquidity risk monitoring and management as well as the results of liquidity stress tests.

3.4 Reputational Risk
3.4.1 A commercial bank shall have in place reputational risk management system that is commensurate with the nature, size and complexity of its businesses.

3.4.2 The reputational risk management system shall at least consist of the following elements:

3.4.2.1 Effective corporate governance structure;

3.4.2.2 Effective reputational risk management polices, rules and processes; and

3.4.2.3 Effective management of reputational risk events.

3.4.3 A commercial bank shall regularly conduct scenario analysis for reputational risk, assess potential impact and consequences of material reputational risk events, and develop feasible contingency plans based on the results of scenario analysis and rehearse accordingly.

3.4.4 As for identified reputational risk, a commercial bank shall accurately measure potential losses under implicit support or adverse market conditions, and measure the impact of reputational risk on credit risk, liquidity risk, operational risk and other risks as accurately as possible.

3.4.5 A commercial bank shall fully consider how liquidity risk, credit risk and other risks caused by reputational risk may affect the capital level and make appropriate capital allocation accordingly.

3.5 Strategic Risk

3.5.1 Strategic risk refers to the risk caused as a result of inappropriate business strategies or changes in external environment.
A commercial bank shall have in place strategic risk management system that is commensurate with the size of its businesses and complexity of its products, so as to effectively identify, assess, monitor, control and report strategic risks.

3.5.2 The strategic risk management system shall at least consist of the following elements:

3.5.2.1 Oversight by the Board of Directors and Board-authorized committees;

3.5.2.2 Strategic planning assessment system; and

3.5.2.3 Management and supervision systems for strategy implementation.

A commercial bank shall timely assess the rationality, compatibility and consistency of its strategic goals/objectives according to changes in external environment and take effective actions to control potential strategic risk.

3.5.3 A commercial bank shall fully assess potential losses that may be caused by strategic risk to the bank and the impact of such losses on the capital level, and make appropriate capital allocation for strategic risk accordingly.

3.6 Asset Securitization Risk

3.6.1 A commercial bank shall fully consider risks associated with such innovative products and businesses such as asset securitization. Risks associated with asset securitization mainly include:

3.6.1.1 Credit risk, market risk, liquidity risk and reputational risk associated with various asset securitization products;
3.6.1.2 Default on or risk of losses from underlying assets;

3.6.1.3 Risks associated with credit support and liquidity support to SPVs; and

3.6.1.4 Risks associated with guarantees provided by insurance companies and other third parties;

3.6.2 When investing in asset securitization products, a commercial bank shall continuously analyze fundamental risks and shall not fully base the bank’s investment decisions on credit ratings provided by external rating agencies. The commercial bank shall have in place necessary quantification analysis tools, valuation models and reliable stress testing techniques for the assessment of all related risks.

3.6.3 A commercial bank shall track and assess credit risk associated with asset securitization at the levels of single transaction, single business line, and multiple lines of business.

3.6.4 A commercial bank originating asset securitization transactions shall assess the extent of risk transfer through asset securitization, in particular the implicit support for asset securitization through non-contractual channels. As for transactions whose risks have not been substantially transferred or to which implicit support has been provided, the commercial bank shall hold an amount of regulatory capital equivalent of unsecuritized risk exposures, and disclose in public the information about implicit support for asset securitization and about the supervisory capital add-ons.

3.7 Valuation

3.7.1 A commercial bank shall have in place effective governance structure and control procedures to ensure objective, accurate and consistent valuation and standardize the valuation of financial
instruments. The governance structure and control procedures shall also be applicable for risk management and accounting reporting.

A commercial bank shall conduct regular internal audit on the valuation control process.

3.7.2 The valuation approaches used by a commercial bank shall be approved and clearly documented. The commercial bank shall develop policies and procedures to standardize the use of such approaches as initial pricing, mark-to-market, mark-to-model, valuation adjustment and regular independent revaluation.

3.7.3 A commercial bank’s valuation capability shall be commensurate with the materiality, level and size of related risk exposures. As for material risk exposures, the commercial bank shall be capable of using multiple approaches for product valuation during stressed periods.

The “stressed periods” in the preceding paragraph refers to periods during which, main valuation parameters and approaches fail due to market disruptions or illiquidity.

3.7.4 A commercial bank shall base its valuation on reliable data. Under active market conditions, the commercial bank using valuation techniques for estimating fair value shall to the greatest extent use observable data.

Under inactive market conditions, a commercial bank shall choose reliable data on the basis of following considerations:

3.7.4.1 Frequency and availability of price and quotations;

3.7.4.2 Whether the price can reflect actual status of transactions;
3.7.4.3 How wide data is distributed and whether it is easily accessible to market participants;

3.7.4.4 Whether relevant information about valuation frequency is timely;

3.7.4.5 Number of independent quotations or price sources;

3.7.4.6 Whether quotation or price is supported by actual transactions;

3.7.4.7 Level of market maturity; and

3.7.4.8 Similarity between sold financial instruments and instruments held by the bank.

A commercial bank using model valuation shall test the limitations of the model under stressed scenarios.

4. **Stress Testing**

4.1 A commercial bank shall have in place a comprehensive, prudent and forward-looking stress testing mechanism for capital adequacy ratios under the bank’s internal capital adequacy assessment framework and estimate, by using quantitative analysis, possible losses and changes in risk assets under certain adverse scenarios, so as to assess the impact on its overall capital adequacy level.

4.2 A commercial bank shall have in place stress testing policies approved by the Board of Directors or the committee(s) authorized by the Board to ensure comprehensiveness, regularity and effectiveness of stress testing; the bank shall also effectively incorporate capital planning and capital contingency plans into its risk management and capital management systems. The stress testing policy shall at least:
4.2.1 Clearly define the roles and responsibilities of the Board of Directors or the committee(s) authorized by the Board, senior management, department in charge of stress testing, departments or teams in charge of various risks, capital management department and so on;

4.2.2 Clearly define the fundamental methods and working procedures for designing stressed scenarios with moderate, medium and high severity, and set up mechanisms for regularly assessing and updating scenario designing methods;

4.2.3 Clearly define the framework and working procedures for conducting single stress test on various substantial risks under stressed scenarios with moderate, medium and high severity;

4.2.4 Clearly define the framework and working procedures for conducting stress tests on contagion effects of various risks under stressed scenarios with moderate, medium and high severity;

4.2.5 Clearly define the reporting lines and management interaction mechanisms for stress testing under stressed scenarios with moderate, medium and high severity. The scope of management interactions includes but not limits to the Board of Directors, senior management, and relevant risk management departments in charge of reputational risk, strategic risk, liquidity risk, country risk and concentration risk, capital management department, and related business departments.

4.3 The Board of Directors and senior management of a commercial bank shall actively take part in and promote the implementation of stress testing on capital adequacy ratios; they shall define the risk appetite and objectives for stress testing, design scenarios for stress testing, understand risks facing their bank and capital adequacy level under stressed scenarios, and make necessary strategic adjustments according to stress testing results, so as to
reduce possible losses and adverse impact on capital adequacy ratios and improve the bank’s resiliency against risks caused by extreme events.

4.4 Stress testing on capital adequacy ratios shall cover bank-wide substantial risks, including but not limited to credit risk, market risk, operational risk, interest rate risk in the banking book, liquidity risk and concentration risk.

4.5 Stress testing on capital adequacy ratios shall cover main asset portfolios of on-balance-sheet and off-balance-sheet risk exposures, including but not limited to corporate credit portfolios, retail credit portfolios, investment portfolios, repo-type assets, financial derivatives portfolios, asset securitization portfolios and off-balance-sheet activities and so on.

4.6 A commercial bank shall design stressed scenarios with moderate, medium and high severity in prudent manner. In light of the purposes of stress testing, the bank may either choose single-factor stress variables to construct single scenario and assess the impact of single event on capital adequacy ratios, or choose multiple-factor stress variables to construct integrated scenarios and assess the impact of systematic risks on the resistance of the bank’s capital to stress.

4.7 Based on the features, risk profile and management of businesses, a commercial bank shall choose stress testing methodology of suitable complexity at its own discretion. The chosen methodology shall make sure that the designed scenarios can effectively transmit various substantial risks and the contagion effects between various risks under scenarios can be effectively aggregated.

A commercial bank shall, in light of changes in internal financial conditions and external economic conditions, have in place mechanisms for
regular assessment and updating of stress testing methodology, so as to make stress testing results more robust and reliable.

4.8 A commercial bank shall, in light of its own risk profile, adopt quantitative or non-quantitative approaches for assessing potential losses caused by specific risk areas under stressed scenarios, and incorporate the stress testing results into stress tests on overall capital adequacy ratios. Specific risk areas shall be those areas of material risks that may affect the bank’s operational stability. The commercial bank shall regularly study and analyze potential specific risk areas.

4.9 A commercial bank shall gradually establish a sound stress testing system for capital adequacy ratios, so that the bank is able to conduct both overall stress tests and ad hoc stress tests on specific risks.

4.10 Stress testing on capital adequacy ratios includes regular stress tests and irregular stress tests. In principle, regular stress tests shall be conducted at least once a year, and irregular stress tests shall be conducted when necessary in view of economic and financial conditions, supervisory requirements or the bank’s own judgment.

4.11 A commercial bank shall compile reports of stress tests on capital adequacy ratios according to the results of regular or irregular stress tests. Such reports shall cover but not limit to the purpose of testing, scenario designing, testing approaches, testing conclusions, analysis of related risk factors, contingency planning and other measures for improvement.

4.12 A commercial bank shall assess potential adverse effects facing the bank and determine the level of capital surcharge the bank shall additionally hold according to the results of stress tests on capital adequacy ratios.
In the course of capital planning and liquidity management planning, a commercial bank shall take into account the results of stress testing and consider such results as an important basis for determining risk appetite and setting risk exposure limits, and such results shall be used as reference for the bank’s medium to long-term strategic development.