# Bank of China USA

# Financial Instruments Valuation Procedure

## Market Risk Management Department

# December 2020

| Version | Date Changes Made | Author | Description of Changes |
|---------|-------------------|--------|------------------------|
| V1.0 | June 2016 | MKD, MOD, OSD, FMD | Procedure Initiation |
| V2.0 | April 2017 | MRD | Formatted and Updated |
| V2.0 | May 2018 | MRD | Reviewed but No Change |
| V3.0 | July 2019 | MRD | Updated |
| V4.0 | December 2020 | MRD | Updated process changes |

| Identifying Information | |
|------------------------|--|
| Title | Financial Instruments Valuation Procedure |
| Procedure Owner | MRD |
| Contact Information | Shuwen Huang |
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## Contents

# 1. Executive Summary

In accordance with the Valuation Policy of Financial Instrument Fair Values of Bank of China Limited, Bank of China New York Branch establishes and implements the following procedure for global markets and treasury products regarding valuation and verification of the prices.

## 1.1. Rationale

The purpose of the procedure is to set out guidance for establishing and maintaining adequate governance structure and control processes for global markets and treasury products valuation, and to define the essential principles, management framework and working procedure in valuation process.

## 1.2. Related Policies & Procedures

The following policies and procedures provide the governance, guidelines and references to this procedure.

- BOCNY Market Risk Management Policy
- BOCNY Model Risk Management Policy
- BOCNY Data Governance Policy
- BOCNY Policy on Policies and Procedures
- BOCNY Volcker Compliance Program
- BOCNY Accounting Treatment Handbook

# 2. The Scope

The policy applies to the following treasury products with fair value accounting treatment:

- Foreign exchange products including FX Spot, FX Forward and FX Swap
- Securities investment
- Interest rate swaps(IRS) and cross currency swaps(CCS)

Financial instrument valuation shall comply with the following principles:

- **Matching.** Governance structure and control processes shall be commensurate with the importance and complexity of the financial instrument;
- **Consistency.** Consistency methods shall be used to the same or similar transactions taken in different dates. Optional changes shall not be allowed, and if necessary, adequate assessment shall be made and relevant information shall be disclosed in financial reports;
- **Prudence.** Fair value recognition and measurement shall be made with sufficient prudence, with valuation gains not overestimated and valuation losses not underestimated;
- **Adequate disclosure.** Fair value information shall be disclosed adequately by considering the character, importance and complexity of the financial instrument.

# 3. Roles & Responsibilities

## 3.1. Procedure Governance

The procedure is approved by Market and Liquidity Risk Committee (MLRC) and any material changes shall also be approved by MLRC and its material changes shall obtain the Bank's Market and Liquidity Risk Committee approval. This procedure shall be periodically reviewed and updated annually or when necessary to timely reflect the material changes in the related policies and procedures, product and system changes, and the risk management practice.

## 3.2. Procedure Implementation

FMD, MKD, MOD, OSD, ERM and MRD's employees are responsible for implementing this procedure.

**Financial Management Department (FMD)**
- Supplies accounting support to the new products (Open New Category, Mapping with H.O. Code, etc.);
- Prepares monthly financial statements and P&L analysis.

**Global Markets Department (MKD)**
- Informs FMD, MOD, OSD and MRD on a timely basis before developing or investing in a new product, and assists to assess the valuation capacity and methods;
- Discusses with MOD and OSD when the variance exceeds the threshold.

**Treasury Middle Office Department (MOD)**
- Setups and adjusts the pricing source in the system per approval;
- Submits risk monitoring reports to H.O. and the management of BOCNY as an independent source of management information by revealing risks and exposures of the global markets and treasury businesses.
- Compares security prices between OPICS (Bloomberg price) and Reuters on an annually basis.

**Operational Service Department (OSD)**
- Cooperates with the relevant departments to investigate and solve the data difference;
- Produces Treasury Business Daily P&L Summary Report
- Obtains credit valuation adjustment (CVA) from Bloomberg per methodology provided by MRD on the last business day of each month.
- Compares prices between OPICS and Bloomberg for foreign exchange products, securities and IRS/CCS on a monthly basis

**Enterprise Risk Management Department (ERM)**
- Responsible for pricing model validation

**Market Risk Management Department ("MRD")**

- Oversights the financial instruments valuation processes and conducts annual review of financial instruments valuation procedure.
- Reviews the month-end CVA results provided by OSD, and then provides the review comments.

# 4. Procedure Instructions

## 4.1. Valuation and Pricing Principles

- Ensures proper segregation of duties between risk-takers and control personnel, including the independent input and verification of market rates;
- Consistently use pricing methods and assumptions about pricing factors to ensure accurate financial reporting and consistent evaluations of price risk;
- Effectively explains the profit and loss by breaking down trading results into their various components;
- Adopts the most conservative approach for the portfolio with all trades in one direction (either long only or short only), such as the bid for long positions and the offer for short positions. The Bank uses the bid prices for the treasury investment securities, which have long positions only;
- For the portfolios with two-way (long and short) positions, the Bank typically values transactions at mid-market less valuation adjustments.

## 4.2. Overall Process Flowchart
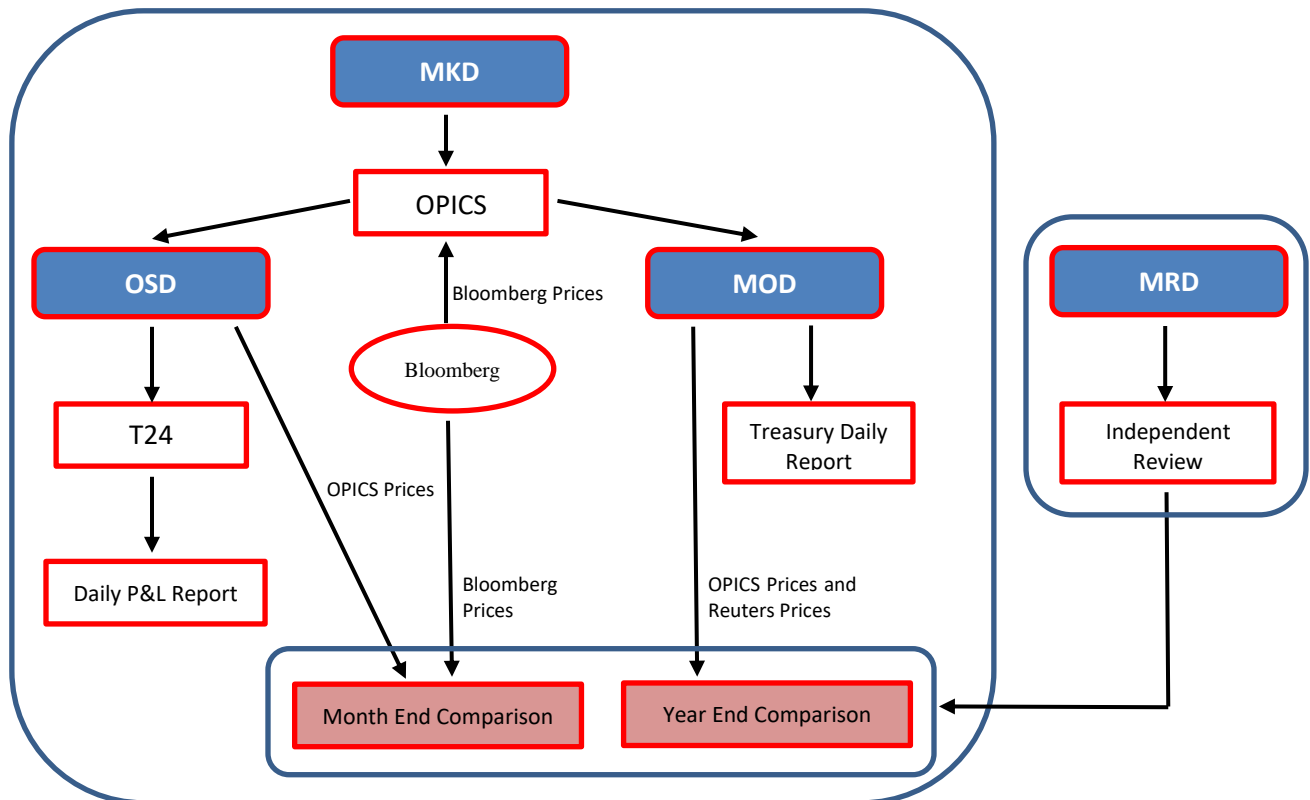
## 4.3.    Middle Office Valuation Process

- MOD configures system settings such as curves and market data sources in OPICS, which will automatically obtain price and rate information from Bloomberg on each business day, and revalue the instruments, including FX Spot /Forward/Swaps, Security Investments, and IRS/CCS;
- MOD prepares the daily report and sends it to the Branch's management and related departments;
- At the end of year, MOD will work with MKD and OSD to compare the invested securities' prices on OPICS (which will automatically obtain from Bloomberg) with other market price platform (i.e. Reuters). For any valuation difference greater than the threshold of 5%, MOD will conduct further investigation, and circulate to MKD and OSD, and report to MRD for independent review.

## 4.4.    Operation Service Department Valuation Process

- OPICS system revalues outstanding foreign exchange deals by an imbedded module of OPICS system. Spot rates are applied to outstanding spot deals. Corresponding forward rate are applied to a particular outstanding forward deal in accordance with the number of its remaining days. OPICS system creates account entries of valuation gain and loss of outstanding FX deals by night batch which will be posted to accounts in T24 system via an interface.
- OPICS runs valuation of securities every day and posts account entries of gain and loss to T24 via an interface. OSD shall review the valuation report of securities inventories of previous day (STBRPT) every morning. In case that an error is detected, OSD shall notify Treasury department immediately, so they can make necessary adjustments in the accounting reports;
- OPICS runs valuation of IRS and CCS every day and posts account entries of gain and loss to T24 via an interface. OSD obtains credit valuation adjustment (CVA) of IRS from Bloomberg on the last business day of each month and sends to MRD for independent review
- OSD produces the daily P/L summary report for treasury business and distributes the report to MKD, FMD, MOD and MRD.
- OSD performs OPICS vs. Bloomberg revaluation reconciliation for variance as control to ensure data accuracy and constraint operation risk for each month-end. For any valuation difference greater than the threshold (FX rates 1%, Securities' Prices 5% and IRS MTM difference/notional 1%), OSD will conduct further investigation (work with MOD and ADC for system setting issues) and report the root cause to related departments.

## 4.5.    Financial Management Department Related P&L Reporting Process

- Analyzes monthly P&L, including interest income and expense, commission income and expense, trading income, operating expense, etc. and major changes of P&L items;
- Collects summarized data from T24 system, monthly IRS revaluation data and trading book YTD P&L information;
- Compares and analyzes P&L related data about IRS for FMV loans, including FMV loans' revaluation, IRS interest income and expense.

### 4.6.    Market Risk Management Department Process

- MRD requests the CVA results from OSD on their month-end valuation;
- MRD conducts the independent review and issues its review comments to MKD, MOD and OSD;
- MRD will conduct further investigation with OSD and report the root cause for any material difference.
- MRD will document the pricing methodology agreed and related valuation adjustment methodology such as CVA methodology if applicable.

# 5.  Procedure Assurance Methods

### 5.1.    Awareness Methods

Individuals must be aware of the existence and the requirements of this procedure. Accepted awareness methods can include, but are not limited to, e-mail notifications, user attestations, or target awareness programs such as training, self-study, annual review, and etc. Awareness and training methods may be delivered together.

### 5.2.    Training Methods

Individual is provided with training materials on the requirements and the scope of the procedure. The training includes new hires' training on the procedures, and also ad hoc training program combined with review and update of the procedures.

### 5.3.    Procedure Adherence Monitoring

MRD will review the procedure on at least every three years or when necessary to enhance the process based on business needs with the help of FMD, MKD, MOD and OSD. By leveraging relative departments' recommendations, MRD will list the suggestions in the procedure for management and committee approvals.

### 5.4.    Update Requirements

All procedures must be reviewed in case of potential updates or approval on an ad hoc when needed basis and at least every three years. The procedures may require more frequent reviews and updates until they mature.

### 5.5.    Consequences of Violating the Procedure

The potential consequences of violating the procedure include oral warnings, performance rating downgrade and warning of compensation impact based on HR related policy and guidelines.

### 5.6.    Exceptions & Exemptions

Exceptions and exemptions to a procedure must be managed under the exception framework established in the associated policy.

# 6. Reference Information

## 6.1. External Regulations

- Risk Management of Financial Derivatives, Comptroller's Handbook, OCC 2012
- Large Bank Supervision, Comptroller's Handbook, OCC 2015

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

N/A

## 6.3. Frequently Asked Question

N/A

## 6.4. Glossary

**N/A**

# 7. Appendix

None