

Financial Risk Management

Risk Management Framework

All of the Branch's activities involve, to varying degrees, the analysis, evaluation, acceptance and management of risks or combinations of risks. An established risk governance framework and ownership structure ensures oversight of and accountability for the effective management of risk at Group, regional and global business levels. It also provides for the compliance with the Banking Act No 30 of 1988 as amended by the Banking Amendment Act No 33 of 1995, Directions, Determinations, and Circulars issued to Licensed Commercial Banks by the Central Bank of Sri Lanka. The Branch's Risk Function consists of Wholesale & Market Risk & Retail Banking & Wealth Management (RBWM) Risk, Security & Fraud Risk, CRO & Administration which encapsulate Risk Strategy, Enterprise Wide Stress Testing and Operational Risk. The HSBC Group provides overall written policies and procedures on risk management covering specific areas such as credit risk, liquidity risk, market risk and operational risks. The local management through Executive Committee and Risk Management Committee monitor the execution of risk management policies and procedures.

Credit Risk

Credit risk is defined as the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract. Credit risk arises principally from cash and cash equivalents, direct lending, trade finance and also from certain other products such as derivative instruments and off balance sheet transactions such as letters of credit and guarantees.

Credit risk:

- Is measured as the amount which could be lost if a customer or counterparty fails to make repayments. In the case of derivatives, the measurement of exposure takes into account the current mark to market value to the Branch of the contract and the expected potential change in that value over time caused by movements in market rates;
- Is monitored within limits, approved by individuals within a framework of delegated authorities. These limits represent the peak exposure or loss to which the Branch could be subjected should the customer or counterparty fail to perform its contractual obligations;
- Is managed through a robust risk control framework which outlines clear and consistent policies, principles and guidance for risk managers.

Credit Risk Management

The role of the independent credit control unit is fulfilled by the local Risk team which is a part of the Asia Pacific Risk function. Credit approval authorities are delegated by Regional Office (ASP) to Chief Executive Officer (CEO) who in turn delegates limit to local risk executives.

The principle objectives of our credit risk management are;

- To maintain across the Branch a strong culture of responsible lending and a robust risk policy and control framework.
- To both partner and challenge Branch's businesses in defining, implementing and continually re-evaluating our risk appetite under actual and scenario conditions; and

Credit Risk Management (continued)

- To ensure there is independent, expert scrutiny of credit risks, their costs and their mitigation.

Credit Quality of Financial Instruments

Branch's credit risk rating systems and processes are designed to differentiate exposures in order to highlight those with greater risk factors and higher potential severity of loss. In the case of individually significant accounts that are predominantly within the wholesale businesses, the risk ratings are reviewed regularly and any amendments are implemented promptly. Within Branch's retail businesses, risk is assessed and managed using a wide range of risk models to maintain Risk Reward balance.

Branch's risk rating system facilitates the internal ratings-based ('IRB') approach under Basel II adopted by the HSBC Group to support calculation of our minimum credit regulatory capital requirement. Credit quality of customers is assessed taking into account their financial position, past experience and other factors. Special attention is paid to problem exposures in order to accelerate remedial action.

HSBC Group and regional Credit Review and Risk Identification teams regularly review exposures and processes in order to provide an independent, rigorous assessment of credit risk across the HSBC Group, reinforce secondary risk management controls and share best practice. Internal audit, as a tertiary control function, focuses on risks with a global perspective and on the design and effectiveness of primary and secondary controls, carrying out oversight audits via the sampling of global/regional control frameworks, themed audits of key or emerging risks and project audits to assess major change initiatives.

Impairment Assessment

The Branch creates impairment allowances for impaired loans promptly and appropriately.

Impairment and Credit Risk Mitigation

The existence of collateral has an impact when calculating impairment on individually assessed impaired loans. When the Branch no longer expect to recover the principal and interest due on a loan in full or in accordance with the original terms and conditions, it is assessed for impairment. If exposures are secured, the current net realizable value of the collateral will be taken into account when assessing the need for an impairment allowance. No impairment allowance is recognized in cases where all amounts due are expected to be settled in full on realization of the collateral.

Personal lending portfolios are generally assessed for impairment on a collective basis as the portfolios typically consist of large groups of homogeneous loans. Methodologies used to calculate allowances on a collective basis: a roll rate methodology, discounted recovery methodology or a more basic formulaic approach based on historical losses. For individually assessed impairment the Discounted Cash Flow methodology is used.

Credit Risk Management (continued)

Impairment and Credit Risk Mitigation (Continued)

The historical loss methodology is typically used to calculate collective impairment allowances for performing secured and retail unsecured portfolio's less than USD 20 million in value, which are collectively assessed. The historical loss rate is derived from the average contractual write-off net of recoveries over a defined period. The net contractual write-off rate is the actual amount of loss experienced after the realization of collateral and receipt of recoveries.

A roll rate methodology also known as the net flow rate methodology is more commonly adopted for retail unsecured portfolios greater than USD 20 million when there are sufficient volumes of empirical data to develop robust statistical models. In certain circumstances, portfolios have a statistically significant number of defaults and losses available, enabling reliable roll rates to be generated. In these cases a roll rate methodology is applied, and the average loss rate for each delinquency bucket is adjusted to reflect the average loss expected following receipt of recoveries. The average loss expected is derived from average historical collateral realization values.

As an extended method to roll rate methodology, discounted recovery methodology uses the gross contractual loss of the portfolio from the roll rate methodology and determines the recovery out of the gross loss. The Discounted Recovery is then estimated for the recovery at the end of the realization period. Individual impairment is done for the non performing portion of the mortgage portfolio using the Discounted Cash Flow methodology where mortgage accounts are individually assessed to determine the impairment.

For wholesale portfolio, collectively assessed loans historical loss methodologies are applied to measure loss event impairments which have been incurred but not reported. Loss rates are derived from the observed contractual write off net of recoveries over a defined period. The net contractual write-off rate is the actual amount of loss experienced after realization of collateral and receipt of recoveries. These historical loss rates are adjusted by an economic factor which adjusts the historical averages to better represent current economic conditions affecting the portfolio. In order to reflect the likelihood of a loss event not being identified and assessed an emergence period assumption is applied. This reflects the period between a loss occurring and its identification. The emergence period is estimated by regional management for each identified portfolio. The factors that may influence this estimation include economic and market conditions, customer behaviour, portfolio management information, credit management techniques and collection and recovery experiences in the market. A fixed range for the period between a loss occurring and its identification is assessed empirically on a periodic basis, it may vary over time as these factors change. Given that credit management policies require all customers to be reviewed at least annually, management expects this estimated period would be at most 12 months.

Credit Risk Management (continued)

Write off of Loans and Receivables

Loans (and the related impairment allowance accounts) are normally written off, either partially or in full, when there is no realistic prospect of recovery. Where loans are secured, this is generally after receipt of any proceeds from the realization of security. In circumstances where the net realizable value of any collateral has been determined and there is no reasonable expectation of further recovery, write-off may be earlier.

Credit cards, personal loans and auto loans are generally written off at 180 days. It is done on the billing date of the month, the account reaches 180 days and non performing home loans are written off after 60 months of non recovery. The process is automated and any exception is tracked and manually done the next day. However, early write off could be triggered by the circumstance of the account for example on death, bankruptcy etc.

Usually Collections/Recovery activities may continue after write off and legal action would be taken if the parties are unable to reach an amicable settlement.

Collateral Management and Valuation

It is the Branch's practice to lend on the basis of the customer's ability to meet their obligations out of cash flow resources rather than rely on the value of collateral which is an important credit risk mitigation mechanism. Depending on the customer's standing and the type of product, facilities may be provided unsecured. However, for other lending a charge over collateral is obtained and considered in determining the credit decision and pricing. In the event of default, the Branch may utilize the collateral as a source of repayment. Depending on its form, collateral can have a significant financial effect in mitigating our exposure to credit risk.

Liquidity Risk

Liquidity and funding risk is the risk that the Branch does not have sufficient financial resources to meet its obligations as they fall due or that it can only do so at excessive cost. Liquidity risk arises from mismatches in the timing of cash flows. Funding risk arises when the liquidity needed to fund illiquid asset positions cannot be obtained at the expected terms and when required.

Liquidity and funding risk is:

- **Uses** the Liquidity Coverage Ratio ('LCR') as the main liquidity risk monitoring tool while the Funding Ratio ('NSFR') is used as the main funding risk monitoring tool.
- **Monitored** against the Group's liquidity and funding risk framework and overseen by Regional and local Asset and Liability Management Committees ('ALCO's); and
- **Managed** on a stand-alone basis with no reliance on any related party (unless pre-committed) or the Central Bank of Sri Lanka, unless this represents routine established business as usual market practice.

Management of liquidity and funding risk

The Branch uses the HSBC's liquidity and funding risk management framework that employs two key measures to define, monitor and control the liquidity and funding risk of each of its operating entities. The Net Stable Funding Ratio is used to monitor the structural long-term funding position, and the Liquidity Coverage Ratio, incorporating EBA-defined stress scenarios, is used to monitor the resilience to severe liquidity stresses. The Net Stable Funding Ratio and Liquidity Coverage Ratio are monitored on a daily by the local management team, with monthly monitoring carried out by the Regional Office and local ALCO.

Net Stable Funding Ratio

NSFR compares the requirement for stable funding by assets and on balance sheet assets to the available stable funding generated through the liabilities and equity in the balance sheet. The ratio is computed at total currency level as well as individual material currency level and is monitored against pre-approved limits. This ratio replaced the former Advances to Core Funding Ratio which HSBC used to monitor funding risk until 2015.

Liquidity Coverage Ratio

This matrix compares the size of the stock of high quality liquid assets to the net cash outflows expected during the next 30 days under a severe liquidity stress. The stress scenarios used in this cash flow projection are in line with EBA LCR guidelines. Projections are carried out at total currency level as well as at individual material currency level and are monitored against pre-approved limits. LCR replace the former Operational Cash flow Projection (OCP) measure which HSBC used to monitor liquidity risk until 2015.

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Market Risk

The risk that movements in market factors, including foreign exchange rates and commodity prices, interest rates, credit spreads and equity prices, which will reduce the income or the value of Branch's portfolios is considered as market risk.

Exposure to market risk is separated into two portfolios:

- Trading portfolios comprise positions arising from market-making and warehousing of customer derived positions
- Non-trading portfolios comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities, financial investments designated as available for sale.

Monitoring and limiting market risk exposures

Branch's objective is to manage and control market risk exposures while maintaining a market profile consistent with our risk appetite.

Branch uses a range of tools to monitor and limit market risk exposures, including:

- Sensitivity analysis, the sensitivities of the net present values of asset and expected liability cash flows, in total and by currency, to a one basis point parallel shift in the discount curves used to calculate the net present values. Sensitivity limits are set for portfolios, products and risk types, with the depth of the market being one of the principal factors in determining the level of limits set.
- For foreign exchange risk, the total net short foreign exchange position and the net foreign exchange positions by currency
- Value at risk ('VAR') which is a technique that estimates the potential losses that could occur on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence and
- In recognition of VAR's limitations, the Branch augment VAR with stress testing to evaluate the potential impact on portfolio values of more extreme, though plausible, events or movements in a set of financial variables.

Risk Management

Limits are set for portfolios, products and risk types, with market liquidity being a primary factor in determining the level of limits set. Group Risk, an independent unit within HSBC Group Head Office, is responsible for our market risk management policies and measurement techniques. Each of major operating entity has an independent market risk management and control function which is responsible for measuring market risk exposures in accordance with the policies defined by Group Risk, and monitoring and reporting these exposures against the prescribed limits on a daily basis.

Market Risk (continued)

Both the VAR and Stressed VAR models the Branch uses are based predominantly on historical simulation. These models derive plausible future scenarios from past series of recorded market rates and prices, taking into account interrelationships between different markets and rates such as interest rates and foreign exchange rates.

The historical simulation models used incorporate the following features:

- Historical market rates and prices are calculated with reference to foreign exchange rates and commodity prices, interest rates, equity prices and the associated volatilities;
- Potential market movements utilized for VAR are calculated with reference to data from the past two years,
- Potential market movements employed for stressed VAR calculations are based on a continuous one year period of stress for the trading portfolio

Branch routinely validates the accuracy of the VAR models by back-testing the actual daily profit and loss results, adjusted to remove non-modelled items such as fees and commissions, against the corresponding VAR numbers.

NII Sensitivity Calculations

The Branch has two standard scenarios; the parallel movement in the yield curve by +/-100 bps (the 100bps bullet scenario) and the +/-100bps ramp scenario, whereby rates are assumed to rise/fall in parallel by 25bps on the first day of each quarter. The interest rate sensitivity of the Trading book and the rest of the Branch must be separately analysed. The split should take account of internal transfer pricing deals and is important for management analysis and reporting.

The sensitivity calculations should reflect the best estimates of the future movements in NII under the prescribed scenarios.

Operational Risk

The objective of our operational risk management is to manage and control operational risk in a cost effective manner within targeted levels of operational risk consistent with our risk appetite.

A formal governance structure provides oversight over the management of operational risk. A country level Risk Management Committee, meets on a monthly basis to discuss key risk issues and review the effective implementation of our operational risk management framework.

Business managers are responsible for maintaining an acceptable level of internal control, commensurate with the scale and nature of operations. They are responsible for identifying and assessing risks, designing controls and monitoring the effectiveness of these controls. The operational risk management framework helps managers to fulfil these responsibilities by defining a standard risk assessment methodology and providing a tool for the systematic reporting of operational loss data.

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Operational Risk (continued)

A centralised database is used to record the results of the operational risk management process. Operational risk self-assessments are input and maintained by business units. To ensure that operational risk losses are consistently reported and monitored at HSBC Group level, all branches are required to report individual losses in excess of a particular threshold.

Capital Management

The Bank's capital is segregated into Tier 1 and Tier 2 Capital:

Tier 1 Capital – Core Capital

This includes assigned capital, statutory reserve fund, published retained profits, general and other reserves. The assigned capital is the amount provided by HSBC Asia Pacific to conduct its operation in Sri Lanka.

Tier 2 Capital – Supplementary capital

Revaluation reserve is the main constituent of supplementary capital for the Bank. As per the CBSL regulations a prudential revaluation is done reflecting the full possibility of price fluctuations and forced sale, with prior approval from CBSL, which is then subject to a discount of 50%.

Upon the introduction of LKAS 32/39, general provision/collective impairment is not included in the accounts; hence Tier 2 will reflect NIL provision amounts from 2012 onwards.

Capital Adequacy

HSBC Sri Lanka follows the Capital Planning and Guidance as set out by its Group Office, while ensuring that all requirements as set out by the local regulator are complied with. In the matter of capital planning, the Branch relies on the monthly stress testing carried out in form of the Economic Value of Equity (EVE) calculation, to evaluate capital adequacy. An annual stress testing on credit risk is also carried out to establish the relevant impact on capital.

The Branch maintains records of Risk Weighted Assets (RWA) based on both the local regulatory requirement as set out by CBSL as well as on the basis set out by the Prudential Regulatory Authority (PRA) of the United Kingdom. Growth of the balance sheet is subject to RWA limits on the PRA basis, which are set and monitored by the Regional Office. Assets, Liabilities and Capital Management (ALCM) monitors growth against these limits and works closely with the Businesses to ensure that any increased growth meets with the expected returns on such growth.

All growth measures as targeted in the Annual Operating Plan (AOP) are reviewed in line with impact to Capital Adequacy Ratio (CAR) limits set by CBSL. Any remittance of profit to Regional offices is evaluated in terms of impact to CAR. Further, exchange rate fluctuations to a maximum of 20% are taken into account when forecasting CAR, which is carried out on a

Capital Management (continued)

monthly basis. HSBC Sri Lanka will ensure that all business growth and profit remittances are carried out in full compliance with the prudential limits set by CBSL, while ensuring sufficient capital to absorb the impact of a 20% movement in foreign exchange rates. The minimum expected CAR will ensure optimal Single Borrower Limits, optimal Deposit Insurance fee levels and also ensure ability to continue Derivative Trading activity.

Fair value of Financial Assets and Liabilities

Fair Value Hierarchy

Fair values of financial assets and liabilities are determined according to the following hierarchy:

- Level 1 – valuation technique using quoted market price: financial instruments with quoted prices for identical instruments in active markets that the branch can access at the measurement date.
- Level 2 – valuation technique using observable inputs: financial instruments with quoted prices for similar instruments in active markets or quoted prices for identical or valued using models where all significant inputs are observable. Similar instruments in inactive markets and financial instruments.
- Level 3 – valuation technique with significant unobservable inputs: financial instruments valued using valuation.

Valuation of financial instruments

The best evidence of fair value is a quoted price in an actively traded principal market. The fair values of financial instruments that are quoted in active markets are based on bid prices for assets held and offer prices for liabilities issued. Where a financial instrument has a quoted price in an active market, the fair value of the total holding of the financial instrument is calculated as the product of the number of units and quoted price. The judgment as to whether a market is active may include, but is not restricted to, the consideration of factors such as the magnitude and frequency of trading activity, the availability of prices and the size of bid/offer spreads. The bid/offer spread represents the difference in prices at which a market participant would be willing to buy compared with the price at which they would be willing to sell. Valuation techniques may incorporate assumptions about factors that other market participants would use in their valuations, including:

- The likelihood and expected timing of future cash flows on the instrument. Judgement may be required to assess the counterparty's ability to service the instrument in accordance with its contractual terms. Future cash flows may be sensitive to changes in market rates;
- Selecting an appropriate discount rate for the instrument. Judgement is required to assess what a market participant would regard as the appropriate spread of the rate for an instrument over the appropriate risk-free rate;

Fair value of Financial Assets and Liabilities (continued)

Judgement to determine what model to use; to calculate fair value in areas where the choice of valuation model is particularly subjective, for example, when valuing complex derivative products. A range of valuation techniques is employed, dependent on the instrument type and available market data. Most valuation techniques are based upon discounted cash flow analyses, in which expected future cash flows are calculated and discounted to present value using a discounting curve. Prior to considering credit risk, the expected future cash flows may be known, as would be the case for the fixed leg of an interest rate swap, or may be uncertain and require projection, as would be the case for the floating leg of an interest rate swap.

The majority of valuation techniques employ only observable market data. However, certain financial instruments are valued on the basis of valuation techniques that feature one or more significant market inputs that are unobservable, and for them the measurement of fair value is more judgemental. An instrument in its entirety is classified as valued using significant unobservable inputs if, in the opinion of management, a significant proportion of the instrument's inception profit or greater than 5% of the instrument's valuation is driven by unobservable inputs. 'Unobservable' in this context means that there is little or no current market data available from which to determine the price at which an arm's length transaction would be likely to occur.

Control framework

Fair values are subject to a control framework designed to ensure that they are either determined or validated by a function independent of the risk-taker.

For all financial instruments where fair values are determined by reference to externally quoted prices or observable pricing inputs to models, independent price determination or validation is utilised. In inactive markets branch will source alternative market information to validate the financial instrument's fair value, with greater weight given to information that is considered to be more relevant and reliable. The factors that are considered in this regard are, inter alia:

- the extent to which prices may be expected to represent genuine traded or tradable prices;
- the degree of similarity between financial instruments;
- the degree of consistency between different sources;
- the process followed by the pricing provider to derive the data;
- the elapsed time between the date to which the market data relates and the balance sheet date;
- the manner in which the data was sourced.

Fair value adjustments

Fair value adjustments are adopted when HSBC considers that there are additional factors that would be considered by a market participant which are not incorporated within the valuation model. HSBC classifies fair value adjustments as either 'risk-related' or 'model-related'. Movements in the level of fair value adjustments do not necessarily result in the recognition of profits or losses within the income statement. For example, as models are enhanced, fair value adjustments may no longer be required. Similarly, fair value adjustments will decrease when the related positions are unwound, but this may not result in profit or loss.