Interest Rate Risk Management

Guidance paper for Interest Rate Risk Management by virtue of Section 13, paragraph 1 of the State Ordinance on the Supervision of the Credit System (AB 1998 no. 16) (SOSCS) for credit institutions licensed by the Central Bank of Aruba.

1. Introduction

The purpose of this guidance paper is to provide the credit institutions with guidelines to establish an adequate interest rate risk management policy that effectively identifies, measures, monitors and controls interest rate risk exposures and that is subject to appropriate board and senior management oversight. This guidance paper is essentially based on the Principles for the management of interest rate risk as issued by the Basle Committee on Banking Supervision in September 1997.

Interest rate risk is the potentially adverse effect of future movements in interest rates on a credit institution's financial condition. Such movements may affect a credit institution's earnings by changing its net interest income, the level of other interest sensitive income and operating expenses. Furthermore, they affect the underlying value of the institution's assets, liabilities and off-balance sheet items (underlying economic value), because the present value of future cash flows changes when interest rates change. Accepting interest rate risk is one of the functions of financial intermediation. However, excessive interest rate positions can turn out badly for the institution concerned and negatively affect its profit and own funds position.

2. Sources of interest rate risk

There are four primary sources of interest rate risk to which credit institutions are typically exposed:

1. Repricing Risk

This risk arises from timing differences in the maturity (for fixed rate) and repricing (for floating rate) of the institution's assets, liabilities and off-balance sheet positions.

2. Yield Curve Risk

This type of risk arises when there is a non-parallel shift in the yield curve. E.g. if the increase in the short term interest rate is higher then the long term interest rate or if the short term interest rate increases, while the long term interest rate decreases.

3. Basis Risk

The basis risk arises from imperfect correlation in the adjustment of the rates earned and paid on different instruments with otherwise similar repricing characteristics. E.g. a one-year loan that will be repriced monthly based on the one-month U.S. Treasury Bill rate, funded by a one-year deposit that will be repriced monthly based on one-month Libor.

4. Optionality
This is the risk that arises from the options embedded in certain bank assets, liabilities and off-balance sheet portfolios.

3. Interest Rate Risk Measurement techniques

There are 3 commonly used techniques for measuring interest rate risk: gap analysis, duration gap analysis and scenario analysis. The interest rate risk reporting form is based on the gap analysis. This technique is relatively simple and focuses on the measurement of repricing risk, the primary source of interest rate risk. It is considered to be adequate, given the rather incomplex finance structure of the credit institutions operating in Aruba.

In the gap analysis simple maturity/repricing schedules are used that distribute interest-sensitive assets, liabilities and off-balance sheet positions into a certain number of predefined time-bands according to their maturity (if fixed rate), or time remaining to their next repricing (if floating rate). Assets and liabilities lacking definitive repricing intervals or having actual maturities that could vary from contractual maturities (optionality risk) are assigned to repricing time-bands according to the judgement and past experience of the credit institution.

To evaluate earnings exposure, interest rate sensitive liabilities in each time-band are subtracted from the corresponding interest rate sensitive assets to produce a repricing "gap" within that time-band. This gap can be multiplied by an assumed change in interest rates to approximate the change in net interest income that would result from such an interest rate movement. The size of the interest rate movement used in the analysis can be based on a variety of factors, including historical experience, simulation of potential future interest rate movements, and the judgement of bank management.

4. Principles for Interest Rate Risk Management

All credit institutions should have in place a comprehensive policy on interest rate risk management, comprising 4 basic elements:

- Appropriate board and senior management oversight;
- Adequate risk management policies and procedures;
- Appropriate risk measurement and monitoring systems; and
- Comprehensive internal controls and independent external audits.

In the abovementioned "Principles for the management of interest rate risk" 11 principles are identified which relate to these four basic elements. These principles serve as guidelines for the establishment of an effective interest rate risk policy. The specific manner in which credit institutions apply these principles depends upon the complexity and nature of its holdings and activities as well as on the level of interest rate risk exposure. The principles are briefly discussed below.

The Role of the Board and senior management

Principle 1
In order to carry out its responsibilities, the board of directors of a credit institution should approve strategies and policies with respect to interest rate management and ensure that senior management takes the steps necessary to monitor and control these risks. The board of directors should be informed regularly of the interest rate risk exposure of the bank in order to assess the monitoring and controlling of such risk.

Principle 2
Senior management must ensure that the structure of the credit institution's business and the level of interest rate risk it assumes are effectively managed, that appropriate policies and procedures are established to control and limit these risks, and that resources are available for evaluating and controlling interest rate risk.

Principle 3
Credit institutions should clearly define the individuals and/ or committees responsible for managing interest rate risk and should ensure that there is adequate separation of duties in key elements of the risk management process to avoid potential conflicts of interest.

Policies and procedures

Principle 4
It is essential that credit institution's interest rate risk policies and procedures are clearly defined and consistent with the nature and complexity of their activities. These policies should be applied on a consolidated basis and, as appropriate, at the level of individual affiliates, especially when recognizing legal distinctions and possible obstacles to cash movements among affiliates.

Principle 5
It is important that credit institutions identify the risks inherent in new products and activities and ensure that these are subject to adequate procedures and controls before being introduced or undertaken.

Measurement and monitoring systems

Principle 6
It is essential that credit institutions have interest rate risk measurement systems that capture all material sources of interest rate risk and that assess the effect of interest rate changes in ways that are consistent with the scope of their activities. The assumptions underlying the system should be clearly understood by risk managers and the credit institution's management.

Principle 7
Credit institutions must establish and enforce operating limits and other practices that maintain exposures within levels consistent with their internal policies.

Principle 8
Credit institutions should measure their vulnerability to loss under stressful market conditions- including the breakdown of key assumptions – and consider those results when establishing and reviewing their policies and limits for interest rate risk.

Principle 9
Credit institutions must have adequate information systems for measuring, monitoring, controlling and reporting interest rate risk exposures. Reports must be provided on a timely basis to the credit institution's board of directors, senior management and, where appropriate, individual business line managers.

Internal Control

Principle 10
Credit institutions must have an adequate system of internal controls over their interest rate risk management process. A fundamental component of the internal control system involves regular independent reviews and evaluations of the effectiveness of the system and, where necessary, ensuring that appropriate revisions or enhancements to internal controls are made. The results of such reviews should be available to the relevant supervisory authorities.

Information for supervisory authorities

Principle 11
Supervisory authorities should obtain sufficient and timely information from the credit institutions to evaluate their level of interest rate risks. This information should take appropriate account of the range of maturities and currencies in each credit institution's portfolio, including off-balance sheet items, as well as other relevant factors, such as the distinction between trading and non-trading activities.