2021

The Hongkong and Shanghai Banking Corporation Limited, Bangkok Branch

Pillar 3 Disclosures at 31 December 2021

HSBC

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Cautionary statement regarding forward-looking statements

The *Pillar 3 Disclosures 2021* contains certain forward-looking statements with respect to the financial condition of The Hongkong and Shanghai Banking Corporation Limited, Bangkok Branch ('the Bank'), results of operations, capital position and business.

Statements that are not historical facts, including statements about the Bank's beliefs and expectations, are forward-looking statements. Words such as 'may', 'will', 'should', 'expects', 'targets', 'anticipates', 'intends', 'plans', 'believes', 'seeks', 'estimates', 'potential' and 'reasonably possible', or the negative thereof, other variations thereon or similar expressions are intended to identify forward-looking statements. These statements are based on current plans, information, data, estimates and projections, and therefore undue reliance should not be placed on them. Forward-looking statements speak only as of the date they are made. The Bank makes no commitment to revise or update any forward-looking statements to reflect events or circumstances occurring or existing after the date of any forward-looking statements. Forward-looking statements involve inherent risks and uncertainties. Readers are cautioned that a number of factors could cause actual results to differ, in some instances materially, from those anticipated or implied in any forward-looking statement. These include, but are not limited to:

- changes in general economic conditions in the markets in which we operate,
- changes in government policy and regulation, including the monetary, interest rate and other policies of central banks and other regulatory authorities, and
- factors specific to the Bank, including our success in adequately identifying the risks we face, such as the incidence of loan losses or delinquency, and managing those risks (through account management, hedging and other techniques).

Introduction

Purpose

This document comprises the Bank's Pillar 3 disclosures on capital and risk management at 31 December 2021. It meets the regulatory disclosure requirements under the Bank of Thailand ('BoT') Notification dated 2 May 2013 and 7 May 2019, Re: The Public Disclosure of Capital Maintenance for Commercial Banks. It also serves to comply with the disclosures on Liquidity Coverage Ratio as required by the BoT's Notification dated 25 January 2018, Re: Liquidity Coverage Ratio Disclosure Standards.

References to 'HSBC', 'the Group' or 'the HSBC Group' within this document mean HSBC Holdings plc together with its subsidiaries.

These disclosures are governed by the Bank's disclosure policy, which has been approved by the Asset and Liability Management Committees ('ALCOs').

Additional relevant information may be found in the Bank's annual financial statements for the year ended 31 December 2021.

Key prudential metrics

Table 1 : Key prudential metrics

	31 December 2021	30 June 2021	31 December 2020
Available capital (THBm)			
Total capital	22,600	22,600	22,600
Fully loaded Expected Credit Losses total capital	22,600	22,600	22,600
Risk-weighted assets ('RWAs') (THBm)			
Total RWAs	113,340	115,688	111,966
Capital ratios (%)			
Total capital ratio	19.9	19.5	20.2
Fully loaded Expected Credit Losses total capital ratio	19.9	19.5	20.2
Additional capital buffer requirements as a percentage of RWA (%)			
Capital conservation buffer requirement	2.5	2.5	2.5
Countercyclical buffer requirement	-	-	-
Higher loss absorbency requirement	-	-	-
Total of capital specific buffer requirements	2.5	2.5	2.5
Capital ratio in excess of minimum requirements	8.9	8.5	9.2
Total capital ratio requirement (%)			
Total capital ratio including capital buffer	11.0	11.0	11.0
Minimum capital ratio requirements	8.5	8.5	8.5

	Average Balance		
	2021 Quarter 4	2021 Quarter 2	2020 Quarter 4
Liquidity Coverage Ratio ('LCR')			
Total high-quality liquid assets (THBm)	102,388	97,944	86,709
Total net cash outflows (THBm)	58,288	54,668	48,564
LCR ratio (%)	176	179	179

With reference to the implementation of Thai Financial Reporting Standard ('TFRS') 9 'Financial Instruments' effective from 1 January 2020, the BoT set out transitory provisions by allowing the phase in of an impact from the first time adoption of TFRS provisioning to mitigate an impact on capital.

The increase in impairment provision or Expected Credit Loss ('ECL') on day one of TFRS 9 adoption can be adjusted to its retained earnings. If it is resulting in negative retained earnings, it has to recognise by deduct from capital. The BoT permit banks to add back to their capital base on straight-line approach over 6 accounting periods (6-month accounting period).

While the provision in excess of ECL would be released over five years on straight-line basis during the transition period starting on 1 January 2020 according to the BoT's notification dated 6 November 2019.

Moreover, the BoT sets out additional guidelines for 1% minimum provisions of unimpaired assets and off-balance sheet items ('minimum provisions'). The minimum provisions are being phased in: starting at 0.33% from 1 January 2020 and increasing a further 0.33% each year in order to reach 1% on 1 January 2022. If the available provisions are less than minimum provisions, such shortfall of provision would be deducted from retained earnings or capital as appropriated.

As of 1 January 2020, our provision was in excess the ECL by Baht 900 million. This surplus reserve would be released over five years on straight-line basis of Baht 180 million per annum. At 31 December 2021, the available provision of Baht 610 million was in excess the minimum provisions by Baht 23 million.

Regulatory framework

The Bank calculates capital for prudential regulatory reporting purposes using the announcement of the BoT regarding a capital adequacy framework based on the Basel III framework: 'A global regulatory framework for more resilient banks and banking systems' issued by the Basel Committee ('Basel').

The Basel III framework is structured around three 'pillars': the Pillar 1 minimum capital requirements and Pillar 2 supervisory review process are complemented by the requirements in Pillar 3 on market discipline. The aim of Pillar 3 is to produce disclosures that allow market participants to assess the scope of application by banks of the Basel III framework and the rules in their jurisdiction, capital conditions, risk exposures and risk management processes, and hence their capital adequacy.

Pillar 3 requires all material risks to be disclosed to provide a comprehensive view of a bank's risk profile.

Pillar 3 disclosures

Our Pillar 3 Disclosures at 31 December2021 comprises both quantitative and qualitative information required under Pillar 3. The disclosures are made in accordance with Section 5.3.3 of the BoT's notification Re: Regulations on Capital Supervision for Commercial Banks. These disclosures are supplemented by additional requirements of the BoT regarding Liquidity Coverage Ratio ('LCR').

Frequency
We published comprehensive Pillar 3 Disclosures annually with an update of certain quantitative capital requirement disclosures, market risk information together with liquidity and funding risk, at the half year.

Media and location
The *Pillar 3 Disclosures 2021* on a standalone basis are available on our website: www.hsbc.co.th, whereas the Pillar 3 Disclosures 2021 of HSBC Holdings plc and its subsidiaries on a consolidated level and other information on HSBC are available on HSBC Group's website: www.hsbc.com.

Verification
Whilst the *Pillar 3 Disclosures 2021* are not required to be externally audited, the document has been appropriately verified internally in accordance with the Bank's policies on disclosure and its financial reporting and governance processes.

Scope of permissions

Credit risk
The Basel framework applies three approaches of increasing sophistication to the calculation of Pillar 1 credit risk capital requirements. The most basic level, the standardised approach ('SA'), requires banks to use external credit ratings to determine the risk weightings applied to rated counterparties. Other counterparties are grouped into broad categories and standardised risk weightings are applied to these categories.

The next level, the foundation internal ratings based ('FIRB') approach, allows banks to calculate their credit risk capital requirements on the basis of their internal assessment of a counterparty's probability of default ('PD'), but subjects their quantified estimates of exposure at default ('EAD') and loss given default ('LGD') to standard supervisory parameters. Finally, the advanced internal ratings based ('AIRB') approach allows banks to use their own internal assessment in determining PD and in quantifying EAD and LGD.

Counterparty credit risk ('CCR') in both the trading and non-trading books is the risk that the counterparty to a transaction may default before completing the satisfactory settlement of the transaction. Four approaches to calculating CCR and determining exposure values are defined by Basel: mark-to-market, original exposure, standardised and Internal Model Method ('IMM'). These exposure values are used to determine capital requirements under one of the three approaches credit risk: standardised, FIRB or AIRB.

For credit risk including CCR, with the BoT's approval, we have adopted the standardised approach. Internally, we use the mark-to-market and IMM approaches for managing and monitoring our CCR.

Market risk

Market risk capital requirements are calculated using a combination of standard rules and the internal models approach ('IMA'). The latter involves the use of internal value at risk ('VaR') models to measure market risks and determine the appropriate capital requirement.

We have obtained approval from the BoT to apply a combined approach for market risk assessment to determine capital requirements. The standardised approach is used for Specific Interest Rate Risk and the Value at Risk model is used for general market, foreign exchange and interest rate risk.

Operational risk

Basel allows firms to calculate their operational risk capital requirement under the basic indicator approach, the standardised approach or the advanced measurement approach.

We currently use the standardised approach in determining our operational risk capital requirement.

Capital

Approach and policy

Our approach to capital management is driven by our strategic and organisational requirements, taking into account the regulatory, economic and commercial environment in which we operate.

It is our objective to maintain a strong capital base to support the development of our business and to exceed regulatory capital requirements at all times. To achieve this, we manage our capital within the context of an annual capital plan that is approved by the local Asset and Liability Management Committee ('ALCO') and determines the optimal amount and mix of capital required to support planned business growth and meet local regulatory capital requirements within the context of the Group capital plan. Capital generated by us in excess of planned requirements is returned to our Head Office, normally by way of profit remittance, in accordance with the Bank's capital plan.

Capital conservation buffer

To align with the Basel III framework, the BoT contemplates a capital conservation buffer ('CCB'). The CCB was designed to ensure banks build up capital outside periods of stress that can be drawn down when losses are incurred and is set at 2.5%. This is result in minimum capital ratio of 11%.

Composition of regulatory capital

The BoT has issued the notification to revise the components of regulatory capital. Items that do not reflect true capital are added to the regulatory adjustments to be applied to the regulatory capital i.e. goodwill, intangible assets, gains on sale related to securitisation transactions and significant investments in common shares and warrants to be in line with the Basel III framework.

At 31 December 2021, 30 June 2021 and 31 December 2020, we have an allocated and registered capital fund with the BoT of Baht 22,600 million. Intangible assets is the regulatory adjustment with immaterial to our regulatory capital. The detail can be summarised as follows:

Table 2 : Capital Structure

	31 December 2021 THBm	30 June 2021 THBm	31 December 2020 THBm
Assets maintained under Section 32	**23,690**	**25,012**	**23,340**
Sum of net capital for maintenance of assets under Section 32 and net balance of inter-office accounts			
Net funds brought in to maintenance assets under Section 32	22,600	22,600	22,600
Net balance of inter-office accounts where the branch is the debtor to the head office and other branches of the same juristic person, the parent company and subsidiaries of the head office	18,340	14,055	11,010
Total	**40,940**	**36,655**	**33,610**
Regulatory Capital	**22,600**	**22,600**	**22,600**
Regulatory Capital after deducting capital add-on from Single Lending Limit	**22,600**	**22,600**	**22,600**

Table 3 : Capital Adequacy

Minimum capital requirement for credit risk classified by type of assets under the Standardised Approach

	31 December 2021 THBm	30 June 2021 THBm	31 December 2020 THBm
Performing claims			
Claims on sovereigns and central banks, and multilateral development banks ('MDBs')	7	7	22
Claims on financial institutions, non-central government public sector entities ('PSEs') treated as claims on financial institutions, and securities firms	1,264	1,041	1,499
Claims on corporates, non-central government public sector entities ('PSEs') treated as claims on corporates	7,143	7,446	6,712
Claims on retail portfolios	11	11	11
Claims on housing loans	13	15	17
Other assets	26	23	17
Non-performing claims	-	-	1
Total minimum capital requirement for credit risk	**8,464**	**8,543**	**8,279**

Minimum capital requirement for market risk for positions in the trading book

	31 December 2021 THBm	30 June 2021 THBm	31 December 2020 THBm
Standardised approach - specific interest rate risk	3	-	4
Internal model approach	189	298	223
Total minimum capital requirement for market risk	**192**	**298**	**227**

Minimum capital requirement for operational risk

	31 December 2021 THBm	30 June 2021 THBm	31 December 2020 THBm
Standardised approach	966	974	997
Total minimum capital requirement for operational risk	**966**	**974**	**997**

Capital ratio

	31 December 2021 %	30 June 2021 %	31 December 2020 %
Total capital to risk-weighted assets	**19.9**	**19.5**	**20.2**
Total capital to risk-weighted assets after deducting capital add-on from Single Lending Limit	**19.9**	**19.5**	**20.2**
Minimum capital ratio including CCB according to the BoT	**11.0**	**11.0**	**11.0**

Risk exposure and assessment

Risk management framework and policies

Risk management framework

HSBC Group applies Risk Management Framework ('RMF') to effectively manage risk faced by the Group. The RMF is governed by the Risk Management Meeting ('RMM') of the Group Executive Committee and approved by the Group Chief Risk and Compliance Officer. The RMF applies to all types of risk, both financial and non-financial, that the Group faces in business and operational activities.

The Group risk management approach follows five steps:

1) define and enable,
2) identify and assess,
3) manage,
4) aggregate and report and
5) govern

These are shown below.

<u>Define & Enable</u>

HSBC's culture is rooted in the Group's purpose and shaped by value: We value difference; We succeed together; We take responsibility and We get it done. The Group's culture creates the environment that either enables or inhibits us in delivering the right conduct outcome.

In terms of roles and responsibilities, the Group applies Three Line of Defence ('LOD') to define roles, responsibilities and clear accountabilities within HSBC. First LOD has ultimate ownership for risk and controls and the delivery of good conduct outcomes. Second LOD provides subject matter expertise, advice, guidance and review and challenge the First LOD's activities to ensure that risk management decisions and actions appropriate, within risk appetite and support the delivery of conduct outcome. Third LOD is Internal Audit which provides independent assurance that risk management, governance and internal control processes are designed and operating effectively. The principle of individual accountability is exercised across the organisation and is fundamental for effective risk management within the Group.

In terms of risk categorization, HSBC Group uses a standardised set of risk types known as HSBC risk taxonomy which categorises risks into two categories:

1) Financial risks – the risk of financial loss as a result of business activities; and
2) Non-financial risks – the risk of loss resulting from people, inadequate or failed internal processes, data or system or external event.

HSBC Group defines Risk Appetite as the level and types of risks that we are willing to take in order to achieve our strategic objective.

<u>Identify & Assess</u>

To identify and assess risks, it is critical to understand the internal and external environments along with potential changes and respond to these changes. When assessing risk, HSBC assess impact and likelihood on factors including

1) Financial impact,
2) Customer impact,
3) Regulatory impact,
4) Reputational impact,
5) Market conduct and competition impact.

There are number of factors considered and different methodologies used when assessing risk likelihood.

<u>Manage</u>

Risk Management is the ongoing process involving both the First LOD and Second LOD to ensure we monitor and manage our risks in accordance with our risk appetite and, where necessary, appropriate risk management actions are taken in a timely manner. We are organised as a matrix structure where one risk type is likely to span multiple Global Businesses, Functions and legal entities within the Group. Risk management activities are undertaken at all levels to ensure risk exposures are within the risk appetite set for Global Businesses and legal entities.

Aggregate & Report

Risk reporting enables senior management and stakeholders to make informed decisions by providing insightful analysis from accurate and timely data together with subject matter expert perspectives from across the Three LOD.

There are numerous internal risk reports prepared for specific risk types, such as credit risk, market risk and non-financial risk first line reports. In addition, we also have enterprise risk reports, which cover all risk types, as detailed below:

1) Risk Appetite reporting,
2) Risk Map and
3) Emerging Risks.

The enterprise risk reports are summarised through the Risk Profile Paper.

Govern

The Global Risk and Compliance Function defines risk governance across the Group. The governance model includes executive and non-executive governance committees, delegated authority to individuals, and an escalation path for material risks and issues. RMM is formal governance committee where member make recommendations and provide advice to the Group Chief Risk and Compliance Officer to him/her carry out his/her role and responsibilities in relation to enterprise risk oversight over all risks including compliance.

In Thailand, Chief Risk Officer ('CRO') chairs RMM.

Our material banking risks

The material risk types associated with our banking operations are described in the follows tables:

Risks	Arising from	Measurement, monitoring and management of risk
Credit risk		
Credit risk is the risk of financial loss if a customer or counterparty fails to meet an obligation under a contract.	Credit risk arises principally from direct lending and trade finance but also from other products such as guarantees and derivatives.	Credit risk is: • **measured** as the amount that could be lost if a customer or counterparty fails to make repayments; • **monitored** using various internal risk management measures and within limits approved by individuals within a framework of delegated authorities; and • **managed** through a robust risk control framework, which outlines clear and consistent policies, principles and guidance for risk managers.
Capital and liquidity risk		
Capital and liquidity risk is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements.	Capital and liquidity risk arises from changes to the respective resources and risk profiles driven by customer behaviour, management decisions or the external environment.	Capital and liquidity risk is: • **measured** through appetites set as target and minimum ratios; • **monitored a**nd projected against appetites and by using stress and scenario testing; and • **managed** through control of capital and liquidity resources in conjunction with risk profiles and cash flows.
Market risk		
Market risk is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios.	Exposure to market risk is separated into two portfolios: • trading portfolios; and • non-trading portfolios.	Market risk is: • **measured** using sensitivities, value at risk and stress testing, giving a detailed picture of potential gains and losses for a range of market movements and scenarios, as well as tail risks over specified time horizons; • **monitored** using value at risk, stress testing and other measures, including the sensitivity of net interest income and the sensitivity of structural foreign exchange; and • **managed** using risk limits approved by the Regional Market Risk Manager, the risk management meeting in various global businesses.

Risks	Arising from	Measurement, monitoring and management of risk
Resilience risk		
Resilience risk is the risk that we are unable to provide critical services to our customers, affiliates and counter-parties, during sustained and significant operational disruption.	Resilience risk arises from failures or inadequacies in processes, people, systems or external events.	Resilience risk is: • **measured** using a range of metrics with defined maximum acceptable impact tolerances, and against our agreed risk appetite; • **monitored** through oversight of enterprise processes, risks, controls and strategic change programmes; and • **managed** by continual monitoring and thematic reviews.
Regulatory compliance risk		
Regulatory Compliance risk is the risk that we fail to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice, which as a consequence incur fines and penalties and suffer damage to our business.	Regulatory compliance risk arises from the risk associated with breaching our duty to our customers and other counterparties, inappropriate market conduct and breaching other regulatory requirements.	Regulatory compliance risk is: • **measured** by reference to identified metrics, incident assessments, regulatory feedback and the judgement and assessment of our regulatory compliance team; • **monitored** against the first line of defence risk and control assessments, the results of the monitoring and control assurance activities of the second line of defence functions, and the results of internal and external audits and regulatory inspections; and • **managed** by establishing and communicating appropriate policies and procedures, training employees in them, and monitoring activity to help ensure their observance. Proactive risk control and/or remediation work is undertaken where required.
Financial crime and fraud risk		
Financial crime and fraud risk is the risk that we knowingly or unknowingly help parties to commit or to further potentially illegal activity, including both internal and external fraud.	Financial crime and fraud risk arises from day-to-day banking operations.	Financial crime and fraud risk is: • **measured** by reference to identified metrics, incident assessments, regulatory feedback and the judgement and assessment of our financial crime risk teams; • **monitored** against our financial crime risk appetite statements and metrics, the results of the monitoring and control activities of the second line of defence functions, and the results of internal and external audits and regulatory inspections; and • **managed** by establishing and communicating appropriate policies and procedures, training employees in them and monitoring activity to help ensure their observance. Proactive risk control and/or remediation work is undertaken where required.
Model risk		
Model Risk is the risk of inappropriate or incorrect business decisions arising from the use of models that have been inadequately designed, implemented or used, or from models that do not perform in line with expectations and predictions.	Model risk event arises from adverse consequences including financial loss, sub-optimal business or strategic decision, non-compliance with regulations, customer detriment and damage to HSBC's reputation.	Model risk is: • **measured** by reference to model risk materiality rating, which is used to determine and apply appropriate risk based approach for managing model risks; • **monitored** against Group and Regional model risk appetite statements, insight from the independent review function, feedback from internal and external audits, and regulatory reviews; and • **managed** by control requirements throughout Model Life Cycle starting from Planning, Development & Testing, Independent Validation, Approval, Implementation, Use and Decommission.

Pillar 2 and ICAAP

Pillar 2

We conduct an Internal Capital Adequacy Assessment Process ('ICAAP') to determine a forward-looking assessment of our capital requirements given our business strategy, risk profile, risk appetite and capital plan. This process incorporates the Group's risk management processes and governance framework. Our base capital plan undergoes stress testing. This, coupled with our economic capital framework and other risk management practices, is used to assess our internal capital adequacy requirements and inform our view of our internal capital planning buffer. The ICAAP is formally approved by the local ALCO, which has the ultimate responsibility for the effective management of asset and liability allocation and capital plan to achieve the Bank's strategic objectives and risk appetite.

Internal capital adequacy assessment

Through the ICAAP, we examine our risk profile to ensure that capital resources:

- remain sufficient to support our risk profile and outstanding commitments;
- meet current regulatory requirements and that HSBC is well placed to meet those expected in the future;
- allow the Bank to remain adequately capitalised in the event of a severe economic downturn stress scenario; and
- remain consistent with our strategic and operational goals.

The ICAAP is examined by the BoT as part of its supervisory review and evaluation process. This examination informs the regulator's view of our Pillar 2 capital requirements.

Preserving our strong capital position remains a priority, and the level of integration of our risk and capital management helps to optimise our response to business demand for regulatory capital.

Credit risk

Overview and objective

Credit risk represents our largest regulatory capital requirement. This includes a capital requirement for counterparty credit risk in the banking and trading books. The principal objectives of our credit risk management function are:

- to maintain a strong culture of responsible lending and a robust credit risk policy and control framework;
- to both partner and challenge our businesses in defining, implementing and continually re-evaluating our credit risk appetite under actual and stress scenario conditions; and
- to ensure there is independent, expert scrutiny of credit risks, their costs and their mitigation.

Credit risk management

The Bank adopts Internal Ratings Based Approach ('IRB') in managing our portfolio.

To assess our wholesale customer's credit risk, HSBC uses a two-dimensional architecture that separately assesses the risk of customer default (Probability of Default or 'PD') and the likely loss in the event of default (Loss Given Default or 'LGD').

PD is defined as the probability that the obligor defaults in respect of the exposure over a one-year period, irrespective of the term of facilities, whereas LGD measures the average loss that would be sustained on each facility owed by a customer, in percentage terms compared to the expected exposure at the time of default (Exposure at Default or 'EAD'). PD, LGD and EAD are used to calculate both Expected Credit Loss ('ECL') the International Financial Reporting Standard ('IFRS') 9 Financial Instruments and Risk-Weighted Assets ('RWA') under IRB.

PD is derived from Customer Risk Rating ('CRR') which is assigned based on customer financial statements and market data analysis, as well as qualitative elements and a final subjective overlay to better reflect any idiosyncratic elements of the customer's risk profile. CRR scale comprises 10 risk bands that further branch out to 23 risk buckets for IRB portfolios.

In term of provision, HSBC adopted the IFRS 9 on 1 January 2018 while HSBC Thailand adopted the same on 1 January 2020.

Under IFRS 9, financial assets are allocated into appropriate stages before ECL calculations are performed.

<u>Stage Allocation and ECL Measurement</u>
Stage 1: These financial assets are unimpaired and without a significant increase in credit risk. A 12-month allowance for ECL is recognised.

Stage 2: A significant increase in credit risk has been experienced on these financial assets since initial recognition. A lifetime ECL is recognised.

Stage 3: There is objective evidence of impairment and the financial assets are therefore considered to be in default or otherwise credit impaired. A lifetime ECL is recognised.

An assessment of whether credit risk has increased significantly since initial recognition is performed at each reporting period.

Unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when 30 days past due.

Defaulted exposures refer to stage 3 credit impaired financial instruments. While non-defaulted exposures refer to financial instruments classified under stages 1 and 2. The specific provisions can be referred to ECL classified under stage 3. While the ECL under stages 1 and 2 together with the provision in excess of ECL during the transition period are classified as general provision.

Further information on accounting policies for impairment of financial assets is set out on page 17 of the Annual financial statements 2021.

While the Bank uses IRB in management our credit risk, we use the Standardised Approach to calculate capital requirement for credit risks for the BoT's regulatory reporting purposes.

The following tables set out credit risk exposure value according to regulatory requirement at 31 December 2021 and 2020.

Credit risk

General information on credit risk exposure

Table 4 : ***Credit risk exposure of significant on-balance sheet and off-balance sheet exposures before recognised credit risk mitigation at 31 December 2021 and 2020***

	31 December 2021		31 December 2020	
	Average exposure value THBm	Exposure value THBm	Average exposure value THBm	Exposure value THBm
On-balance sheet				
Loans and accrued interest receivables, net	121,913	129,630	106,044	109,595
Investments in debt securities, net	48,841	54,193	53,909	54,960
Deposits and accrued interest receivables, net	2,765	2,700	2,841	2,914
Derivative assets	38,048	32,581	46,003	45,858
Total	**211,567**	**219,104**	**208,797**	**213,327**
Off-balance sheet				
Aval, guarantees and letter of credit	39,974	41,639	36,524	35,657
OTC derivatives	2,041,129	2,160,291	2,072,507	1,873,478
Undrawn commitment	86,811	83,396	72,112	93,593
Total	**2,167,914**	**2,285,326**	**2,181,143**	**2,002,728**

Remark:

- *Loans represent loans to customers and interbank and money market placements including accrued interest receivables and net of deferred revenue and allowance for expected credit losses.*
- *Investments in debt securities are measured at fair value through other comprehensive income excluding accrued interest receivables and net of allowance for expected credit losses.*
- *Deposit including accrued interest receivables and net of allowance for expected credit losses.*
- *Off-balance sheet represents the notional amounts before the application of a credit conversion factor.*

Table 5: Credit risk exposure of significant on-balance sheet and off-balance sheet exposures before recognised credit risk mitigation – analysis by country or geographical area at 31 December 2021 and 2020

Exposure values are allocated to region based on the country of incorporation where the exposure was originated.

31 December 2021

Country or geographical area	On-balance sheet					Off-balance sheet			
	Total THBm	**Loans and accrued interest receivables, net THBm**	**Investments in debt securities THBm**	**Deposits and accrued interest receivables THBm**	**Derivative assets THBm**	**Total THBm**	**Aval, guarantees and letter of credit THBm**	**OTC derivatives THBm**	**Undrawn commitment THBm**
Thailand	198,798	128,273	54,193	616	15,716	1,064,536	27,113	957,883	79,540
Asia Pacific (excluding Thailand)	12,817	100	-	12	12,705	892,698	6,597	885,381	720
North America and Latin America	2,991	-	-	15	2,976	221,220	6,054	213,649	1,517
Africa and Middle East	1,103	1,102	-	1	-	20	20	-	-
Europe	3,395	155	-	2,056	1,184	106,852	1,855	103,378	1,619
Total	**219,104**	**129,630**	**54,193**	**2,700**	**32,581**	**2,285,326**	**41,639**	**2,160,291**	**83,396**

31 December 2020

Country or geographical area	On-balance sheet					Off-balance sheet			
	Total THBm	**Loans and accrued interest receivables, net THBm**	**Investments in debt securities, net THBm**	**Deposits and accrued interest receivables, net THBm**	**Derivative assets THBm**	**Total THBm**	**Aval, guarantees and letter of credit THBm**	**OTC derivatives THBm**	**Undrawn commitment THBm**
Thailand	187,436	107,750	54,960	2,210	22,516	979,038	24,362	862,293	92,383
Asia Pacific (excluding Thailand)	15,215	160	-	9	15,046	731,188	4,347	725,686	1,155
North America and Latin America	5,636	2	-	8	5,626	203,197	5,398	197,771	28
Africa and Middle East	1,195	1,195	-	-	-	25	25	-	-
Europe	3,845	488	-	687	2,670	89,280	1,525	87,728	27
Total	**213,327**	**109,595**	**54,960**	**2,914**	**45,858**	**2,002,728**	**35,657**	**1,873,478**	**93,593**

Table 6 : Credit risk exposure of significant on-balance sheet and off-balance sheet exposures before recognised credit risk mitigation – analysis by residual maturity at 31 December 2021 and 2020

	31 December 2021			31 December 2020		
	Less than 1 year THBm	Over 1 year THBm	Total THBm	Less than 1 year THBm	Over 1 year THBm	Total THBm
On-balance sheet						
Loans and accrued interest receivables, net	107,770	21,860	129,630	86,686	22,909	109,595
Investments in debt securities, net	39,605	14,588	54,193	39,094	15,866	54,960
Deposits and accrued interest receivables, net	2,700	-	2,700	2,914	-	2,914
Derivative assets	8,082	24,499	32,581	7,254	38,604	45,858
Total	**158,157**	**60,947**	**219,104**	**135,948**	**77,379**	**213,327**
Off-balance sheet						
Aval, guarantees and letter of credit	38,685	2,954	41,639	32,270	3,387	35,657
OTC derivatives	855,342	1,304,949	2,160,291	560,092	1,313,386	1,873,478
Undrawn commitment	79,460	3,936	83,396	89,289	4,304	93,593
Total	**973,487**	**1,311,839**	**2,285,326**	**681,651**	**1,321,077**	**2,002,728**

Table 7 : Credit risk exposure of financial instruments before recognised credit risk mitigation and provisions at 31 December 2021 and 2020

	31 December 2021					
	Outstanding balance			Provisions		
	Defaulted exposures THBm	Non-defaulted exposures THBm	Expected credit losses accounting provisions THBm	General provisions THBm	Specific provisions for credit loss on SA THBm	Net values THBm
Loans and accrued interest receivables	-	129,672	42	582	-	129,090
Investments in debt securities, net	-	54,193	-	-	-	54,193
Deposits and accrued interest receivables	-	2,700	-	-	-	2,700
Commitment and financial guarantee	11	125,024	24	20	4	125,011
Total	**11**	**311,589**	**66**	**602**	**4**	**310,994**

	31 December 2020					
	Outstanding balance			Provisions		
	Defaulted exposures THBm	Non-defaulted exposures THBm	Expected credit losses accounting provisions THBm	General provisions THBm	Specific provisions for credit loss on SA THBm	Net values THBm
Loans and accrued interest receivables	48	109,615	68	740	48	108,875
Investments in debt securities, net	-	54,960	-	-	-	54,960
Deposits and accrued interest receivables	-	2,914	-	-	-	2,914
Commitment and financial guarantee	123	129,127	9	9	-	129,241
Total	**171**	**296,616**	**77**	**749**	**48**	**295,990**

Remark:

- *Outstanding balance of loans represent loans to customers and interbank and money market placements including accrued interest receivables and net of deferred revenue.*
- *Outstanding balance of investments in debt securities measured at fair value through other comprehensive income excluding accrued interest receivables and net of allowance for expected credit losses.*
- *Outstanding balance of commitment and financial guarantee represents the notional amounts before the application of a credit conversion factor.*
- *Defaulted exposures refer to Stage 3 credit impaired financial instruments. While non-defaulted exposures refer to Stage 1 and Stage 2 or financial instruments with an insignificant increase in credit risk and financial instruments with a significant increase in credit risk, respectively according to the BoT notification No. 23/2561 dated 31 October 2018 Re: Classification and Provision of the Financial Institutions.*
- *Expected credit losses accounting provisions classified under Stage 3 are treated as specific provisions for credit loss on standardised approach.*
- *Net values represented outstanding balance net of total provisions.*

Table 8: Outstanding loans including accrued interest receivables and investments in debt securities before recognised credit risk mitigation – analysis by country or geographical area and asset classification as prescribed by the Bank of Thailand at 31 December 2021 and 2020

	31 December 2021				
	Loans and accrued interest receivables				**Investments in debt securities**
Country or geographic area	**Stage 1 THBm**	**Stage 2 THBm**	**Stage 3 THBm**	**Total THBm**	**Stage 1 THBm**
Thailand	119,029	9,279	-	128,308	54,193
Asia Pacific (excluding Thailand)	90	10	-	100	-
North America and Latin America	-	-	-	-	-
Africa and Middle East	-	1,109	-	1,109	-
Europe	155	-	-	155	-
Total	**119,274**	**10,398**	**-**	**129,672**	**54,193**

	31 December 2020				
	Loans and accrued interest receivables				**Investments in debt securities**
Country or geographic area	**Stage 1 THBm**	**Stage 2 THBm**	**Stage 3 THBm**	**Total THBm**	**Stage 1 THBm**
Thailand	102,085	5,679	48	107,812	54,960
Asia Pacific (excluding Thailand)	161	-	-	161	-
North America and Latin America	2	-	-	2	-
Africa and Middle East	-	1,200	-	1,200	-
Europe	488	-	-	488	-
Total	**102,736**	**6,879**	**48**	**109,663**	**54,960**

Remark:

- *Loans represent loans to customers, interbank and money market placements, including accrued interest receivables and net of deferred revenue.*
- *The classification of assets shown above is in accordance with the BoT notification No. 23/2561 dated 31 October 2018 Re: Classification and Provision of the Financial Institutions.*

Table 9: ***General provision, specific provision and bad debt written-off during the year against loans including accrued interest receivables and investments in debt securities – analysis by country or geographic area at 31 December 2021 and 2020***

	31 December 2021				
	Loans and accrued interest receivables			**Investments in debt securities**	
Country or geographic area	**General provision THBm**	**Specific provision THBm**	**Bad debt written-off during the year THBm**	**General provision THBm**	**Specific provision THBm**
Thailand		-	-		7
Asia Pacific (excluding Thailand)		-	-		-
North America and Latin America		-	-		-
Africa and Middle East		-	-		-
Europe		-	-		-
Total	**582**	**-**	**-**	**-**	**7**

	31 December 2020				
	Loans and accrued interest receivables			**Investments in debt securities**	
Country or geographic area	**General provision THBm**	**Specific provision THBm**	**Bad debt written-off during the year THBm**	**General provision THBm**	**Specific provision THBm**
Thailand		48	69		7
Asia Pacific (excluding Thailand)		-	-		-
North America and Latin America		-	-		-
Africa and Middle East		-	-		-
Europe		-	-		-
Total	**740**	**48**	**69**	**-**	**7**

Remark:

- *General provision for loans and accrued interest receivables at 31 December 2021 was included provision in excess of allowance for expected credit losses by Baht 540 million (2020: Baht 720 million).*
- *Specific provision for investments in debt securities represent allowance for expected credit losses.*

Table 10 : Outstanding loans including accrued interest receivables before recognised credit risk mitigation – analysis by type of business and asset classification as prescribed by the Bank of Thailand at 31 December 2021 and 2020

	31 December 2021			
Type of business	**Stage 1 THBm**	**Stage 2 THBm**	**Stage 3 THBm**	**Total THBm**
Agriculture and mining	1,172	-	-	1,172
Financial sector	69,385	2,028	-	71,413
Manufacturing and commerce	39,402	5,305	-	44,707
Real estate business and construction	911	30	-	941
Public utilities and services	8,070	3,035	-	11,105
Housing loan	204	-	-	204
Others	130	-	-	130
Total	**119,274**	**10,398**	**-**	**129,672**

	31 December 2020			
Type of business	**Stage 1 THBm**	**Stage 2 THBm**	**Stage 3 THBm**	**Total THBm**
Agriculture and mining	2,342	-	-	2,342
Financial sector	55,243	3,304	-	58,547
Manufacturing and commerce	32,760	2,410	48	35,218
Real estate business and construction	3,382	248	-	3,630
Public utilities and services	8,626	917	-	9,543
Housing loan	247	-	-	247
Others	136	-	-	136
Total	**102,736**	**6,879**	**48**	**109,663**

Table 11 : General provision, specific provision and bad debt written-off during the year against loans including accrued interest receivables – analysis by type of business at 31 December 2021 and 2020

	31 December 2021		
Type of business	**General provision THBm**	**Specific provision THBm**	**Bad debt written-off during the year THBm**
Agriculture and mining		-	-
Financial sector		-	-
Manufacturing and commerce		-	-
Real estate business and construction		-	-
Public utilities and services		-	-
Housing loan		-	-
Others		-	-
Total	**582**	**-**	**-**

	31 December 2020		
Type of business	**General provision THBm**	**Specific provision THBm**	**Bad debt written-off during the year THBm**
Agriculture and mining		-	-
Financial sector		-	-
Manufacturing and commerce		48	69
Real estate business and construction		-	-
Public utilities and services		-	-
Housing loan		-	-
Others		-	-
Total	**740**	**48**	**69**

Table 12 : Reconciliation of the movement in the general provision and specific provision against loans including accrued interest receivables at 31 December 2021 and 2020

	31 December 2021		
	General provision THBm	**Specific provision THBm**	**Total THBm**
Provisions at the beginning of year	740	48	788
Reversal of provisions during the year	(158)	(48)	(206)
Provisions at the end of year	**582**	**-**	**582**

	31 December 2020		
	General provision THBm	**Specific provision THBm**	**Total THBm**
Provisions at the beginning of year	945	90	1,035
Provisions charge (reversal) during the year	(205)	27	(178)
Bad debts written-off during the year	-	(69)	(69)
Provisions at the end of year	**740**	**48**	**788**

Table 13 : Net exposure of on-balance sheet and credit equivalent amount of off-balance sheet before recognised credit risk mitigation classified by type of assets under the Standardised Approach at 31 December 2021 and 2020

	31 December 2021		
	On-balance sheet THBm	**Off-balance sheet THBm**	**Total THBm**
Performing claims			
Claims on sovereigns and central banks, and MDBs	49,004	240	49,244
Claims on financial institutions, PSEs treated as claims on financial institutions, and securities firms	14,634	91,578	106,212
Claims on corporate, PSEs treated as claims on corporate	61,709	29,505	91,214
Claims on retail portfolios	130	-	130
Claims on housing loans	203	-	203
Other assets	33,083	-	33,083
Non-performing claims	-	4	4
Total	**158,763**	**121,327**	**280,090**

	31 December 2020		
	On-balance sheet THBm	**Off-balance sheet THBm**	**Total THBm**
Performing claims			
Claims on sovereigns and central banks, and MDBs	54,671	841	55,512
Claims on financial institutions, PSEs treated as claims on financial institutions, and securities firms	6,323	87,202	93,525
Claims on corporate, PSEs treated as claims on corporate	63,056	24,044	87,100
Claims on retail portfolios	136	-	136
Claims on housing loans	247	-	247
Other assets	46,145	-	46145
Non-performing claims	-	62	62
Total	**170,578**	**112,149**	**282,727**

Remark:

- *The above information has been presented net of specific provision.*
- *Off-balance sheet amounts have been adjusted by the credit conversion factor and also included repo style transactions.*

Ratings from External Credit Assessment Institutions

For RWA calculation, credit risk under the Standardised Approach has been calculated based on the external credit ratings from External Credit Assessment Institutions ('ECAI'). The Bank uses external credit ratings from the following ECAIs which are approved by the BoT.

- Standard & Poor's Ratings Service;
- Moody's Investors Services;
- Fitch Ratings;
- Fitch Ratings (Thailand);
- TRIS Rating

Data files of external ratings from the nominated ECAIs are matched with customer records in our centralised credit database.

When calculating the risk-weighted value of an exposure using ECAI risk assessments, risk systems identify the customer in question and look up the available ratings in the central database, according to the BoT's rating selection rules as prescribed in the appendix 4 of the BoT's guideline on Minimum Capital Requirement for Credit Risk under the Standardised Approach. The systems then apply the BoT's prescribed credit quality step mapping to derive from the rating the relevant risk weight.

Exposures to, or guaranteed by, central governments and Banks of Thailand and denominated in local currency are eligible under Standardised Approach for a 0% risk weighting.

Table 14 : Net exposure of on-balance sheet and credit equivalent amount of off-balance sheet after recognised credit risk mitigation for each type of assets, classified by risk weight under the Standardised Approach at 31 December 2021 and 2020

	31 December 2021										
	Net exposures after recognised credit risk mitigation – Rated					**Net exposures after recognised credit risk mitigation – Unrated**					
Risk weight	**0%**	**20%**	**50%**	**100%**	**150%**	**0%**	**20%**	**50%**	**35%**	**75%**	**100%**
	THBm	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**
Performing claims											
Claims on sovereigns and central banks, and MDBs	117,559	-	166	-	-			-			-
Claims on financial institutions, PSEs treated as claims on financial institutions, and securities firms	-	24,959	5,850	6,920	20						-
Claims on corporate, PSEs treated as claims on corporate	-	1,882	4,397	6,013	-						75,445
Claims on retail portfolios										-	130
Claims on housing loans									77	-	126
Other assets						34,131	75				285
Risk weight			**50%**	**100%**	**150%**					**75%**	
Non-performing claims			-	-	4					-	

	31 December 2020										
	Net exposures after recognised credit risk mitigation – Rated					**Net exposures after recognised credit risk mitigation – Unrated**					
Risk weight	**0%**	**20%**	**50%**	**100%**	**150%**	**0%**	**20%**	**50%**	**35%**	**75%**	**100%**
	THBm	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**	**THBm**
Performing claims											
Claims on sovereigns and central banks, and MDBs	104,313	-	507	-	-			-			-
Claims on financial institutions, PSEs treated as claims on financial institutions, and securities firms	-	29,905	4,637	9,276	39						-
Claims on corporate, PSEs treated as claims on corporate	-	3,412	4,746	9,231	-						66,685
Claims on retail portfolios										-	136
Claims on housing loans									79	-	168
Other assets						46,069	36				271
Risk weight			**50%**	**100%**	**150%**					**75%**	
Non-performing claims			-	-	2					-	

Remark: Off-balance sheet represents the notional amounts after applied credit conversion factor.

Credit risk mitigation

Mitigation of credit risk is a key aspect of effective risk management and takes many forms. Our general policy is to promote the use of credit risk mitigation, justified by commercial prudence and capital efficiency. Detailed policies cover the acceptability, structuring and terms with regard to the availability of credit risk mitigation such as in the form of collateral security. These policies, together with the setting of suitable valuation parameters, are subject to regular review to ensure that they are supported by empirical evidence and continue to fulfil their intended purpose.

Collateral

The most common method of mitigating credit risk is to take collateral. In the commercial and industrial sectors, charges are created over business assets such as premises, stock and debtors.

Financial collateral

In the institutional sector, trading facilities are supported by charges over financial instruments, such as cash, debt securities and equities. Financial collateral in the form of marketable securities is used in much of the Bank's derivatives activities and in securities financing transactions, such as repos and reverse repos. Netting is used extensively and is a prominent feature of market standard documentation.

In the non-trading book, we provide customers with working capital management products. In some cases, these products combine loans and advances to customers with customer accounts over which we have right of offset which comply with the regulatory requirements for on-balance sheet netting. Where this applies, the customer accounts are treated as cash collateral. For risk management purposes, the net amounts of such exposures are subject to limits and the relevant customer agreements are subject to review to ensure the legal right of offset remains appropriate.

Other forms of Credit Risk Mitigation

In our corporate lending, we also take guarantees from corporates. Corporates would normally provide guarantees as part of a parent/subsidiary or common parent relationship and would span a number of credit grades.

Policy and procedures

Policies and procedures govern the protection of our position from the outset of a customer relationship, for instance, in requiring standard terms and conditions or specifically agreed documentation permitting the offset of credit balances against debt obligations, and through controls over the integrity, current valuation and, if necessary, realisation of collateral security.

Valuing collateral

Valuation strategies are established to monitor collateral mitigants to ensure that they will continue to provide the anticipated secure secondary repayment source. The frequency of valuation increases with the volatility of the collateral. For market trading activities such as collateralised over-the-counter ('OTC') derivatives and securities financing transactions ('SFTs'), we typically carry out daily valuations.

For commercial real estate, Group policy requires an independent review of the valuation at least every three years, or more frequently as the need arises. Revaluations are sought where, for example, material concerns arise in relation to the performance of the collateral. Revaluation also occurs commonly in circumstances where an obligor's credit quality has declined sufficiently to cause concern that the principal payment source may not fully meet the obligation.

Recognition of risk mitigation

For banking book exposures, the simple approach is applied for financial collateral. Where credit risk mitigation is available in the form of an eligible guarantee, non-financial collateral or a credit derivative, the exposure is divided into covered and uncovered portions. The covered portion is determined after applying an appropriate 'haircut' for currency and maturity mismatches to the amount of the protection provided and attracts the risk weight of the protection provider. The uncovered portion attracts the risk weight of the obligor.

For trading book, the value of exposure fully or partially covered by eligible financial collateral is adjusted under the financial collateral comprehensive method using supervisory volatility adjustments (including those for currency mismatch) which are determined by the specific type of collateral (and its credit quality, in the case of eligible debt securities) and its liquidation period. The adjusted exposure value is subject to the risk weight of the obligor.

Table 15 : Exposure value under the Standardised Approach covered by collateral classified by type of assets and collateral at 31 December 2021 and 2020

	31 December 2021		31 December 2020	
	Eligible financial collateral THBm	**Guarantee and credit derivatives THBm**	**Eligible financial collateral THBm**	**Guarantee and credit derivatives THBm**
Performing claims				
Claims on financial institutions, PSEs treated as claims on financial institutions, and securities firms	65,079	5,595	49,975	2,354
Claims on corporate, PSEs treated as claims on corporate	1,199	4,315	341	4,817
Non-performing claims	-	-	1	59
Total	**66,278**	**9,910**	**50,317**	**7,230**

Market risk

Overview and objective

Market risk is the risk of movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios.

Exposure to market risk is separated into two portfolios:

- Trading portfolios comprise positions arising from market-making.
- Non-trading portfolios comprise positions that primarily arise from the interest rate management of our commercial banking assets and liabilities, financial investments designated as held-to-collect and sale and held-to-maturity.

Where appropriate, we apply similar risk management policies and measurement techniques to both trading and non-trading portfolios. Our objective is to manage and control market risk exposures in order to optimise return on risk while maintaining a market profile consistent within our established risk appetite.

Market risk governance

The management of market risk is principally undertaken in Markets and Securities Services ('MSS') using risk limits approved by the Regional Market Risk Manager, Regional RMM and Group Risk. Limits are set for portfolios, products and risk types, with market liquidity being a primary factor in determining the level of limits set.

Market risk measures

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

We use a range of tools to monitor and limit market risk exposures including sensitivity analysis, VaR and stress testing.

Sensitivity analysis

Sensitivity analysis measures the impact of individual market factor movements on specific instruments or portfolios, including interest rates, foreign exchange rates and credit spreads, such as the effect of a one basis point change in yield. We use sensitivity measures to monitor the market risk positions within each risk type. 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.

Value at risk

VaR is a technique that estimates the potential losses in the trading portfolio from movements in market rates and prices over a specified time horizon at a particular level of confidence.

Our models are based on historical simulation that incorporate the following features:

- historical market rates and prices are calculated with reference to foreign exchange and interest rates, commodity prices, equity prices and the associated volatilities;
- potential market movements utilised for VaR are calculated with reference to data from the past two years (500 working days); and
- VaR measures are calculated at 99 percent confidence level and use a one-day holding period.

The models also incorporate the effect of option features on the underlying exposures. The nature of the VaR models means that an increase in observed market volatility will lead to an increase in VaR without any changes in the underlying positions.

VaR model limitations

Although a valuable guide to risk, VaR should always be viewed in the context of its limitations. For example:

- the use of historical data as a proxy for estimating future events may not encompass all potential events, particularly those which are extreme in nature;
- the use of a holding period assumes that all positions can be liquidated or the risks offset during that period. This may not fully reflect the market risk arising at times of severe illiquidity, when the holding period may be insufficient to liquidate or hedge all positions fully;
- the use of a 99 percent confidence level by definition does not take into account losses that might occur beyond this level of confidence; and
- VaR is calculated based on the outstanding exposures at close of business and therefore does not necessarily reflect intra-day exposures.

Market Risk Data Services ('MRDS') is responsible for preparing the VaR report and submitting it to local senior management for their consideration on a daily basis. If there are exceptions, the exception report has to be sent to local senior management and the regional market risk unit.

Stress testing

Stress testing is an important procedure that is integrated into our market risk management framework to evaluate the potential impact on portfolio values in the case of extreme but plausible events or movements in a set of financial variables. In such scenarios, losses can be greater than those predicted by VaR model.

Stress testing is implemented at legal entity, regional and overall Group levels. A set of scenarios is used consistently across all regions within the Group. Scenarios are tailored to capture the relevant events or market movements at each level. The risk appetite around potential stress losses for the Group is set and monitored against referral limits.

In addition to Group's stress testing scenarios, we also perform stress testing using the scenarios as specified by the BoT, covering parallel and non-parallel shifts in interest rate yield curves and depreciation and appreciation in major currencies.

Back-testing

We routinely validate the accuracy of our VaR models by back-testing them against both actual and hypothetical profit and loss. Hypothetical profit and loss excludes non-modelled items such as fees, commissions and revenues of intra-day transactions.

The actual number of profits or losses in excess of VaR over this period can therefore be used to gauge how well the models are performing.

According to BoT notification No. 94/2551 dated 27 November 2008 Re: Guideline on Supervision of Market Risk and Capital Requirement for Market Risk of Financial Institutions, VaR back-testing exceptions, on Hypothetical loss, are counted towards the multiplier determined by the BoT for the purposes of the capital requirement calculation for market risk. The additional capital multiplier will be added if the exceptions are greater than 4 times over the past 250 business days.

Managed risk positions

Interest rate risk

Interest rate risk arises within the trading portfolios, principally from mismatches, as a result of interest rate changes, between the future yield on assets and their funding cost.

This is measured, where practical, on a daily basis. We use a range of tools to monitor and control interest rate risk exposures. These include the present value of a basis point movement in interest rates, VaR, stress testing and sensitivity analysis.

Through our management of market risk in non-trading portfolios, we mitigate the effect of prospective interest rate movements that could reduce future net interest income, while balancing the cost of such hedging activities on the current net revenue stream.

Foreign exchange risk

Foreign exchange risk arises from movements in the relative value of currencies. In addition to VaR and stress testing, we control the foreign exchange risk within the trading portfolio by limiting the open exposure to individual currencies, and on an aggregate basis.

Specific issuer risk

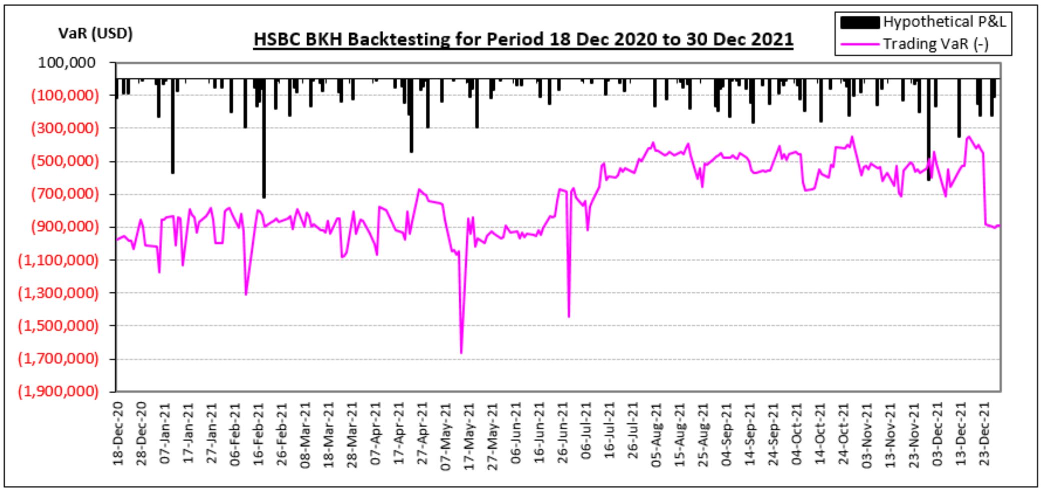
Specific issuer (credit spread) risk arises from a change in the value of debt instruments due to a perceived change in the credit quality of the issuer or underlying assets. As well as through VaR and stress testing, we manage the exposure to credit spread movements within the trading portfolios with limits referenced to the sensitivity of the present value of a basis point movement in credit spreads.

Table 16 : Market risk information by Internal Model Approach at 31 December 2021, 30 June 2021 and 31 December 2020

	31 December 2021 THBm	30 June 2021 THBm	31 December 2020 THBm
Interest Rate Risk			
Maximum VaR during the period	93	170	100
Average VaR during the period	59	91	70
Minimum VaR during the period	37	63	48
VaR at the end of the period	47	63	97
Foreign Exchange Rate Risk			
Maximum VaR during the period	36	20	14
Average VaR during the period	7	7	4
Minimum VaR during the period	2	1	1
VaR at the end of the period	9	6	2
Total Market Risk			
Maximum VaR during the period	95	169	99
Average VaR during the period	58	92	70
Minimum VaR during the period	37	68	47
VaR at the end of the period	58	69	96

Remark: The period for Maximum VaR, Minimum VaR and Average VaR is 60 days interval. All figures are based on 10 days VaR as used for market risk capital charge calculation.

Table 17 : Back-testing result (considering loss side of Hypothetical P&L vs. Value at Risk)



Remark: There was one exception from VaR backtesting, on Hypothetical loss for the period 18 December 2020 to 30 December 2021. The exception was occurred on VaR date 30 November 2021.

Interest rate risk in the banking book

Overview

Interest rate risk in the banking book ('IRRBB') is the risk of an adverse impact to earnings or capital due to changes in market interest rates. It is generated by our non-traded assets and liabilities, specifically loans, deposits and financial instruments that are not held for trading intent or in order to hedge positions held with trading intent. Interest rate risk in the banking book is transferred to and managed by Markets Treasury, under the supervision of the local ALCO.

Governance and structure

Asset, Liability and Capital Management ('ALCM') monitors interest rate risk in banking book. This includes reviewing and challenging the business on the interest rate risk management impacts prior to the release of new products and in respect of proposed behavioural assumptions used for hedging activities. The ALCM function is responsible for maintaining and updating the transfer pricing framework, informing the ALCO of the overall banking book interest rate risk exposure and managing the balance sheet in conjunction with Markets Treasury.

All interest rate risk must be identified, measured, monitored, managed and controlled within limits. Global Treasury is subject to independent oversight and challenge from Treasury Risk.

The banking book Interest rate risk that can be economically hedged are transferred to the Markets Treasury business to manage within the Market Risk limits approved by RMM. Hedging is generally executed through interest rate derivatives or fixed-rate government bonds. Any interest rate risk that Markets Treasury cannot economically hedge is not transferred and will remain within the global business where the risks originate.

Measurement of interest rate risk in the banking book

The table below sets out the effect on future net income of an incremental 100 basis points parallel rise in yield curves during the 12 months.

Table 18 : The effect of changes in interest rates to net interest income in the banking book at 31 December 2021 and 2020

	Effect to net income	
	2021	**2020**
Currency	**THBm**	**THBm**
Baht	233	169
US Dollar	(118)	(123)
Others	4	(2)
Total effect of changes in interest rates to net interest income	**119**	**44**
Percentage of net effect to net future interest income	**6.2%**	**2.4%**

Equity exposures in the banking book

At 31 December 2021 and 2020, there is no equity investments.

Details of the Bank's accounting policy for investments may be found on pages 14, of the *Annual financial statements 2021*.

Operational risk

Overview and objective

Operational risk or now called non-financial risk. Non-financial risk is the risk to achieving our strategy or objectives as a result of inadequate or failed internal processes, people and systems or from external events. Sound non-financial risk management is central to achieving good outcomes for our customers.

Non-financial risk is relevant to every aspect of our business and is broadly managed through the risk management framework ('RMF'). Non-financial risk covers a wide spectrum of areas, such as technology and cyber security, transaction processing, data risk, failure to manage third parties, building unavailability, failure to protect people and place from physical malevolent acts, business interruption and incident risk, workplace safety, financial crime and fraud, regulatory compliance, financial reporting and tax risk, legal risk, model risk and people risk.

Losses arising from breaches of regulation and law, unauthorised activities, error, omission, inefficiency, fraud, systems failure or external events all fall within the definition of non-financial risk

The objective of our operational risk management is to manage and control operational risk in a cost-effective manner and within our risk appetite, as defined by Group Management Board ('GMB').

Organisation and responsibilities

Responsibility for managing non-financial risk lies with our people. During 2021, we remained focused on strengthening our approach to managing non-financial risk. The RMF sets out our approach to governance and risk appetite and sets the principals for our management of non-financial risks and associated controls.

Progress has been made in enhancing the framework and tools for strengthening the control environment and we will continue to improve practices in the management of non-financial risk.

In 2021 we continued to develop the Operational and Resilience Risk sub-function, which provides robust non-financial risk steward oversight of the management of risk by the Group businesses, functions and legal entities. The sub-function helps the business grow safely and ensures governance and management of Operational and Resilience Risk through the delivery and embedding of effective frameworks and policies, and continuous oversight and assurance of risks, controls, events and impacts.

The effectiveness of first line of defence risk and control owners, and second line of defence risk stewards in managing our Non-Financial Risk processes and practices is reported through Risk Management Meetings ('RMMs').

Activity to strengthen the first and second lines of defence continued to be a key focus in 2021. The first line of defence owns the risk and is accountable for identifying, assessing, managing key existing and emerging risks. The second line of defence sets the policy and control standards to manage risks, and provides advice and guidance to support these policies. It also challenges the first line to ensure it is managing risk effectively. The third line of defence is Global Internal Audit, which provides independent assurance to the Board and management that our risk management approach and processes are designed and operating effectively.

Measurement and monitoring

The RMF is written as a high-level standard, supplemented by identifying, assessing, monitoring and controlling non-financial risk, and give guidance on mitigating actions to be taken when weaknesses are identified.

In order to drive risk awareness in a more forward looking manner, we set out our risk appetite and then regularly monitor non-financial risk exposure against that risk appetite. This assists management in determining whether further action is required.

Each business managers are responsible for maintaining an appropriate 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 RMF 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.

Risk and control assessment approach

Non-financial risk and control assessments are performed by the first line of defence. The risk and control assessment process is designed to provide the first line of defence with a view of non-financial risks, an assessment of the effectiveness of controls, and a tracking mechanism for action plans so that they can proactively manage non-financial risks within acceptable levels. Appropriate means of mitigation and controls are considered. These include making specific changes to strengthen the internal control environment, and investigating whether cost-effective insurance cover is available to mitigate the risk.

Recording

We use a Group-wide risk management system to record the results of our non-financial risk management process. Non-financial risk and control assessments, as described above, are input and maintained by the first line of defence. The first line of defence monitors and follows up the progress of documented action plans. Operational risk losses are entered into the Group-wide risk management system and reported to governance on a monthly basis. Loss capture thresholds are in line with industry standards.

Liquidity and funding risk

Overview

Liquidity risk is the risk that the bank does not have sufficient financial resources to meet its obligations when they fall due. The liquidity risk arises from mismatches in the timing of cashflows. Funding risk is the risk that we cannot raise funding or can only do so at excessive cost.

Liquidity and funding risk management

HSBC has comprehensive policies, metrics and controls, which aims to allow us to withstand severe but plausible liquidity stresses. The HSBC Group manages liquidity and funding risk at an operating entity level to make sure that obligations can be met in the jurisdiction where they fall due, generally without reliance on other parts of the group.

Liquidity and Funding Risk management processes include:

- maintaining compliance with relevant regulatory requirements;
- projecting cash flows under various stress scenarios and considering the level of liquid assets necessary in relation thereto;
- monitoring liquidity and funding ratios against internal and regulatory limits;
- maintaining a diverse range of funding sources with adequate back-up facilities;
- managing the concentration and profile of term funding;
- managing contingent liquidity commitment exposures within limits;
- maintaining debt financing plans;
- monitoring of depositor concentration in order to avoid undue reliance on large individual depositors and ensuring a satisfactory overall funding mix; and
- maintaining liquidity and funding contingency plans.

Governance

The elements of liquidity and funding risk management framework are underpinned by a robust governance framework, with the two major elements being:

- the Asset and Liability Management Committees (‘ALCOs’); and
- the annual internal liquidity adequacy assessment process (‘ILAAP’) used to validate risk tolerance and set risk appetite.

The local ALCO is responsible for managing all ALCM issues including liquidity and funding risk management and also monitors the compliance with liquidity and funding requirements.

Asset, Liability and Capital Management (‘ALCM’) team is responsible for the application of the liquidity and funding risk management framework at a local operating entity level and assists ALCO to review liquidity and funding risks to ensure their prudent management.

ALCM manages the balance sheet with a view to achieve efficient allocation and utilization of all resources.

The Markets Treasury team, within Markets and Securities Services (‘MSS’) is responsible for managing cash, short-term liquidity and funding for the entity. This includes deployment of the commercial surplus as well as accessing wholesale senior funding markets if needed.

Treasury Risk Management carry out independent review, challenge and assurance of the appropriateness of the risk management activities undertaken by ALCM and Markets Treasury. They provide oversight and stewardship of liquidity management including setting policy and control standards.

Global Internal Audit provide independent assurance that risk is managed effectively across the Group.

Internal liquidity adequacy assessment process (‘ILAAP’) and risk appetite

The operating entities are required to meet internal minimum requirements and any applicable regulatory requirements at all times. These requirements are assessed through the Internal Liquidity Adequacy Assessment Process ('ILAAP'), which ensures that operating entities have robust strategies, policies, processes and systems for the identification, measurement, management and monitoring of liquidity risk over an appropriate set of time horizons, including intra-day. The ILAAP informs the validation of risk tolerance and the setting of risk appetite. These metrics are set and managed locally but are subject to robust global review and challenge to ensure consistency of approach and application of the Group’s policies and controls.

All operating entities are required to prepare an ILAAP document at appropriate frequency. Compliance with liquidity and funding requirements is monitored and reported to ALCO, RMM and on a regular basis.

Management of liquidity and funding risk

The Board level risk appetite measures are the liquidity coverage ratio (‘LCR’) and net stable funding ratio (‘NSFR’), supplementing by HSBC Internal Liquidity Metric (‘ILM’). In addition, an appropriate funding and liquidity profile is managed through a wider set of measures:

- a minimum LCR requirement;
- a minimum NSFR requirement;
- an internal liquidity metric (‘ILM’)
- a minimum LCR requirement by material currency;
- a depositor concentration limit;
- the cumulative term funding maturity concentration limit;
- a management and monitoring of intraday liquidity;
- the application of liquidity funds transfer pricing; and
- forward-looking funding assessments

Liquidity and funding risk metrics are monitored daily and/or monthly and reported to ALCO regularly.

Measurement and monitoring

BoT issued a Notification Re: Guidelines on Liquidity Coverage Ratio (‘LCR’), where commercial banks are required to maintain High Quality Liquid Assets (‘HQLA’) relative to net cash outflows within the 30-day time horizon under liquidity stress scenarios of at least 100% from 1 January 2020.

The Bank manages its LCR position daily within the internal appetite limit which includes a buffer in excess of the regulatory requirement. The Bank actively considers the impact of business decisions on the LCR.

In addition, the Bank maintains a diversified funding base with projections of balance sheet and NSFR discussed in monthly ALCO meetings to ensure the Bank remains well-funded to support the business strategy. The Bank regularly examines its liquidity gaps and introduced the internal metrics on funding concentration to monitor funding risks.

Also, the Bank maintain the contingency plans that can be enacted in the event of internal or external triggers, which threaten the liquidity or funding position. The contingency plans set out a range of appropriate management actions, which could feasibly be executed in a stressed environment to recover the position.

Liquidity coverage ratio disclosure

Table 19 and table 20 set out the disclosure items under the LCR disclosure standard template as specified by the BoT.

The average value of the LCR and related components is calculated by the simple average method, which is the average of three data points (month-end data) over a particular quarter.

Explanations of the LCR disclosure template can be found in the Glossary section.

Further details of the Group’s liquidity and funding risk management and disclosures can be viewed in the Annual Report and Accounts 2021 and the Pillar 3 Disclosure at 31 December 2021, which is available on HSBC Group’s website: www.hsbc.com, under Investors section.

Table 19 : Liquidity coverage ratio

	Average Balance 2021 Quarter 4	Average Balance 2020 Quarter 4
(1) Total high-quality liquid assets (THBm)	102,388	86,709
(2) Total net cash outflows within the 30-day time horizon (THBm)	58,288	48,564
(3) Percentage of Liquidity Coverage Ratio (%)	**176**	**179**
Minimum percentage of LCR as specified by the BoT (%)	**100**	**100**

Table 20 : Comparative data of LCR

	2021 Average LCR %	2020 Average LCR %
Quarter 3	178	190
Quarter 4	176	179

The Bank maintains a healthy liquidity position with the average LCR for the 4th quarter of 2021 of 176%, which is 76% higher than the minimum LCR requirement as specified by the BoT. This LCR is the average of LCRs as at the end of October – 179%, November – 178% and December – 170%. The LCR consists of 2 main components;

1. HQLA include unencumbered high-quality assets with low risk and low volatility that can be easily liquidated through sale or repurchase transactions without any significant changes to their values, even in times of liquidity stress. The value of each type of HQLA is after the application of both haircuts and any applicable caps as specified by the BoT.

   The average HQLA of the Bank for the 4th quarter of 2021 is Baht 102,388 million, which is the average of HQLA as at the end of October – December. 99% of the average HQLA included in the LCR are Level 1 assets as specified by the BoT, which consist mainly of cash and Baht denominated government and central bank debt securities. The Bank maintains a well-diversification of HQLA to support the regulatory and internal requirements.

2. The amount of net cash outflows is equal to expected cash outflows within the 30-day time horizon minus expected cash inflows within the 30-day time horizon under liquidity stress scenarios; but the expected cash inflows must not exceed 75% of the expected cash outflows.

   The average net cash outflows of the Bank for the 4th quarter of 2021 is Baht 58,288 million, which is the average of net cash outflows within the 30-day time horizon as at the end of October – December.

   The expected cash outflows on which the Bank focuses under the severe liquidity stress scenarios are the run-off of unsecured wholesales deposits and borrowings, repayments of secured borrowings under repurchase agreements (repos), derivative cash outflows to which the specified BoT run-off rates applied. The cash outflows arising from contingent funding, obligations and collateral requirements such repo funding and derivatives are also captured with the run-off rate assigned by the BoT.

   The expected cash inflows are majority from performing customer's loan repayments, maturing deposits placement and derivative cash inflows, to which the specified BoT inflow rates applied.

Abbreviation	Brief description
A	
ALCM	Asset, Liability and Capital Management
ALCO	Asset and Liability Management Committee
AIRB	Advanced Internal Ratings Based Approach
B	
Bank	The Hongkong and Shanghai Banking Corporation Limited, Bangkok Branch
BoT	The Bank of Thailand
C	
CCB	Capital Conservation Buffer
CCR	Counterparty Credit Risk
CRO	Chief Risk Officer
CRR	Customer Risk Rating
E	
EAD	Exposure at Default
ECAI	External Credit Assessment Institutions
ECL	Expected Credit Losses
F	
FIRB	Foundation Internal Ratings Based Approach
G	
GMB	Group Management Board
Group	HSBC Holdings together with its subsidiary undertakings
H	
HQLA	High-Quality Liquid Assets
HSBC	HSBC Holdings together with its subsidiary undertakings
I	
ICAAP	Internal Capital Adequacy Assessment Process
IFRS	International Financial Reporting Standard
ILAAP	Internal Liquidity Adequacy Assessment Process
ILM	Internal Liquidity Metric
IMA	Internal Models Approach
IMM	Internal Model Method
IRB	Internal Ratings Based Approach
IRRBB	Interest Rate Risk in the Banking Book
L	
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
LOD	Line of Defence
M	
MDB	Multilateral Development Bank
MRDS	Market Risk Data Services
MSS	Markets and Securities Services
N	
NSFR	Net Stable Funding Ratio
O	
OTC	Over-the-Counter

Abbreviation	Brief description
P	
PD	Probability of Default
PSE	Public Sector Entities
R	
RMF	Risk Management Framework
RMM	Risk Management Meeting
RWA	Risk-Weighted Asset
S	
SA	Standardised Approach
SFT	Securities Financing Transactions
T	
TFRS	Thai Financial Reporting Standard
V	
VaR	Value at Risk

Term	Definition
B	
Back-testing	A statistical technique used to monitor and assess the accuracy of a model, and how that model would have performed had it been applied in the past.
Basel II	The capital adequacy framework issued by the Basel Committee on Banking Supervision in June 2006 in the form of the 'International Convergence of Capital Measurement and Capital Standards', amended by subsequent changes to the capital requirements for market risk and re-securitisations, commonly known as Basel 2.5, which took effect from 31 December 2011.
Basel III	In December 2010, the Basel Committee issued 'Basel III rules: a global regulatory framework for more resilient banks and banking systems' and 'International framework for liquidity risk measurement, standards and monitoring'. Together, these documents present the Basel Committee's reforms to strengthen global capital and liquidity rules with the goal of promoting a more resilient banking sector.
Basis point ('bps')	One hundredth of a per cent (0.01%), so 100 basis points is 1%. For example, this is used in quoting movements in interest rates or yields on securities.
C	
Capital conservation buffer ('CCB')	A capital buffer prescribed by regulators under Basel III and designed to ensure banks build up capital buffers outside periods of stress that can be drawn down as losses are incurred. Should a bank's capital levels fall within the capital conservation buffer range, capital distributions will be constrained by the regulators.
Compliance risk	The risk that the Bank fails to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice, and incurs fines and penalties and suffers damage to its business as a consequence.
Counterparty credit risk	Counterparty credit risk is the risk that the counterparty to a transaction may default before completing the satisfactory settlement of the transaction.
Credit quality step	A step in the Bank of Thailand credit quality assessment scale which is based on the credit ratings of ECAIs. It is used to assign risk weights under the standardised approach.
Credit risk	The risk of financial loss if a customer or counterparty fails to meet an obligation under a contract. It arises principally from direct lending and trade finance business but also from other products such as guarantees, credit derivatives and from holding assets in the form of debt securities.
Credit risk mitigation	A technique to reduce the credit risk associated with an exposure by application of credit risk mitigants, such as collateral, guarantee and credit derivatives.

Term	Definition
D	
Debt securities	Financial assets on the Bank's balance sheet representing certificates of indebtedness of credit institutions, public bodies or other undertakings.
E	
Expected credit losses ('ECL')	In the income statement, ECL is recorded as a change in expected credit losses and other credit impairment charges. In the balance sheet, ECL is recorded as an allowance for financial instruments to which only the impairment requirements in IFRS 9 are applied.
12-month ECL	The ECL resulting from default events that are possible within the next 12 months.
Lifetime ECL	The expected credit losses that result from all possible default events over the expected life of a financial instrument.
Exposure	A claim, contingent claim or position which carries a risk of financial loss.
Exposure at default ('EAD')	The amount expected to be outstanding after any credit risk mitigation, if and when the counterparty defaults. EAD reflects drawn balances as well as allowance for undrawn amounts of commitments and contingent exposures.
F	
Funding risk	The risk that we cannot raise funding or can only do so at excessive cost.
G	
Guarantee	An undertaking by a party to pay a creditor should a debtor fail to do so.
H	
Haircut	A discount applied when determining the amount at which an asset can be realised. The discount takes into account the method of realisation, including the extent to which an active market for the asset exists. With respect to credit risk mitigation, a downward adjustment to collateral value to reflect any currency or maturity mismatches between the credit risk mitigant and the underlying exposure to which it is being applied. Also a valuation adjustment to reflect any fall in value between the date the collateral was called and the date of liquidation or enforcement.
High-quality liquid assets ('HQLA')	Total high-quality liquid assets" ('HQLA') is defined as the sum of liquid assets with the features as specified by the BoT as follows: I. Characteristics of liquid assets II. Guidelines on the calculation of liquid assets III. Operational requirements IV. Diversification of liquid assets The total HQLA is the value of total HQLA after the application of both haircuts and any applicable caps as specified by the BoT.

Term	Definition
I	
Internal Capital Adequacy Assessment Process ('ICAAP')	The Bank's own assessment of the levels of capital that it needs to hold through an examination of its risk profile from regulatory and economic capital viewpoints.
Internal liquidity adequacy assessment process ('ILAAP')	The Bank's own assessment to identify, measure, manage and monitor liquidity and funding risks across an appropriate set of time horizons and stress scenarios.
Internal Liquidity Metric ('ILM')	The Bank's own metric to assess the entity's ability to meet daily cash flow requirements over a 90-day liquidity stress and recovery capacity assuming a 90-day recovery period following the initial stress.
Internal Model Method ('IMM')	One of three approaches defined in the Basel framework to determine exposure values for counterparty credit risk.
Internal ratings-based ('IRB')	A method of calculating credit risk capital requirements using internal, rather than supervisory, estimates of risk parameters.
L	
Liquidity coverage ratio ('LCR')	The ratio of the stock of high quality liquid assets to expected net cash outflows over the following 30 days. High quality liquid assets should be unencumbered, liquid in markets during a time of stress and, ideally, be central bank eligible.
Liquidity risk	The risk that we do not have sufficient financial resources to meet our obligations as they fall due. This risk arises from mismatches in the timing of cash flows.
M	
Market risk	The risk that movements in market risk factors, including foreign exchange rates and commodity prices, interest rates, credit spreads and equity prices will reduce income or portfolio values.
N	
Net interest income	The amount of interest received or receivable on assets net of interest paid or payable on liabilities.
Net stable funding ratio ('NSFR')	The ratio of available stable funding to required stable funding over a one-year time horizon, assuming a stressed scenario. Available stable funding would include items such as equity capital, preferred stock with a maturity of over one year and liabilities with an assessed maturity of over one year.
Non-financial risk	The risk of loss resulting from people, inadequate or failed internal processes, data or systems or external events.
O	
Over-the-counter ('OTC')	A bilateral transaction (e.g. derivatives) that is not exchange traded and that is valued using valuation models.
P	
Percentage of Liquidity Coverage Ratio (%LCR)	LCR is the ratio of total HQLA to total net cash outflows within the 30-day time horizon.
Probability of default ('PD')	The probability that an obligor will default within one year.

Term	Definition
R	
Regulatory capital	The capital which the Bank holds, determined in accordance with rules established by the BoT.
Repo/reverse repo (or sale and repurchase agreement)	A short-term funding agreement that allows a borrower to create a collateralised loan by selling a financial asset to a lender. As part of the agreement, the borrower commits to repurchase the security at a date in the future repaying the proceeds of the loan. For the party on the other end of the transaction (buying the security and agreeing to sell in the future), it is a reverse repurchase agreement or a reverse repo.
Risk appetite	The aggregate level and types of risk a firm is willing to assume within its risk capacity to achieve its strategic objectives and business plan.
Risk-weighted assets (‘RWA’s)	Calculated by assigning a degree of risk expressed as a percentage (risk weight) to an exposure value.
S	
Securitisation	A transaction or scheme whereby the credit risk associated with an exposure, or pool of exposures, is tranched, and where payments to investors in the transaction or scheme are dependent upon the performance of the exposure or pool of exposures. A traditional securitisation involves the transfer of the exposures being securitised to a SPE that issues securities. In a synthetic securitisation, the tranching is achieved by the use of credit derivatives and the exposures are not removed from the balance sheet of the originator.
Special Purpose Entity (‘SPE’)	A corporation, trust or other non-bank entity established for a narrowly defined purpose, including for carrying on securitisation activities. The structure of the SPE and its activities are intended to isolate its obligations from those of the originator and the holders of the beneficial interests in the securitisation.
Stage 1	Financial assets where 12-month ECL are recognized.
Stage 2	Financial assets which are considered to have experienced a significant increase in credit risk resulting in the recognition of lifetime ECL.
Stage 3	Financial assets for which there is objective evidence of impairment so are considered to be in default or otherwise credit impaired.
Standardised approach (‘SA’)	In relation to credit risk, a method for calculating credit risk capital requirements using ratings agencies and supervisory risk weights. In relation to operational risk, a method of calculating the operational capital requirement by the application of a supervisory defined percentage charge to the gross income of eight specified business lines.

Term	Definition
T	
Total net cash outflows within the 30-day time horizon	The term "total net cash outflows within the 30-day time horizon" is defined as the sum of all types of expected cash outflows within the 30-day time horizon multiplied by respective run-off rates minus the sum of all types of expected cash inflows within the 30-day time horizon multiplied by respective inflow rates, but no more than 75% of total expected cash outflows as specified by the BoT.

Total net cash outflows within the 30-day time horizon under liquidity stress scenarios	= Total expected cash outflows within the 30-day time horizon under liquidity stress scenarios	- Total expected cash inflows within the 30-day time horizon under liquidity stress scenarios

Term	Definition
V	
Value at risk ('VaR')	A measure of the loss that could occur on risk positions as a result of adverse movements in market risk factors (e.g. rates, prices, volatilities) over a specified time horizon and to a given level of confidence.