Bank of China US Branches

Market Risk Management Policy

September 2021

Version	Date Changes Made	Author	Description of Changes
1.0	9/30/2016	Charlie Peng, Victor Lee	Policy initiation
2.0	3/27/2017	Xiaohui Wu	1) Add Chinese translation 2) Limit changes due to designed RMB clearing bank & HO authorization, and annual review
2.1	5/8/2017	Xiaohui Wu	Updated RAS KRIs
3.0	5/8/2018	Xiaohui Wu	Languages updates, reflect RGF changes, and limit change of RAS KRI (total FX exposure)
4.0	7/16/2019	Xiaohui Wu	1) Update roles and responsibilities to reflect the Bank's organizational change 2) Non-RAS price risk limits changes due to HO authorization 3) Add contents of non-parallel curve shift, OTTI and banking book risk hedging
5.0	6/10/2020	Xiaohui Wu	1) RAS interest rate risk limit change 2) Investment book risk limits changes due to HO authorization 3) Update language to reflect the Bank's organizational change
6.0	6/30/2021	Jing Xi, Xiaohui Wu, Shuwen Huang, Ying Ping	1) Clarify ERM's responsibility as second line of defense 2) Update limit/warning line of RAS KRI Foreign Exchange Exposure and risk limit management requirements 3)Change languages and structures for certain sections

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Reviewed by		
Shurui Li **SVP and Head**	Shurui Li Signature	7/26/2021 Date

Contents

1. Executive Summary

1.1. Rationale

The aim of the Market Risk Management Policy (the "Policy") is to provide a safe and sound framework for market risk management activities at Bank of China New York Branch and its satellite branches (collectively "BOC US Branches," "BOCNY," or "Branch") licensed by the Office of the Comptroller of the Currency ("OCC"):

- New York Branch ("NYB")
- Queens Branch ("QNB")
- Chicago Branch ("CHB")
- Los Angeles Branch ("LAB")

Objectives of the Policy include:

- To define what BOCNY considers as market risk, which includes interest rate and price risks;
- To set minimum requirements for market risk management in accordance with Bank of China Ltd.， Head Office ("H.O."), and the BOCNY Risk Governance Framework ("RGF");
- To define the roles and responsibilities, including the review and approval of this Policy.

Pursuant to the RGF, the BOCNY shall manage price and interest rate risks within the tolerances established in the Risk Appetite Statement ("RAS") of the RGF and shall maintain effective risk management through the three lines of defense.

As described in the RGF, the interest rate risk appetite for BOCNY's balance sheet is **"moderate"** and consistent with BOCNY's business development strategies and the overall market risk level. Interest rate risk arises from asset, liability, and off-balance sheet exposures of BOCNY. The Branch acknowledges that material interest rate risk can arise from BOCNY's fixed-rate lending exposures, investments, and funding positions.

BOCNY has a **"low"** risk appetite for price risk and does not engage in proprietary trading. The majority of price risk exposures arise from facilitating customer transactions through interest rate and foreign exchange derivatives.

1.2. Related Policies

In order to strengthen the market risk management practices of BOCNY, this Policy is developed in accordance with the OCC Guidelines Establishing Heightened Standards and other related regulatory guidance, while taking into account of market risk-related policies and the H.O., if applicable. Other related policies include:

- BOC US Branches Risk Governance Framework
- BOC US Branches Model Risk Management Policy
- BOC US Branches Data Governance Policy

- BOC US Branches New Activity Risk Management Policy
- BOC US Branches Volcker Compliance Program
- BOCNY Liquidity Risk Management Policy

2. The Scope

The Policy establishes standards for BOCNY and applies to the first, second, and third lines of defense responsibilities for market risk (i.e., price and interest rate risks) management.

This Policy is subordinate to the BOCNY RGF and adheres to the standards for managing risks, including identifying, assessing, controlling, monitoring, reporting, and escalating price and interest rate risks as defined in the RGF.

3. Roles & Responsibilities

3.1. Policy Governance

3.1.1. Risk Committee Structure

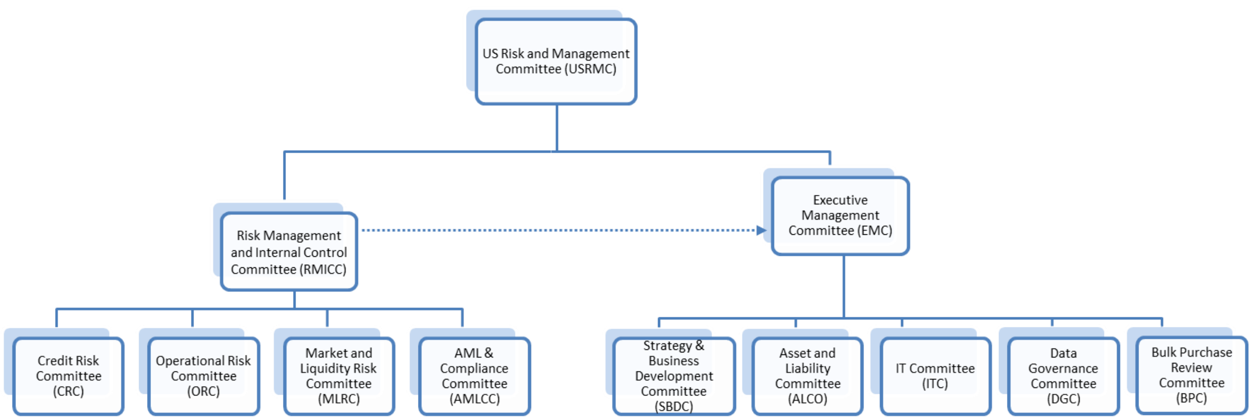

Exhibit 1: BOCNY Risk Committee Structure

U.S. Risk and Management Committee ("USRMC")

The USRMC regularly reviews BOCNY's risk profile, including market risk profile. It reviews and approves BOCNY's Risk Governance Framework (RGF) and provides oversight on the design and implementation of the RGF, inclusive of Risk Appetite Statement (RAS).

Risk Management and Internal Control Committee ("RMICC")

As the risk management decision-making unit of the Branch, RMICC is responsible for approving the Policy and the related risk policies, reviewing and discussing reports on market risk management, and assessing the comprehensiveness and effectiveness of BOCNY's market risk management program.

Market and Liquidity Risk Committee ("MLRC")
The MLRC is a subordinated committee of the RMICC. MLRC reviews and approves this Policy on an annual basis and sends it to the RMICC for final approval.

The MLRC periodically reviews (typically monthly) the Branch's interest rate and price risks in relation to the risk appetite of BOCNY. It not only provides its independent comprehensive assessment to the RMICC concerning the effectiveness of market risk management and compliance with requirements of the H.O. and the U.S. regulatory agencies, but also proposes market risk limits to RMICC for approval. In addition, MLRC reviews and assesses all related market risk policies and procedures for appropriateness, alignment with applicable laws and regulation, and the H.O. policies, when applicable.

3.2 Policy Implementation

Market risk management is facilitated through BOCNY's three lines of defense: Front Line Units ("FLUs"), Independent Risk Management ("IRMs"), and Internal Audit ("IA"). The first line of defense operates within a defined and transparent risk taking environment, and is accountable for the risks that arise from FLU activities; the second line of defense reviews, oversees, and challenges independently for the execution of risk management by the first line; and the third line of defense provides independent assurance of the first and second line activities.

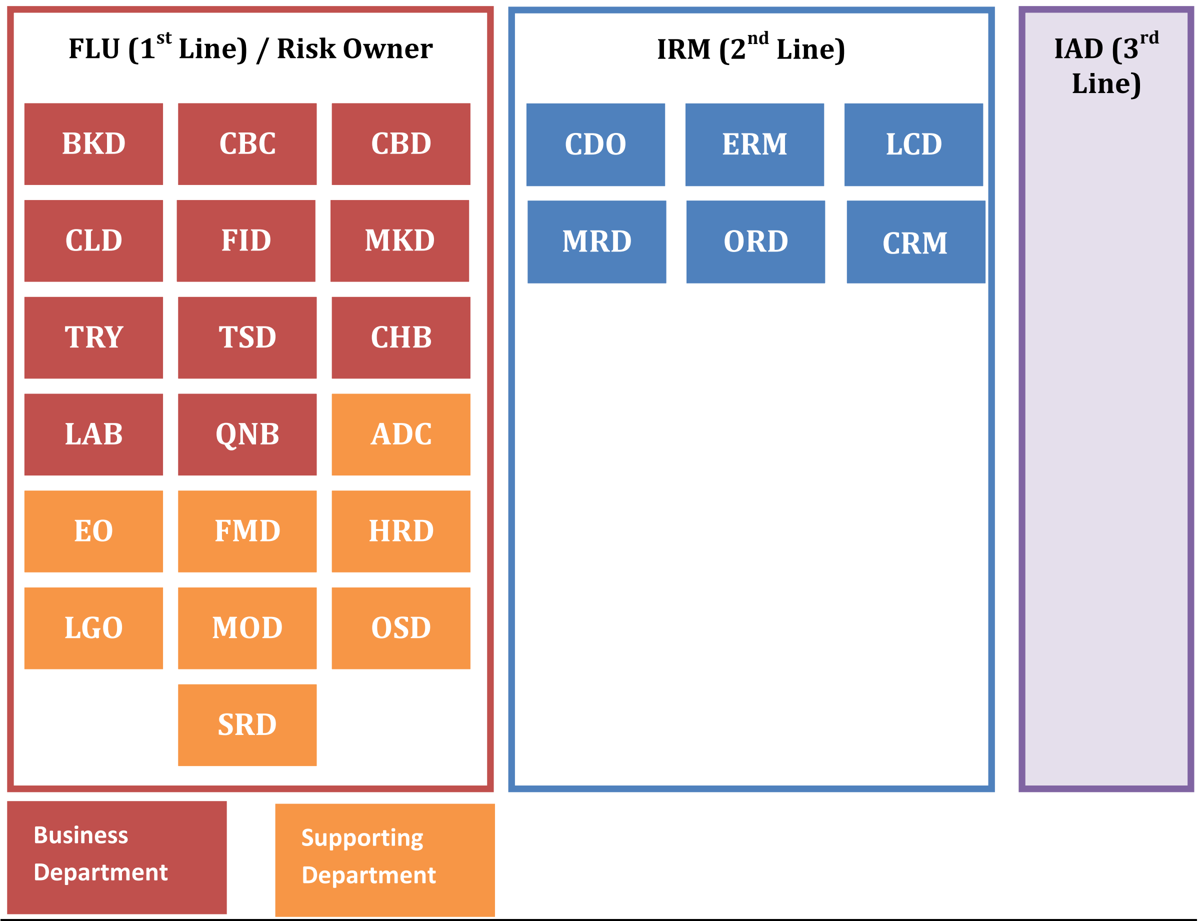

Exhibit 2: BOCNY Three Lines of Defense

3.2.1 First Line of Defense

A fundamental imperative of BOCNY's risk culture is that FLUs own the risk and are accountable for identifying, measuring, monitoring, managing, and reporting the risks associated with their activities. Risk awareness and a sense of accountability for decisions must be integrated throughout the culture of the organization.

Risk awareness and accountability are enhanced and facilitated by the Quality Control Unit ("QCU") that is being established within each BOCNY FLUs. The major responsibilities of QCUs include but are not limited to the following: assisting in identification, assessment, monitoring and reporting of risk issues and Key Risk Indicators ("KRIs"); assisting in business process review and revision; advising and coordinating new product assessments, etc. FLUs' managers, assisted by their QCUs, are empowered to adopt business-level strategies and accept related risks, subject to BOCNY's overall strategic plan, RAS and risk management policies. The Treasury Middle Office Department ("MOD") acts as QCU for Global Markets Department ("MKD") and Treasury ("TRY").

The FLUs are responsible and are held accountable by the Chief Executive Officer ("CEO"), Chief Risk Officer ("CRO"), and the USRMC for assessing appropriately and managing effectively for the risks associated with their activities. In fulfilling this responsibility, each FLU:

- Establishes and adheres to policies and procedures that ensure compliance with applicable laws and regulatory standards;
- Promotes risk culture that encourages an informed, measured, disciplined and balanced approach to risk-taking;
- Evaluates, through the Risk Assessment process described in the RGF, the material risks associated with its activities;
- Establishes and adheres to a set of written procedures that ensures that risks arising from its activities are effectively identified, measured, monitored, managed, and reported, consistent with BOCNY's RAS, processes established within the RGF, and supporting standards and policies established by IRMs;
- Adopts, maintains, and provides feedback to IRMs to continuously improve risk identification and assessment approaches including policies, standards, processes, taxonomies, and rating scales;
- Sponsors new products/services through the established New Activity Risk Management Policy;
- Incorporates the effect of changes in economic and market conditions, legislative and regulatory rulemaking, and competition on the Branch in its business strategy and risk-taking decisions;
- Monitors and reports on its performance against strategic and financial plans;
- Monitors and reports on its controls to identify gaps and prevent, correct, and detect issues; Identifies related action plans to close gaps identified by monitoring, as appropriate;
- Performs ongoing monitoring and testing of clients and third parties;
- Recruits, trains, and retains talent and maintains staffing levels required to carry out its roles and responsibilities effectively as detailed in the RGF; and
- Adheres to compensation and performance management programs that comply with guidelines detailed in the RGF.

Global Markets Department
In addition to the responsibilities outlined above, MKD is responsible for: managing and controlling price risk in the trading book and investment portfolio; executing orders from the Asset Liability Committee ("ALCO"), in conjunction with the Treasury ("TRY"), to control market risk exposures of the banking book.

In order to manage risks in the trading and investment books, MKD has discretion to enter into financial transactions and to buy or sell securities. In these activities, MKD is subject to the risk and position limits established by IRMs. MKD may only enter into transactions on the approved products list, in a manner consistent with its trading mandate. Proprietary trading for the purpose of benefiting from the short-term resale of securities or financial positions is strictly prohibited. Other MKD responsibilities include:

- Proposing market risk limits for the trading book and the investment portfolio under banking book to IRMs;
- Monitoring the interest and exchange rate risks of the investment portfolio under banking book according to the risk management policies of the Branch;
- Monitoring the market liquidity for traded derivatives and other products. The level of structure and formality in the market liquidity risk management process should be commensurate with the Branch's trading activities and level of risk; and

- Executing hedging decision made by ALCO.

Treasury
TRY is responsible for performing risk analysis to support identifying, monitoring, reporting, and managing the market risks in the banking book, in a manner consistent with the RGF. TRY also monitors exposures and risks against the H.O. and Branch limits; owns and maintains the risk system of record for interest rate risk; develops and maintains procedures and assumptions related to these risks; provides reporting on BOCNY's market risk conditions to senior management and ALCO; and proposes hedging strategies to ALCO with regard to interest rate and price risks. Other TRY responsibilities include:

- Evaluating the sensitivity of assets and liabilities with respect to changes in interest rates;
- Developing procedures and adhering to the interest rate risk and price risk management policies;
- Performing analysis of net interest income ("NII") and economic value of equity ("EVE") and their sensitivities under different scenarios;
- Documenting all the key assumptions underlying the analyses and regularly revisiting the assumptions and the scenarios based on changes in the balance sheet for the portfolios and market conditions;
- Documenting procedures for the analyses performed; reporting changes in key assumptions and scenarios; reporting interest rate and price risk analyses to ALCO and the MLRC.

Middle Office Department
MOD is responsible for:

- Coordinating with MKD in proposing market risk limits for the trading book and the investment portfolio;
- Monitoring and reporting the interest rate and price risks of the trading book and the investment portfolio against the established KRIs and limits;
- Investigating and reporting related limit breaches and proposing remedial actions.

CBD, FID, TSD, CBC, LAB, CHB, QND, BKD and other FLUs
FLUs, including those responsible for U.S. Branch operations and other lines of business are responsible for:

- Establishing the departmental level related processes and procedures to comply with the Market Risk Management Policy; and
- Coordinating with MKD and TRY to manage interest rate and price risk exposures in their business lines and providing related information for TRY to consolidate banking book risk exposure and analysis on a timely basis.

3.2.2 Second Line of Defense

Market Risk Management Department ("MRD")
MRD as part of IRMs and the second line of defense, is primarily responsible for establishing and maintaining the market risk management policy and procedures, and overseeing the Branch's market risk management activities. In addition, MRD is responsible for reviewing and presenting reports designed to articulate key market risks to the relevant risk committees and senior management; identifying areas where IRMs' assessment of risk differs from the business units; and reporting instances where the RGF is not being followed. Other responsibilities include, but are not limited to:

- Carrying out the requirements of regulatory authorities, H.O., and BOCNY;
- Challenging the FLUs Risk Assessments and completing overall Risk Assessments that identify and assess the material price and interest rate risks across BOCNY on an aggregate basis;
- Escalating exceptions and/or issues, including early warnings indicators for market illiquidity and other emerging risk issues;
- Monitoring the aggregated price and interest rate risk profiles against the RAS and related KRI thresholds;
- Preparing and submitting market risk reports with risk data and analyses to the RMICC at least quarterly;
- Establishing the Market Risk Management Policy and related procedures and maintaining the Policy for the BOCNY;
- Participating in the risk assessment of new products with respect to market risk;
- Assisting and promoting the establishment of market risk management system.

Enterprise Risk Management Department (ERM)
ERM is responsible for validation of market risk models according to the tier of the models, and also responsible for any model change assessment/validation (e.g. model assumption updates assessment/validation) in accordance to BOCNY Model Risk Management Policy and Procedure, and sharing the assessment/validation results with the model owner and MRD.

Other IRMs
Other IRM departments serve as the second line of defense in varying capacities. For example, the Chief Data Office (“CDO”) is primarily responsible for maintaining and ensuring data quality.

3.2.3 Third Line of Defense

Internal Audit
The Internal Audit Department (“IAD”) is responsible for independently evaluating and assessing the effectiveness of the control environment established by BOCNY management. These responsibilities include:

- Establishing and adhering to audit plans and processes for independently market risk management;
- Performing independent evaluation of the adequacy of the market risk management relative to Heightened Standards and other regulatory requirements;
- Evaluating adequacy of and compliance with policies, procedures, and processes established by FLUs and IRMs;
- Reporting in writing, conclusions, issues, and recommendations to the CEO, Head Office Audit, and USRMC, including root causes analyses and effectiveness of FLUs and IRMs in issue identification; and
- Identifying and communicating to the CEO, Head Office Audit, and USRMC significant instances where FLUs and IRMs are not adhering to the RGF.

4. Policy Statement & Standards

4.1. Policy Statement

BOCNY recognizes that banking and trading activities give rise to market risk exposures. As documented within the RGF, BOCNY has moderate and low appetites for interest rate risk and price risk, respectively; however, BOCNY is prepared to accept such risks provided that they are correctly identified and calculated, properly monitored by the FLUs and IRMs, accurately maintained in accordance with the RGF, appropriately managed in line with approved risk and position limits, and swiftly reported to senior management on a regular basis.

4.2. Market Risk Framework

The Branch has established risk controls for managing market risks arising from its banking and trading activities. The market risk-generating activities include the purchasing and selling of investment securities, entering into derivative transactions for the purpose of managing interest rate and liquidity risks in the banking book, and entering into interest rate swaps, foreign exchange transactions, and other approved transactions for the purpose of customer facilitations. Traded products must be subject to the following standards:

- Risk Identification, Monitoring and Reporting: All traded products must be subject to daily risk monitoring and reporting, including those designed by IRMs to ensure adherence to the Risk Limit Framework. Risk reporting should provide effective and actionable information that informs daily business decision, prompts responses to current and emerging risks, and ensures that the USRMC, RMICC (including its subordinate committee MLRC), CEO, CRO and senior management maintain a comprehensive view of key risks.
- Risk Limit Framework: All trading activities must be managed within risk limits. Limits of RAS and Non-RAS KRIs need to obtain approval from the relevant committee(s). Risk limits must be available by risk type, and by portfolio, or segregated as useful for risk monitoring purposes. All risk limit exceptions must be monitored, identified, and escalated according to the standards set forth within this Policy.
- Product, Model & Data Controls: Traded products must be subject to the controls and monitoring activities designed to protect the integrity of pricing and valuation processes, and the production and reporting of risks. Controls should include Pricing and Valuation, Model Validation, and Data Governance.
- Management Authorization: All traded products must be approved in accordance with the BOCNY New Activity Risk Management Policy and the Approved Products List. MKD is responsible for maintaining the Approved Products List.

4.3. Risk Identification and Classification

Market risk is defined as the risk of adverse changes in market prices (interest rate, exchange rate, equity price, and commodity price) that cause loss to a bank’s on and off-balance-sheet businesses. These risks are defined as per below:

Risk Type	Definition	Risk Management Objective
Interest Rate Risk	Interest rate risk is the current or projected financial condition and resilience arising from	The objective of BOCNY’s interest rate risk management strategy is to ensure the

Risk Type	Definition	Risk Management Objective
	movements in interest rates. It arises from differences between the timing of rate changes and cash flows (repricing risk); from changing rate relationships among yield curves that affect bank activities (basis risk); from changing rate relationships across the spectrum of maturities (yield curve risk); and from interest-rate-related options embedded in bank products (option risk). Changes in interest rates affect earnings and economic value.	impact of interest rate changes on earnings and economic value of the business remain within approved risk limits.
Foreign Exchange ("FX") Risk	FX risk is the potential for loss due to unfavorable or unexpected change in exchange rates. FX exposure primarily results from currency mismatches between assets and liabilities in the banking book.	The objective of BOCNY's foreign exchange management strategy is to hedge exposures as they arise, and maintains exposures within approved foreign exchange risk limits. All residual exposures must be measured, managed and reported.
Equity Risk	Equity risk is the potential for loss due to unfavorable movements in stock prices.	Given the nature of BOCNY's business model, equities are, in general, inappropriate products to manage on the balance sheet. BOCNY does not engage in equity trading or invest in equities for risk and return purposes or in any equity related products (e.g., convertible bonds).
Commodity Price Risk	Commodity risk is the potential for loss due to unfavorable movements in commodity prices.	BOCNY does not engage in commodities trading, however, BOCNY is involved in the precious metals business. The objective of BOCNY's commodity price risk management strategy is to maintain position exposures at zero. Commodity price exposures must be measured, managed and reported.

The classification of the trading and banking books is the precondition and basis of market risk management. According to BOCNY'S actual business situation, the positions to be incorporated in the trading book include the positions of market making and hedging. The other operations of BOCNY should be in the banking book accordingly.

4.4. Sources of Market Risk (Trading Book and Banking Book)

BOCNY is exposed to market risk primarily from the facilitation of customer transactions in interest rate derivatives and foreign exchange, and related hedging activities (Trading Book), permissible investment activities and from assets and liabilities (Banking Book) that are exposed to interest rates, credit spreads, and foreign exchange rates. BOCNY does not engage in proprietary trading.

Trading Book
Primary exposures of the trading book come from foreign exchange products, interest rate products and precious metals. Foreign exchange products include FX spots, forwards, and swaps. Primary risk factors of foreign exchange products include market move of exchange rates (forward exchange rates and swaps points), which can affect the value of FX positions. This also applies to precious metals business in a similar

way. Interest rate products consist primarily of interest rate swaps with interest rate change being the main market risk factor, which can affect the values of the existing contracts.

Banking Book
Market risks in the banking book arise from Branch banking activities such as providing loans or financing, taking deposits and conducting trade finance for banking customers, as well as bond investments. The market risk in the banking book includes interest rate risk and foreign exchange risks.

BOCNY maintains a bond investment portfolio that has two primary purposes: 1) as a source of liquidity and satisfying regulatory agencies' asset pledge requirements; 2) as a source of yield for the Branch.

Primary market risks in the bond investments include interest rate and price risks. The Branch confines its investments to certain types of low-risk securities, including U.S. Treasury and Agency securities, and other sovereign issues. It can also invest in investment grade corporate bonds and other authorized products. Trading of securities for speculative purposes is strictly prohibited.

BOCNY will fully identify and assess interest rate risk in the banking book before developing new products, changing existing products substantially, exploring new business fields, or carrying new major investment and hedging transactions. BOCNY will also conduct relevant tests before launching bank-wide when necessary.

4.5. Risk Measurement

Risk Metrics and Indicators
In conjunction with IRMs, MKD, MOD, and TRY are responsible for proposing key market risk metrics and risk indicators, which include risk and position limits for each product type and portfolio, and for measuring performance against these metrics. RAS KRIs need to obtain approval from the USRMC, RMICC and the relevant subcommittee; Non-RAS KRIs need to obtain approval from the RMICC and the relevant subcommittee.

Required risk metrics and risk indicators are documented for each of the risk categories, which defined in the RGF. Separately, TRY has its own procedure documents with measurement requirements for interest rate, and price risks in banking book. MOD also produces the Treasury Daily Report for the trading and investment portfolios on a daily basis in order to measure and monitor against key portfolio and produce-level risks.

Measurement of Market Risk in the Trading Book
Management relies upon to measure and monitor the risk metrics in the trading book. These measures include Value-at-Risk ("VaR"), Stress Testing, Risk Factor Sensitivities e.g., Price Value of a Basis Point ("PVBP"), position exposures, and profit and loss ("P&L"). VaR measures the possible loss expected for the portfolio at a given point of time with a certain level of confidence. The VaR calculation is produced by HO system RiskMetrics . The VaR is a historical model conducted daily at a 99% confidence level. P&L and risk reporting are conducted at the portfolio-level, as well as at the individual product level. Portfolio-level reports are produced for the overall trading portfolio as well as for the bond book, investment portfolio,

and the liquidity portfolio. Product-level risk, positions and P&L reports are produced for Foreign Exchanges products, interest rate swaps, and bond types.

Measurement of Market Risk in the Banking Book

The main risks in the Banking Book are interest rate risk and foreign exchange rate risk. The basic tools for the Branch are to measure the interest rate risk exposure through gap analysis, NII, and EVE sensitivity stress testing. As described in the RAS, the Branch is subject to limits on NII at risk over a one-year horizon, as well as EVE at risk.

Repricing Gap Analysis: Management uses an Interest Rate Sensitivity – Repricing Schedule gap management tool to measure interest rate sensitivity. This report defines “gap” as the dollar difference between rate sensitivity between assets and liabilities within a year. The one-year cumulative gap ratio is defined as the ratio of repricing assets and liabilities in the next 12 months following the reported date. Gap analysis will be used as the primary tool to measure or predict the impacts on the NII given different rate shocks. A negative gap during one-year period suggests that more liabilities will be re-priced than assets. Therefore, earnings would tend to decline in a rising interest rate environment; a positive gap suggests that more assets will be re-priced than liabilities, and thus, earnings would tend to decline when rates are falling during one-year period. BOCNY’s goal is to maintain an acceptable range of earnings through the gap management for potential changes in interest rates.

NII Analysis: NII sensitivity analysis is based on the net accrual (undiscounted) from the assets, liabilities, and off-balance sheet items for a specified period, typically the next 12 months. The NII sensitivity analysis measures estimated changes to net interest earnings given various interest rate movements, and this incorporates anticipated changes in growth of the balance sheet, pricing of various products, and behavioral assumptions on mortgage based assets and deposits. The Bank also performs the unparalleled shock scenario test periodically to assess the impact on NII to better monitor the interest rate risk arising from yield curve shift.

EVE Analysis: EVE sensitivity analysis measures the change in the net economic value of assets over liabilities for the given rate shocks relative to the equity base. EVE analysis is based on the present value of the discounted cash flows from assets, liabilities, and off-balance sheet items. The analysis of EVE assumes a liquidation of the balance sheet as per contractual, amortizing or behavioral features of on and off-balance sheet instruments. In contrast with the NII analysis, which is based on an official forecast over 12 months following the report date, EVE analysis is concerned with the current position of the balance sheet. The limit designed for this metric is contained in the RGF. As with the NII analysis, different shock scenarios are created by shocking the current yield curve in an instantaneous and parallel manner. The Branch is not capitalized separately, so the level of equity is relatively low compared to the size of the Branch’s balance sheet. Hence, the EVE exposure and the volatility of its sensitivity are relatively larger than banks which have a significant shareholders’ equity base. The Bank also performs the unparalleled shock scenario test periodically to assess the impact on EVE to better monitor the interest rate risk arising from yield curve shift.

Stress Testing

Senior management recognizes the importance of on-going identification and manages the risk in order to maintain a sound financial and reputational condition.

In accordance with the RGF, the aggregated levels and types of risk that the Branch are willing to accept in order to achieve its business objectives need to be established, communicated and monitored in accordance with the RAS. The combination of qualitative risk components and quantitative metrics aims to ensure that BOCNY's businesses are carried out in line with the risk appetite established by the USRMC, and to protect BOCNY's liquidity, earnings and reputation in both normal and stressed environments.

An important part of risk management is to understand how the organization may perform in times of stress. Therefore, in order to better comprehend and manage these risks, BOCNY undertakes a range of stress testing activities across the various lines of businesses and risk types. BOCNY utilizes stress testing to determine the alignment with RAS and to inform business decisions.

Within BOCNY, stress testing is a shared responsibility of both the FLU and the IRM groups. Risk awareness and a sense of accountability for decisions must be integrated throughout the culture of the organization. In addition, the IRMs are responsible for working with FLUs to establish and maintain appropriate risk tolerance limits, guidelines, policies, procedures with monitoring, measurements, and reporting systems to provide tools to facilitate risk management activities, including a framework for stress testing.

Scenarios are developed and utilized by FLUs and IRMs to execute the periodic stress tests including NII and EVE, trading stressed loss, investment portfolio stressed loss and other key risks across various time horizons commensurate with the Branch's risk profile and business activities, as deemed appropriate for the specific testing to be completed.

The results of the stress tests are periodically reported to executive management who use this information to perform BOCNY risk management activities.

4.6. Risk Reporting and Monitoring

FLU is responsible for measuring market risks in the trading book and bond investment portfolio. MOD produces P&L and Treasury Daily Report on a daily basis according to system data. The daily report should cover trading desks' operations of the branch, key risk events, limit usage, trading strategy, authorization adjustment, risk exposure, stress testing and scenario analysis, etc.

TRY is responsible for measuring price and interest rate risks in the Banking Book and produces NII and EVE analyses, which monitors the IRR limits set by USRMC and H.O. Then, they report Branch-level exposures in ALCO and MLRC.

MRD is responsible for providing market risk reports to RMICC and USRMC highlighting the nature and levels of risk taken, and assessing compliance with approved policies and limits. Reports should include summary risk metrics and qualitative assessments of market risk at the portfolio level as well as for each major product or risk type. MRD should also provide reporting on the quality of risk controls, including limit exceptions, address any significant individual exposures, identify any decisions to be made, and address any lessons learned.

Both FLUs and IRMs should set up their reporting procedures and processes in consistent with the RGF. The types of reports can be classified into two groups, regular reports and ad hoc reports. Regular reports are the reports made on a regular basis for market risk monitoring and management, which provide information on the status of market risk of the Branch. Ad hoc reports are non-regular reporting presented to the different levels of management as events or issues in the day-to-day business warrant. Both FLUs and IRMs should define their responsibilities in fulfilling their duties of reporting with the respect to market risk and the types of report each unit/department should produce.

FLUs and IRMs are responsible and subject to risk management review to ensure the integrity, completeness and accuracy of the risk reporting decks.

4.7. Risk Limits and Controls

The primary risk limits that BOCNY maintains for the trading and banking books are derived from those outlined in the RGF. BOCNY also maintains certain sub-limits for the trading book and Investment Portfolio. All RAS and Non-RAS KRI limits need to obtain approval from the relevant committees, and are subject to annual review and approval (or more frequently if deemed necessary) by the relevant committees. It is also based upon market conditions, the Branch's risk profile and other factors. Risk limits are subject to limit monitoring, reporting and escalation processes as defined within the 'Risk Limit Monitoring, Reporting and Escalation Process' section.

As part of the annual review, KRI owner (and relevant committee(s) if necessary) should consider whether the existing limits are appropriate given the size and scope of activities, risk appetites, bank strategies, market conditions, and any other internal or external factors that could affect the expected earnings or capital availability for BOCNY.

Risk limit reports are subject to ongoing monitoring, which is coordinated among MKD, TRY, and MOD, with independent monitoring by MRD. All limits are subject to exception and escalation processes.

Trading Book
The main metric used to measure price risks for the trading book is the Trading Book Daily VaR. MOD produces desk-level risk metrics, limits, and daily trading VaR on a daily basis.

Branch-Wide Price Risk Metrics and Limits

Metric Name	Warning Line	Limit
Price Risk in the Trading Book – Daily VaR covering all Trading Books	$120,000	$150,000

Price Risk Metrics and Limits for RMB Clearing Bank Role Bank
BOCNY is designated by People's Bank of China as the RMB clearing bank in USA. To fulfill this role, the Bank establishes dedicated book for clearing bank role and also conducts authorized market making activities for participating bank. The Bank maintains the following desk-level risk limits to fulfill the designated RMB clearing bank role.

Metric Name	Warning Line	**Limit**
RMB Clearing Bank Exposure (CNH & CNY)	￥8,000,000	￥10,000,000
RMB Participant Bank Exposure (CNH & CNY)	￥8,000,000	￥10,000,000

Trading Book Price Risk Metrics and Limits

Metric Name	Warning Line	Limit

Foreign Currency Exposure	$1,600,000	$2,000,000
PVBP	$4,000	$5,000
Daily Trading Portfolio Stop-Loss	$120,000	$150,000
Monthly Trading Portfolio Stop-Loss	$160,000	$200,000
Yearly Trading Portfolio Stop-Loss	$240,000	$300,000

Banking Book

The two metrics that measure price risk are the ratio of Total Fair Value of Trading Assets as a Percentage of Total Assets and the Foreign Exchange Exposure.

Branch-Wide Price Risk Metrics and Limits

Metric Name	Warning Line	Limit
Consolidated View (Trading Book and Banking Book) of Price Risk – Total fair value of assets as a percentage of total assets	10%	12%
Foreign Exchange Exposure (Trading Book and Banking Book)	$6,000,000	$8,000,000

The two metrics that measure interest rate risk are NII and EVE sensitivity under a +200 bps shock.

Branch-Wide Interest Rate Risk Metrics and Limits

Metric Name	Warning Line	Limit
Net Interest Income at Risk[1] (+/- 200 bp instantaneous shock)	15%	20%
Economic Value at Risk (+200 bp instantaneous and parallel shock)	$280,000,000	$350,000,000

The Bank uses financial derivatives to hedge interest rate risk and FX risk in its banking book. Financial derivatives are designated as hedging instruments, so that the changes in the fair value or cash flows of hedging instruments are projected to offset the changes in the fair value or cash flows of the hedged items in whole or in part.

Bond Investment Portfolio

Bond investments are governed by the established objectives, approved instruments, limits, and other key controls designed to ensure compliance with BOCNY policies and procedures, and applicable laws and regulations. The Branch identifies key limits and related controls to market risk management for the Bond Investments.

Bond Investments Risk Metrics and Limits

Metric Name	Warning Line	Limit
Stress Testing Limit (+200 bp shock)	$208,000,000	$260,000,000
Credit Bond Stress Testing Limit(+200 bp shock)	$32,000,000	$40,000,000

[1] Defined as the absolute value of (NII for 200 bps shock – NII for Base Case)/NII for Base Case.

The Investment Book is also subject to controls on the classification of securities. BOCNY adheres to U.S. GAAP ("Generally Accepted Accounting Principles") in the classification of investment securities. All investments in debt securities are classified in one of three categories and accounted for as follows:

- Debt securities that the Branch has the positive intent and ability to hold to maturity are classified as "Held-to-Maturity Securities" and reported at amortized cost;
- Debt securities that are purchased and held principally for the purpose of selling them in the near term are classified as "Trading Securities" and reported at fair value, with unrealized gains and losses included in earnings; and
- Debt securities that are not classified as either held-to-maturity securities or trading securities are classified as "Available-for-Sale Securities" and reported at fair value, with unrealized gains and losses excluded from earnings.

The original classification decision should be reasonable under the circumstances at the time the decision is taken and should be followed, unless there is a significant reason for a change in classification. If a classification change is required, the originating department will submit a formal proposal to the ALCO for approval, and the event should be reported to the H.O. immediately, with a clear description for the change and the underlying reasons.

MKD is responsible for classification and monitoring of investments, and ensuring compliance with the Branch's policies, procedures, and risk limits. MOD assists in calculating the risk exposure and monitoring the risk limits. ALCO is responsible for overseeing the management of BOCNY's investment portfolio. MRD is responsible for monitoring the investment portfolio for market risks, including potential liquidity concerns in the market, and for monitoring and reporting on investment portfolio exposures against approved risk limits.

The Bank is required by the U.S. GAAP to determine whether declines in the fair value below the amortized cost basis (i.e., impairments) of AFS securities are other-than-temporary-impaired (OTTI). The Bank performs the OTTI evaluation of AFS securities on a regular basis.

Risk Limit Monitoring, Reporting and Escalation Process

The risk limit management process for Market Risk of BOCNY is mostly defined in the Bank of China US Branches Key Risk Indicator Procedure, and this Policy should follow the processes defined therein. In addition, the monitoring of market risk of BOCNY usually includes the following processes:

- RAS and Non-RAS KRI Limit proposal and approval:
    1) The CRO, IRM and FLUs can propose changes to RAS KRIs. Changes proposed by FLUs must be endorsed by IRM (within 10 business days). All changes must be presented by the IRM to the RMICC for approval and then presented to the USRMC by the CRO for final approval. The CRO is responsible for informing the Board of any major changes to the KRIs as part of the approval process. The rationale for the proposed changes should include an explanation of the need for the new or revised RAS KRI, the rationale to remove the KRI, the reasoning for the proposed new warning line and limit where applicable and the impact on the Branch's ability to manage risk.
    2) Individual departments can propose changes (addition, modification or removal) to the Non-RAS KRIs specific to their departments, business lines or risk area. Non-RAS KRI changes require endorsement by IRM (within 10 business days) and approval by relevant RMICC

subcommittee before submitting to RMICC for final approval. The rationale for the proposed change should be same with RAS KRIS.

- Limit monitoring and reporting: Once the limits have been approved, they should be strictly enforced and closely monitored and reported by both the FLUs and IRMs.
  1) IRM should submit RAS KRI information to the RMICC and the USRMC quarterly. Additionally, IRM should report RAS KRIs to their respective RMICC Subcommittees according to the monitoring frequency documented in the KRI Inventory.
  2) KRI owners should report Non-RAS KRIs to their respective RMICC Subcommittees according to the monitoring frequency documented in the KRI Inventory.
- Warning Line breach escalation: Upon breaching the warning line of a RAS and Non-RAS KRI, relevant parties should monitor closely, discuss the root cause, and evaluate its potential long-term impact.
- Limit breach escalation: Limit breaches must trigger timely actions.
  1) For the RAS KRI, the KRI owner is responsible for working with relevant IRM and FLUs to provide a written explanation of the breach. The written explanation, the KRI Limit Breach Escalation Memo, should be submitted to USRMC Secretariat in within 15 business days after the breach is identified. Relevant RMICC subcommittees and RMICC should also be notified. If the memo cannot be completed on time, KRI owners can submit request to CRO for exceptional approval of additional time. The rationale and a reasonable timeline should be provided in this process.
  2) For the Non-RAS KRI, the KRI Limit Breach Escalation Memo, should be submitted to RMICC Secretariat in within 20 business days after the breach is identified. Relevant RMICC subcommittees should also be notified.

- Level C[2] Market Risk Limit review: MRD should review Level C Market Risk limit significant adjustments in the following circumstances:

  1) The Level C limit has been adjusted more than 50% ;
  2) The risk limit has been adjusted three times and adjustments accumulatively exceed 100% ;
  3) The risk limit has been adjusted three times in one month.

  At the same time, Middle Office shall submit the application for risk limit adjustment and the risk analysis to MRD. MRD shall independently review the adjustment application materials, and provide feedback within 3 business days. MRD shall request supplementary materials if materials are not sufficient.
  After obtain Head Office's approval of the limit change, the related KRI also need to be modified. The modification process will follow the Bank of China US Branches Key Risk Indicator Procedure.

To demonstrate fluidity between the lines of defense, MRD will be constantly collaborating with FLUs. FLUs should conduct risk limits evaluation at least every half year. These situations include but are not limited to changes in:

[2] Per Head Office practice and requirement, the trading business market risk limit framework maintains the existing, Level A, B, and C, three-level structure. Level C limit is within the scope of authorization by relevant business departments and regional trading centers. According to business management and risk control requirements, the trading desk is responsible for limit decomposition and transmission.

- Business volume;
- Business goals;
- Market conditions; and
- New business development.

The evaluation mechanism should be triggered when risk limit utilization continues to be too high or too low.

Controls

In order to separate risk management and business operation to establish a check-and-balance mechanism, FLUs and IRMs are obligated to set up and maintain an effective internal control mechanism to ensure that the market risk management and information source are independent. The internal control mechanism shall be subject to inspection for internal audit. Internal audit results shall be used as an important reference for evaluating the effectiveness of market risk management. The internal control mechanism shall include but not limited to the following factors:

- Segregation of duties;
- Independent transaction confirmation procedures;
- Independent review and evaluation of books/positions;
- Independent risk control in front, middle, and back office; and
- Separate risk monitoring and reporting lines.

Product Control Framework

BOCNY maintains policies, procedures, and controls designed to protect the integrity of pricing and valuation processes, and for the production of and reporting on risks associated with approved trading and investment products, including foreign exchange products, securities investments, interest rate swaps, and cross currency swaps. Key assurance elements include the establishment of well-defined roles and responsibilities, segregation of responsibilities among the three lines of defense, and the establishment of controls, reports, governance and oversights to ensure effective management and maintenance of the product control framework.

Key elements of the Product Control Framework include:

- Pricing and Valuation Controls;
- Model Validation Controls; and
- Data Governance Controls.

Pricing and Valuation Controls

The Procedure for the Valuation of Financial Instruments describes the processes and controls for the pricing and valuation of approved products. The process establishes segregated responsibilities and prohibits FLUs from directly influencing prices and risk data used to produce control reports. Key roles and responsibilities are as follows:

- MKD is responsible for following the New Activity Risk Management Policy and coordinates with middle and back-office functions with respect to the pricing and valuation of new products. On an ongoing basis, MKD is responsible for assessing the valuation result of financial instruments.
- FMD is responsible for providing accounting treatment guidance on valuation to ensure that the valuation processes comply with accounting principles. FMD also supports accounting treatment and guidelines for new products.
- MOD is responsible for obtaining all the prices and rates the appropriate valuation and pricing of approved trading and investment products. MOD executes controls and submits reports to the Head Office, senior management, and related IRMs of BOCNY.
- The Operation Service Department ("OSD") is responsible for executing data controls, reconciling their own data with the front office and middle office data, and cooperating with the relevant departments on investigating and resolving any discrepancies.
- MRD is responsible for overseeing and monitoring pricing and valuation control reports, and for assessing potential market or liquidity risks that may be associated with trading and investment products.
- MRD is also responsible for coordinating with MKD, MOD, and TRY to identify potential risks, and to report and escalate IRMs management, MLRC, and RMICC if any potential variances with BOCNY Risk Appetite Framework to IRMs management.

Model Validation Controls

BOCNY relies upon models to price and measure market risk. The models vary in terms of sophistication, from basic discounted cash flow models to more complex models used to assess risk exposures across a range of economic assumptions. The use of models is to price and measure risk results in model risk[3].In light of this, it is important to have a validation process in place that is independent from the model development process.

The BOCNY Model Risk Management Policy and Procedure details the standards, assurance methods, governance processes, and roles and responsibilities for model risk management. Key control element include but not limited to.an independent model validation process which covers review and assessment from eight different perspectives[4] around a model. ERM is responsible independent model validation and relevant model risk governance activities.

Data Governance Controls

The Data Governance Policy describes policy requirements and related controls that are designed to ensure the integrity of these processes and infrastructure. This will also capture and aggregate risk data enabling the Branch to measure and report on its risk profile, risk data and reporting of material risks, concentrations, and emerging risks. Key roles and responsibilities within this policy include the following:

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[3] Model risk defined as the possibility of financial loss, incorrect business decisions, misstatement of external financial disclosures, or damage to BOCNY's reputation arising from errors in the model outputs, and/or misapplication of models or model outputs
[4] Model validation scope covers following eight components: 1. Model Documentation; 2. Business Purpose and Model Use; 3. Model Input; 4. Model Assumption and Limitation; 5. Conceptual Soundness; 6. Reasonableness of Model Output; 7. Model Implementation and Operational Control; 8. Model Performance and Ongoing Monitoring

- The CDO is responsible for maintaining data management program by developing and managing the risk aggregation framework, standards for both in-house and outsourced risk data processes, and effectiveness of the control processes are in place to protect the integrity of data. Controls the policy include self-assessments, attestations, independent data validation, reconciliation, and internal audit reviews.
- FLUs and IRMs are responsible for maintaining an effective control environment and supporting the Policy requirements: adhering to the Policy at all times, providing ongoing data quality monitoring for completeness, timeliness, and accuracy, adhering to issue escalation protocols, working in coordination with the CDO in the identification and remediation of identified issues, adhering to End User Computing ("EUC") controls requirements, and performing other controls and support functions as deemed appropriate by IRMs.
- FLUs are in charge of the implementation of data quality management requirements via business perspectives, as well as the implementation of business data quality controls related market risk management. They assess data quality problems via business perspectives in accordance with data principles including the authenticity, integrity, accuracy, and timeliness of the data. FLUs also ensure that the data elements meet and reflect the data requirements of external regulations and internal management during the development of new products or new systems. FLUs will submit reports on a timely basis about critical data and quality incidents to the CDO.

In the context of this Policy, TRY, MKD, and MOD are responsible FLUs adhering to the Data Governance Policy in the management and reporting of market risks for conducting ongoing monitoring of all data and market prices, and escalating issues when identified. MRD is responsible for overseeing and monitoring market risk reports in collaboration with the CDO, which include data reconciliations, adjustments, exception reports, self-assessments, independent validation, and working with the FLUs to identify, assess, and escalate potential data issues related with market risk management to the appropriate risk committees.

New Products

The BOCNY New Activity Risk Management Policy establishes standards for managing risks, and identifying, assessing, controlling, monitoring, reporting, and escalating risks associated with the introduction of new products and modifications to existing products at the Branch. The policy also identifies roles and responsibilities for the three lines of defense and ensures appropriate levels of oversight by the IRMs into the new products approval and the whole life cycle process.

MRD is responsible for reviewing the market risk assessment of all new products submitted by FLUs and independently assessing the adequacy of market risk controls and the impact of the new products on the Branch's market risk profile. MRD also provides information for ORD to consolidate and reports to ORC, RMICC, and USRMC that identify and describe any material aggregated risks of new products and any instances where IRM's risk assessment differs from the FLUs, and raises any concerns where new products may deviate from the RGF. IRMs act as a gatekeeper within the new products process and have the authorities to disapprove a new product based upon the adequacy and efficacy of risk controls.

5. Policy Assurance Methods

5.1. Implementation Plan

Policy implementation is the responsibilities of the first, second, and third lines of defense as outlined in the Policy Governance section.

5.2. Related Procedures

- MRD Market Risk Management Oversight Procedures
- TRY Liquidity Buffer Management Procedure
- MOD Risk Reporting Procedures
- TRY IRR Analysis and Reporting Procedures
- Financial Instruments Valuation Procedure
- OTTI Procedure
- Banking Book Hedging Procedure
- Bank of China US Branches Key Risk Indicator Procedure

5.3. Awareness Methods

The Policy will be distributed to key stakeholders via email on an annual basis with key changes summarized. Each recipient will attest to his or her understanding of the policy using an email response, which will be documented by maintained by the Policy Owner. The Policy will also be available in our Policy Library.

5.4. Training Methods

The CRO is responsible for establishing an environment where market risk professionals have sufficient training and technical expertise. MRD, in partnership with Human Resources Department ("HRD"), will provide training on this Policy and their application ad hoc. Or the Head of MRD determines its necessarily to promote full understanding of the Policy.

5.5. Policy Adherence Monitoring

Each applicable department head is responsible for monitoring and assessing the compliance of its procedures with this Policy. This Policy provides for the regular reporting of risk metrics, as outlined in the RGF. Internal Audit will also perform periodic monitoring of compliance through its annual testing program.

5.6. Update Requirements

Along with the annual/periodic update requirement, MRD is responsible for taking a proactive role in ensuring this Policy remains relevant and comprehensive. It is therefore the responsibility of MRD to monitor internal and external circumstances to determine if and when a policy update may be required in accordance with the BOC US Branches Policy on Policies and Procedures.

MRD should communicate with counterparts and key stakeholders within IRMs to ensure that this Policy appropriately considers emerging risks in other risk disciplines, which may impact this policy. This communication may take place through attendance at working groups, subcommittee meetings, and through other informal means of communication.

The Head of MRD will have budget authority for risk management activities related to Market Risk Management, and this will be considered within the annual budgeting process.

5.7. Consequences of Violating the Policy

Failure to comply with this Policy will be escalated to the CRO and in certain circumstances to the USRMC, where appropriate remedial action will be discussed.
Violations are neither tolerated nor condoned. As a primary objective furtherance of BOCNY's interest in preventing violations, any violations of the Policy are subject to disciplinary actions, depending on the circumstances of the particularity.

5.8. Exceptions & Exemptions

The exception approval process contained in this policy aligns with the requirements described in BOCNY's Policy on Risk Policies. Exceptions to this policy must be justified in writing, be presented to the Head of MRD (or his/her delegate), and will require the approval of MLRC. The decision to grant a policy exception should be documented along with a discussion of the business reasons for the exception.

Documentation on requests and approvals for exceptions to Risk Policies must include, at a minimum:

- The nature of the exception requested;
- The individual or group that is requesting the exception;
- Incremental risk exposure (in frequency and amount when applicable);
- The time period during which the exception is effective;
- The business reasons for granting the exception;
- Mitigating factors; and
- Planned remediation and closure of the exception, if an effective period is provided.

Responsibility for tracking policy exceptions, including maintaining an exception log, and documenting all the follow-up actions and the resolution of all identified issues, is owned by the business unit requesting the exceptions. Exceptions to Risk Policies will then be consolidated by MRD and levels and trends of exceptions will be reported to the RMICC on a quarterly basis.

6. Reference Information

6.1. External Regulations

Below is a list of the applicable regulations. Please note that this list is not designed to be exhaustive or comprehensive.

- Office of the Comptroller of the Currency, *Large Bank Supervision: Comptroller's Handbook*, (Sep. 2019)
- Office of the Comptroller of the Currency, OCC Guidelines Establishing Heightened Standards for Certain Large Insured National Banks, Insured Federal Savings Associations, and Insured Federal Branches; Integration of Regulations (Final Rule), (Sep. 2014)
- Board of Governors of the Federal Reserve System, *Advisory on Interest Rate Risk Management,* (Jan, 2010)
- Board of Governors of the Federal Reserve System, *Questions and Answers on Interagency Advisory on Interest Rate Risk Management, (*(Jan, 2012)
- Board of Governors of the Federal Reserve System*, Risk-Based Capital Guidelines; Market Risk,* (Dec. 2013)

6.2. Other Related Branch Policies, Procedures, and/or Guidance

Refer to Sections 1.2 Related Policies and 5.2 Related Procedures for the related BOCNY documents.

6.3. Glossary

Abbreviation	Name
ALCO	Asset Liability Management Committee
BOCNY	Bank of China USA (New York Branch and its satellite branches)
CBC	Commodity Business Center
CBD	Corporate Banking Department
CDO	Chief Data Officer
CRO	Chief Risk Officer
ERM	Enterprise Risk Management Department
EUC	End User Computing
EVE	Economic Value of Equity
FLU	Front Line Units
TRY	Treasury
FMD	Financial Management Department
HRD	Human Resource Department
IAD	Internal Audit Department
IRM	Independent Risk Management
MLRC	Market and Liquidity Risk Committee
MOD	Middle Office Department
MRD	Market Risk Management Department
NII	Net Interest Income

ORC	Operational Risk Committee
ORD	Operational Risk Management Department
OSD	Operation Service Department
RGF	Risk Governance Framework
RMB	RenMinBi (Chinese Currency) or CNY / CNH
CRM	Credit Risk Management Department
RMICC	Risk Management and Internal Control Committee
MKD	Global Markets Department
TSD	Trade Services Department
USRMC	U.S. Risk and Management Committee